LAND SHARING PILOT SCHEME

Proposed Public Residential Housing / Starter Homes Development at Lot 14 RP in Unsurveyed District at Wong Yue Tan and Adjoining Government Land and Proposed Private Residential Development at Lot 11 RP in Unsurveyed District at Wong Yue Tan and Adjoining Government Land, Tai Po, New Territories

PLANNING REPORT

February 2025

Applicant:
Kam Luk Investment Company Limited

Consultancy Team:
KTA Planning Limited
C M Wong & Associates Limited
Colliers International
DLN Architects Limited
Earthasia Limited
Land Marker (1980) HK. Company Limited
MVA Hong Kong Limited
Ramboll Hong Kong Limited

PLANNING LIMITED
規劃顧問有限公司

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1 INTRODUCTION

1.1 Purpose

1.1.1 This Planning Report is prepared for Kam Luk Investment Company Limited in support of the development proposal prepared for the Land Sharing Pilot Scheme ("LSPS") for proposed public residential housing / starter homes ("SH") development at Lot 14 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 14 RP") and adjoining Government Land ("Site A"), and proposed private residential development at Lot 11 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 11 RP") and adjoining Government Land ("Site B") in Wong Yue Tan, Tai Po ("the Sites"). The purpose of this Planning Report is to provide the Land Sharing Office and the Panel of Advisors with necessary information and planning justifications for consideration of this development proposal.

1.2 Report Structure

1.2.1 Following this introductory section, the site and planning context will be briefly set out in Section 2. The indicative development proposal is included in Section 3. The planning merits and justifications for the development proposal can be found in Section 4. Section 5 concludes and summarizes this Planning Report.

2 SITE AND PLANNING CONTEXT

2.1 Site Location

2.1.1 The Sites are both situated on vegetated slopes in along Ting Kok Road, Tai Po (**Figure 2.1** refers). Site A is bounded by Ting Kok Road to its southwest, Lo Fai Road to its northwest, existing vegetation to its immediate northeast, and a number of graves to its southeast. It covers an area of about 2 hectares, comprising UDWYT Lot No. 14 RP, adjoining Government land sandwiched between UDWYT Lot No. 14 RP and Ting Kok Road and a piece of Government land of about 3,797m^2 on Lo Fai Road[1]. Site B, located at about 500m to the southeast from Site A, is bounded by Ting Kok Road to its south, a proposed roundabout to the west (proposed brown area), existing vegetation to its north and a permitted burial ground site no. TP/E2 to its east. Site B has a site area of about 0.7 ha; it comprises UDWYT Lot No. 11 RP and the adjoining Government land sandwiched between UDWYT Lot No. 11 RP and Ting Kok Road and a piece of Government Land for the proposed roundabout and slope work.

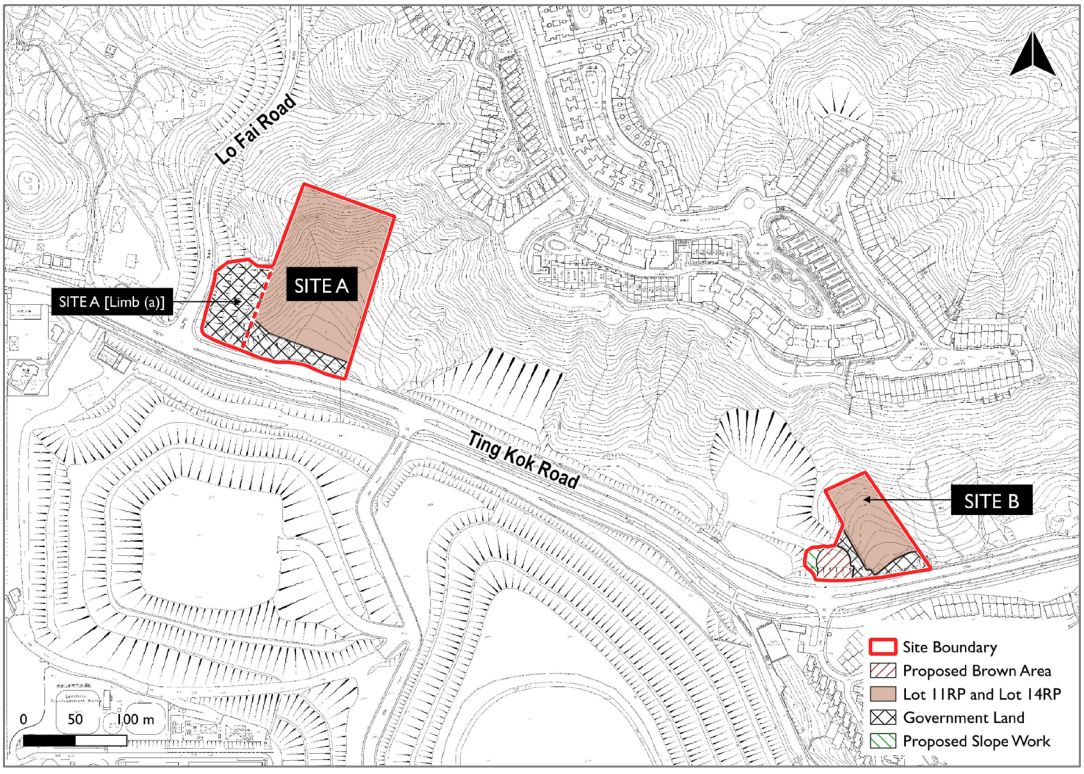


Figure 2.1: Site Location Plan

[1] As per Para. 16 LSPS Topical Guideline 1, *"the Government may also make available government land for provision of infrastructure, GIC facilities or enlarged public housing/SH development"*. Nevertheless, the domestic GFA generated from such additional Government land will not be included in calculation the 70:30 public housing/SH and private housing split. Such Government land is referred as "limb (a)" in corresponding figures in this report.

2.2 Existing Condition and Existing Use

2.2.1 The Sites are both covered by trees and vegetation. The Sites are sloping grounds and different parts in Site A and Site B vary from 14mPD to 68mPD and 13mPD to 44mPD respectively. Some registered slopes are found within the Sites, of which some are maintained by the Highways Department. Ruins of an abandoned rock house is found within UDWYT Lot No. 11 RP near its southern boundary abutting Ting Kok Road.

2.3 Surrounding Context

Surrounding Uses

2.3.1 The Sites are located at the fringe Tai Po New Town in proximity to Tai Po Industrial Estate. The Sites, situated in a predominately residential neighbourhood, are surrounded by a number of "Residential (Group B)" ("R(B)") and "R(C)" zones intended primarily for medium-density and low-rise, low-density residential developments respectively. To the north of the Sites are three "R(C)6" zones and a "R(C)9" zones, where the former sites zoned R(C)6 are currently occupied by established developments known as Casa Marina I and II as well as Tycoon Place respectively and the latter site zoned R(C)9 is occupied by a recently completed development named Villa Lucca. A "R(B)1" and a "R(B)7" zone are located to the further north of the Sites across Lo Fai Road where Forest Hill and Richwood Park are located respectively. Fortune Garden zoned "R(C)1" is located to the south of Site B across Ting Kok Road.

2.3.2 A golf course (temporarily closed) and Tai Po Industrial Estate comprising various "Other Specified Uses" ("OU") zones are located to the southwest of the Sites across Ting Kok Road. A number of "Village Type Development" ("V") zones are found in the further northwest and northeast of the Sites. An existing residential development namely Beverly Hills is located to the further southeast of the Sites. Some "Government, Institution or Community" ("G/IC") zones including the Education University of Hong Kong are also found in the vicinity of the Sites.

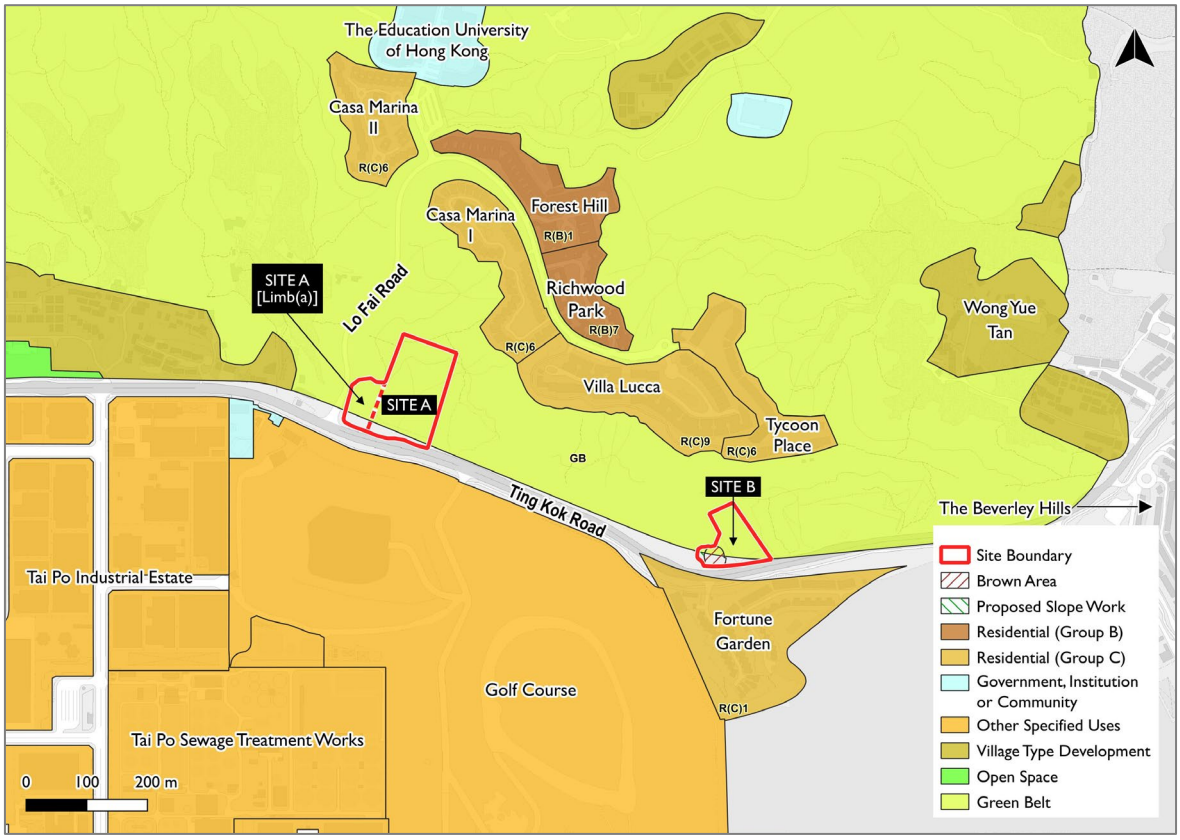


Figure 2.2: Surrounding Context

Existing Residential Developments in the Vicinity of the Sites

2.3.3 The Sites are located at the foothill of a low to medium-density residential neighbourhood on Lo Fai Road. The development intensity of these residential developments is summarized in **Table 2.1** for reference. The closest development, Casa Marina I, Villa Lucca and Tycoon Place, located to the north of Site A and Site B are formed on major development platform levels ranging from 83.4mPD to 96.0mPD. A low density residential development named Fortune Garden is located on the seaward side of Ting Kok Road to the south of Site B.

Residential Development	Lot No.	Zoning	Zoning Area (m^2)	Maximum Gross Floor Area ("GFA") (m^2)	Maximum Plot Ratio ("PR")	Major Development Platform Level (about)
Forest Hill	TPTL 115	"R(B)1"	24,548	44,186 #	1.8	77.5 mPD
Richwood Park	TPTL 116	"R(B)7"	14,425	21,852 (domestic); 1,304 (non-domestic)	1.6 #	89.9 mPD
Tycoon Place	TPTL 119	"R(C)6"	23,644	18,915 #	0.8	83.4 mPD
Casa Marina I	TPTL 117	"R(C)6"	26,331	21,065 #	0.8	83.5 mPD to 93.5 mPD

Casa Marina II	TPTL 118	"R(C)6"	21,199	16,959 #	0.8	68.2 mPD
Villa Lucca	TPTL 223 & 229	"R(C)9"	41,363	46,200	1.6 ##	96.0 mPD
Fortune Garden	TPTL 53	"R(C)1"	49,102	19,641 #	0.4	15.5 mPD

Note:
Estimation based on zoning area and maximum GFA/PR restriction as stipulated in the Statutory Notes of the Approved OZP No. S/TP/30.
Based on RNTPC Paper No. 6/14.

Table 2.1: Development Intensity of Existing Residential Developments in the Vicinity of the Sites

Rezoning of "GB" Sites for Residential Development on Tai Po OZP

2.3.4 As outlined in the 2014 Policy Address, the Government would continue reviewing various land uses and rezoning sites as appropriate and, where the original intended use is no longer required, converting the land for housing development. Besides, the Government would take steps to review the GB areas which are devegetated, deserted or formed for possible residential use. Since 2014, 5 nos. of sites have been rezoned for residential purposes on the Tai Po OZP and are tabulated in **Table 2.2** below. Their proposed development intensities vary depending on the individual context of each site.

Site Location	Amendments to the OZP	Type of Housing	Zoning Area (m^2)	Maximum GFA (m^2)	Maximum PR
Tai Po Area 9, Chung Nga Road East and Chung Nga Road West Sites	Rezoned from "G/IC" and "GB" to "R(A)9"	Public Housing Development	94,997	321,000 (about) (including not more than 26,750 m^2 for non-domestic) ^	6.0 (including a maximum non-domestic PR of 0.5)
Site at Lo Fai Road near Tycoon Place	Rezoned from "GB" to "R(C)9"	Private Housing Development	41,363	46,200	1.6 ^
Site at Lai Chi Shan	Rezoned from "GB" to "R(B)8"	Private Housing Development	42,511	107,100	3.6 ^
Site at Kon Hang near Cheung Shue Tan	Rezoned from "GB" to "R(C)8"	Private Housing Development	25,405	16,800 ^	1.5
Site at To Yuen Tung, Ma Wo Road	Rezoned from "GB" to "R(A)10"	Public Housing Development	38,740	263,432 #	6.8

Site Location	Amendments to the OZP	Type of Housing	Zoning Area (m^2)	Maximum GFA (m^2)	Maximum PR
Note: ^ Reference has been made to RNTPC Paper No. 6/14. # Calculated based on zoning area and maximum PR.					

Table 2.2: Sites Rezoned from "GB" for Residential Purpose on Tai Po OZP Since 2014

2.4 Accessibility

2.4.1 Ting Kok Road is a major rural road connecting Tai Po New Town and Ting Kok. Site A is accessible by Ting Kok Road and Lo Fai Road, which the Site is abutted to Ting Kok Road and Lo Fai Road along its southwestern and northwestern boundaries respectively. Site B is accessible at Ting Kok Road. Various franchised buses operating along Ting Kok Road are also found in close proximity to the Sites.

2.5 Statutory Planning Context

2.5.1 The Sites are mainly zoned "GB" and partly within areas shown as "Road" on the Approved Tai Po Outline Zoning Plan ("Approved OZP") No. S/TP/30 (**Figure 2.3** refers). According to the Statutory Notes of the Approved OZP, "GB" zone is "*primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone*". Rezoning the Sites into "Residential (Group A)" sub-zones will be required to facilitate the proposed residential developments.

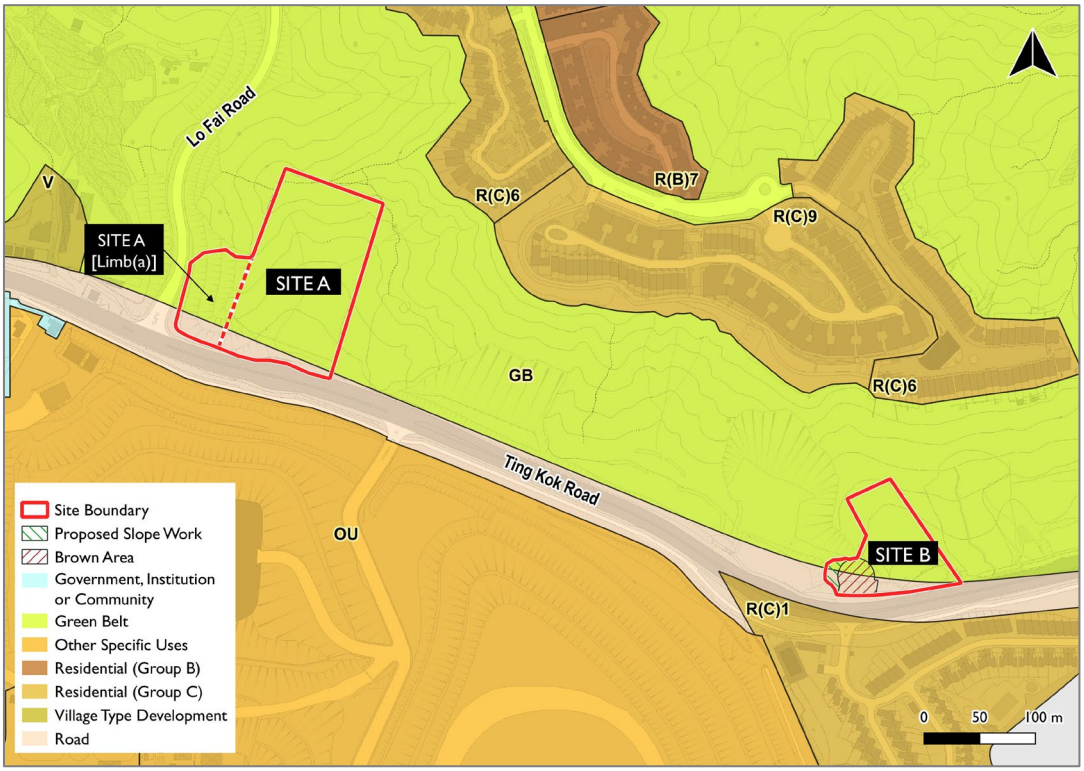


Figure 2.3: Zoning Context Plan (Extracted from Approved Tai Po OZP No. S/TP/30)

2.6 Government's Policies on Increasing Housing Land Supply

2.6.1 The Government has put strong emphasis on increasing supply of housing land in recent years to resolve the housing and land shortage problems in Hong Kong. Some of the major policies to increase housing land supply are as follows.

Increasing Residential Development Intensity

2.6.2 As announced in the 2014 Policy Address, the Government considers that except for the north of Hong Kong Island and Kowloon Peninsula, which are more densely populated, it is feasible to generally increase the maximum domestic PR currently permitted for the other density zones in the territory by around 20% as appropriate. Furthermore, in view of the increasing acute demand for public housing, the Executive Council agreed in December 2018 to allow further increase of domestic PR for public housing sites by 10% (i.e. up to 30% in total) where technically feasible.

Land Sharing Pilot Scheme

2.6.3 In response to the pressing demand for housing units and underutilization of privately owned land, the LSPS was first introduced in the 2018 Policy Address by the Chief Executive with aims to unleash the development potential of privately owned land not covered by Government's planned development and to meet the needs of both public and private housing in short to medium term.

2.6.4 Further details of the LSPS were confirmed in the 2019 Policy Address. The LSPS will tap the market force in planning and construction so as to release private lots with consolidated ownership but not yet covered by Government planning and study, in order to accelerate short to medium term housing supply. It states the following:

"The Government will facilitate infrastructural enhancement to allow higher development intensity and prescribe that at least 70% of the additional gross floor area gained should be allocated for public housing or Starter Homes as intended by the Government. As such, land owners have to carve out part of their land and hand them over to the Government for the said housing development, while the remainder of the site can be retained for private housing development. The land owners concerned will be responsible for providing infrastructure and other community facilities necessary to support the housing development projects, and the associated construction cost will be deducted from the land premium."

2.6.5 On 26 November 2019, the Legislative Council Panel on Development had a meeting and discussed about details, criteria and proposed implementation arrangement of LSPS[2]. The discussion paper prepared for the said meeting confirmed that each project under LSPS should be capable of delivering an increased GFA of no less than 50,000 m^2 in total and at least 1,000 additional housing units (assuming an average flat size of 50 m^2), in which no less than 70% of the increased GFA should be allocated for public housing or Starter Homes

[2] Development Bureau (2019). Legislative Council Panel on Development – Land Sharing Pilot Scheme. Retrieved from: https://www.legco.gov.hk/yr19-20/english/panels/dev/papers/dev20191126cb1-160-3-e.pdf.

development as intended by the Government. In support of a more holistic and integrated planning for the housing development, provision of G/IC facilities should be included to meet the needs of the additional population.

2.6.6 LSPS was subsequently launched on 6 May 2020 for receiving applications, subject to a cap of 150ha on the total area of private land to be approved[3]. It was further announced that public housing or Starter Homes development should be handed over to the Government in the form of formed land for a self-contained site, and the Government will be responsible for allocation of the formed site. The cost of site formation for the public housing and/or Starter Homes portion, together with construction and related costs of necessary infrastructure (e.g. road works improvement, upgrading/provision of water supply, sewerage and drainage facilities) and G/IC facilities, after vetting and acceptance by the Government to ensure they are essential and cost-effective to the whole public and private housing development, will be deducted from land premium for the proposed lease modification/land exchange. The processing of LSPS applications mainly comprises vetting of the application, consideration by the Panel of Advisors, endorsement by the Chief Executive in Council, statutory process of town planning and road/sewerage works gazettal and land administration procedures.

[3] Development Bureau (2020). Legislative Council Brief – Land Sharing Pilot Scheme. Retrieved from: https://www.devb.gov.hk/filemanager/en/content_1152/LSPS_LegCo_Paper_e.pdf.

3 THE INDICATIVE DEVELOPMENT PROPOSAL

3.1 The Indicative Development Proposal

3.1.1 The proposed public residential housing / SH development is proposed at Site A which has a total area of about 2 hectares [4]. With reference made to the existing residential developments at the uphill, the public residential housing/SH development at Site A will have a maximum building height of 83mPD[5] at main roof level, taking into account the necessary storey height for the adoption of Modular Integrated Construction ("MiC") method as promulgated in the Joint Practice Note No. 8 by Buildings Department, Lands Department and Planning Department. There will be 5 nos. of residential towers with a total maximum domestic GFA of about 64,522m^2 (equivalent to a domestic PR of about 3.18) providing a total of about 1,290 nos. of flats[6]. The proposed developments will have a terraced platform and its main platform will be at the level of about 19mPD. Car parking spaces and about 1,000m^2 of retail facilities will be provided at the main platform level. G/IC facilities of about 3,226m^2 (equivalent to about 5% of domestic GFA) will also be provided on the southern side of the site with direct pedestrian access from Ting Kok Road.

3.1.2 The private residential development is proposed at Site B which has a total area of about 0.7 hectare[7]. Based on the 70:30 public housing/SH and private housing split of domestic GFA, the private housing will have an about 23,000m^2 of domestic GFA[8] (equivalent to a plot ratio of about 3.28 on Site B). The proposed roundabout and the associated cut slope and retaining wall are considered to be part of the essential infrastructure works for the private residential development and included in the rezoning site boundary. Aiming to keep the maximum building height lower than the platform level of existing residential developments uphill, the proposed private residential development will be a 18-storey tower (including the residential carpark at basement level at about 15.5mPD) with the maximum BH of 78.2mPD at main roof level. There will be about 460 number of flats[6] for an estimated population of about 1,288[9].

3.1.3 With an aim to avoid lengthening the EVA to the northern portions which will

[4] Including about 3,797m^2 of additional Government Land [limb (a)] for the sole purpose for public housing development. Nevertheless, the domestic GFA generated from such additional Government land will not be included in calculation the 70:30 public housing/SH and private housing split. Based on a plot ratio of 3.18 for Site A, the additional Government Land of about 3,797m^2 [limb (a)] will generate about 10,855m^2 GFA.
[5] Floor-to-floor height of 3m has been assumed to allow for the adoption of MiC method with thickened/double slabs between MiC modules. According to Joint Practice Note No. 8 for Buildings Department, Lands Department and Planning Department, an increase in building height of about 4% of the total storey height of MiC floor may be favourably considered.
[6] Based on the assumed average flat size of 50m^2, subject to detail design.
[7] The calculation of area for Site B including about 0.1 hectare of Government Land for proposed roundabout and the associated cut slope and retaining wall.
[8] After excluding the about 10,855m^2 GFA generated from the additional Government Land of about 3,797m^2 [limb (a)] in Site A, the remaining GFA of about 53,667m^2 for public housing / SH will be used as the basis for deriving the GFA for the private housing portion. 53,667m^2 / 0.7 x 0.3 = 23,000m^2.
[9] Calculated based on the average domestic household size of 2.8 in Tai Po New Town in 2021 Population Census.

inevitably increase the hard paved area and hence the associated landscape and tree impact under the indicative development proposal, residential blocks are proposed to be located to the southern portions of Site A and Site B. In the respective northern portions of Site A and Site B, necessary geotechnical works such as installation of soil nails to ensure the slope safety will be carried out and compensatory trees/whips for the residential developments will be planted. The compensatory planting in the northern portion of the sites could enhance the landscape quality of the proposed developments and serve as a visual relief for future residents. Such areas are an integral part of the proposed residential developments.

3.1.4 The schematic master layout plan and section plans showing the proposed public residential housing / SH development at Site A and the proposed private residential development at Site B is shown in **Figures 3.1** to **3.9** accordingly.

	Proposed Public Residential Housing / SH Development at Site A	**Proposed Private Residential Development at Site B**	**Entire LSPS Scheme**
Rezoning Site Area (about)	About 2.0ha [10]	About 0.7ha[12]	About 2.7ha
Total Domestic GFA (about)	64,522 m^2	23,000 m^2	87,522 m^2
Equivalent Domestic PR [11]	About 3.18	About 3.28[12]	Average 3.21
Public / Private Domestic GFA Ratio[13]	70%	30%	/
Max. BH (at main roof level)	83mPD[14]	78.2mPD	83mPD
No. of Storeys	18 to 21[15]	18[16]	18 to 21
Site Coverage (above 15m)	Not more than 37%	Not more than 35%	/
No. of Blocks	5	1	6
No. of Units (about) [17]	1,290	460	1,750
Design Population	3,612 ##	1,288 ##	4,900
GFA for Retail Facilities	1,000 m^2	N/A	1,000 m^2
GFA for G/IC Facilities Provision (about)	3,226 m^2 ^	N/A	3,226 m^2
Local Open Space	Not less than 1m^2 per person	Not less than 1m^2 per person	Not less than 1m^2 per person

[10] Including about 3,797m^2 of additional Government Land [limb (a)] for the sole purpose for public housing development.
[12] The calculation of the area for Site B including about 0.1 hectare of Government Land for proposed roundabout and the associated cut slope and retaining wall.
[11] The average domestic plot ratio is calculated by using the total domestic GFA divided by the Rezoning Site Area.
[12] The Domestic Plot Ratio of Site B will be about 4.04 if exclude the area for proposed roundabout and slope work.
[13] The calculation of the public/private domestic GFA ratio has excluded the domestic GFA of about 10,855m^2 generated by the additional Government Land of 3,797m^2 [limb (a)].
[14] Floor-to-floor height of 3m has been assumed to allow for the adoption of MiC construction method.
[15] Including G/IC facilities but excluding transfer plate.
[16] Including basement level but excluding transfer plate.
[17] Based on the assumed average flat size of 50m^2, subject to detail design.

	Proposed Public Residential Housing / SH Development at Site A	Proposed Private Residential Development at Site B	Entire LSPS Scheme
Internal Transport Facilities Provision			
Parking Spaces			
• Private Car Parking Space	176* (include retail)	143*	318*
• Motorcycle Parking Space	15	6	21
• Bicycle Parking Space	172	62	234
• LGV Parking Space	5	N/A	5
Loading/unloading spaces			
• LGV spaces	1 (for GIC)	0	1 (for GIC)
• HGV spaces	11 (include retail)	1	12 (include retail)
Note: # Based on an assumed average flat size of 50m^2 and including 1 for GIC. ## Based on the average domestic household size of 2.8 in Land Sharing Pilot Scheme and Guidance Note on Applications. * Including 6 nos. of accessible parking spaces for disabled person ^ Social welfare facilities as required by the Government is proposed to be disregarded from GFA calculation			

Table 3.1: Major Development Parameters

3.2 Provision of Social Welfare Facilities

3.2.1 In view of the imminent need for social welfare facilities and policy initiatives to increase provision of social welfare facilities, a total GFA of about 3,226 m^2 will be dedicated for social welfare facilities in the proposed public residential housing / SH development at Site A, which is about 5% of the domestic GFA of the proposed development. The social welfare facilities will front directly on Ting Kok Road with barrier-free access to facilitate accessibility by the users and public. As required under the LSPS, Site A will be delivered to the Government upon completion of site formation. The social welfare facilities shall be designed and constructed as part of the public housing development. The provision of facilities will be subject to further discussions between the relevant government departments and the Housing Authority at the detailed planning and design stage[18].

3.3 Access Arrangement and Internal Transport Facilities Provision

3.3.1 The run-in/out points for the proposed developments at Site A and Site B will be located at Lo Fai Road and the proposed roundabout branching out from Ting Kok Road (shown as proposed brown area in **Figure 2.1**) respectively. Adequate parking and loading/unloading facilities will be provided in accordance with the latest standards stipulated in the Hong Kong Planning Standards and Guidelines. While the car park at Site B is proposed at basement level, no basement car parking is proposed for the public residential housing/SH development at Site A as per the comment by the Housing Department.

[18] For the purpose of technical assessments, the proposed GIC facilities in Site A will be assumed as Residential Care Home for the Elderly (RCHE).

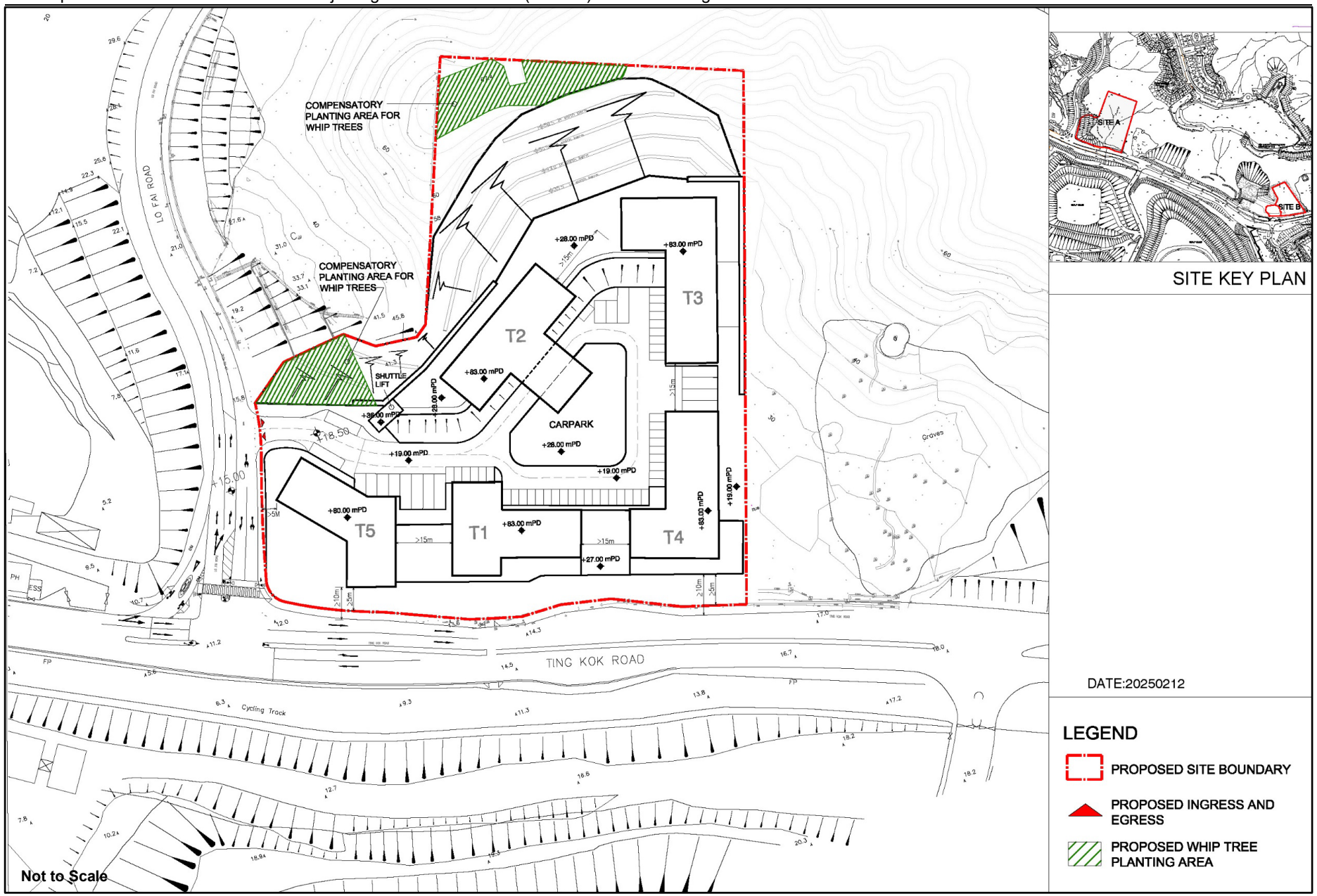
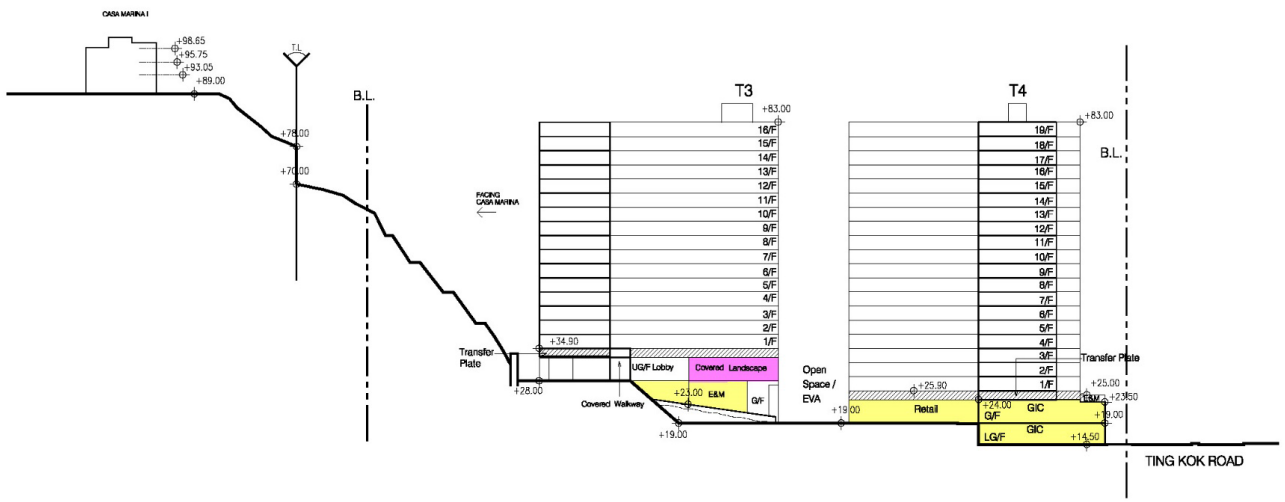
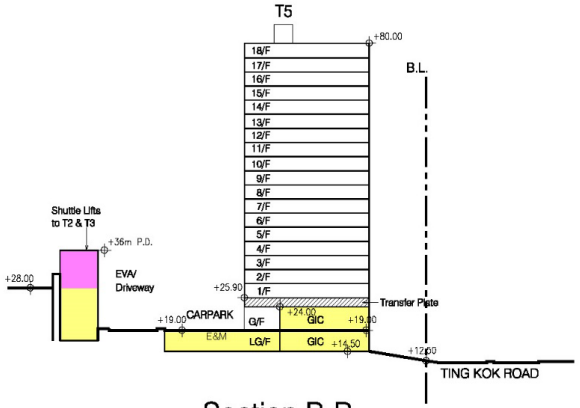


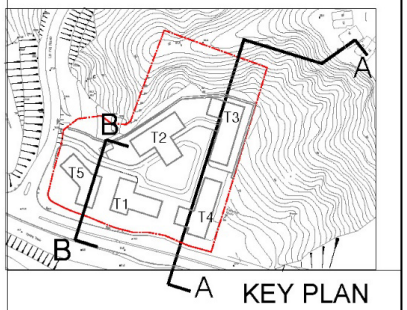
Figure 3.1: Schematic Master Layout Plan for Site A



Section A-A



Section B-B



KEY PLAN

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LEGEND

UPPER PODIUM

LOWER PODIUM

Not to Scale

Figure 4.2: Schematic Section Plan for Site A (Section A-A and B-B)

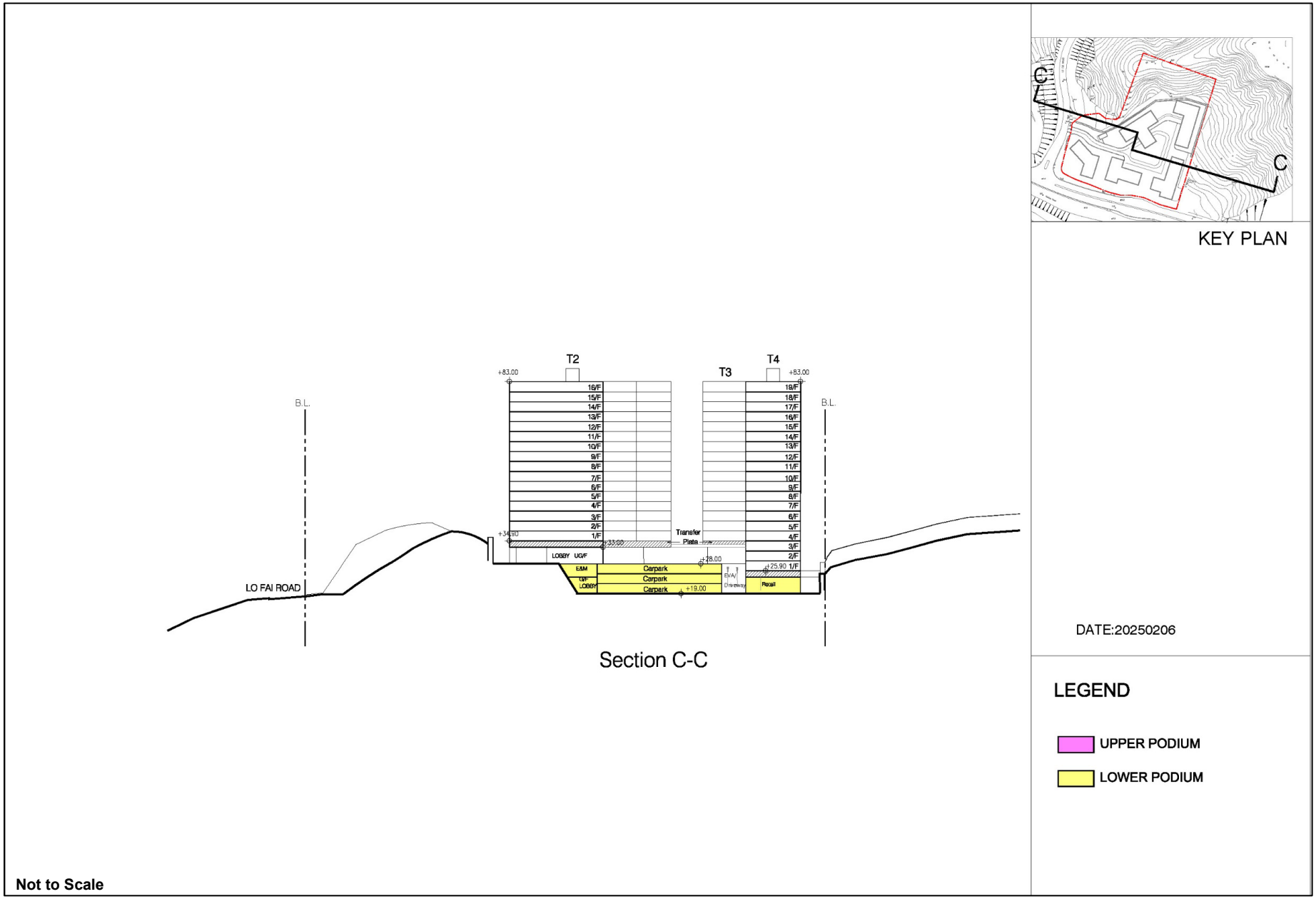


Figure 3.3: Schematic Section Plan for Site A (Section C-C)

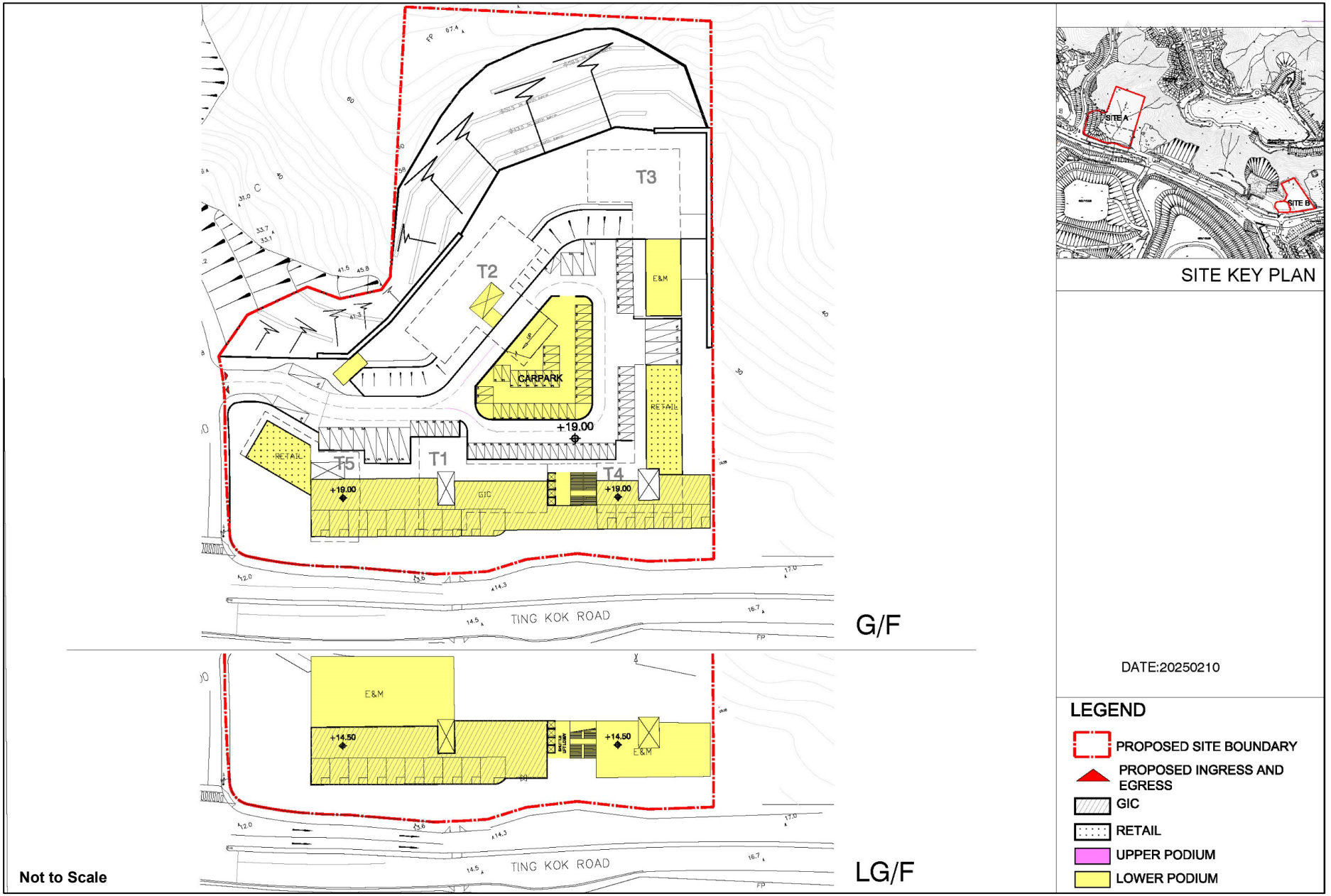


Figure 3.4: Schematic Plan for GIC at Site A

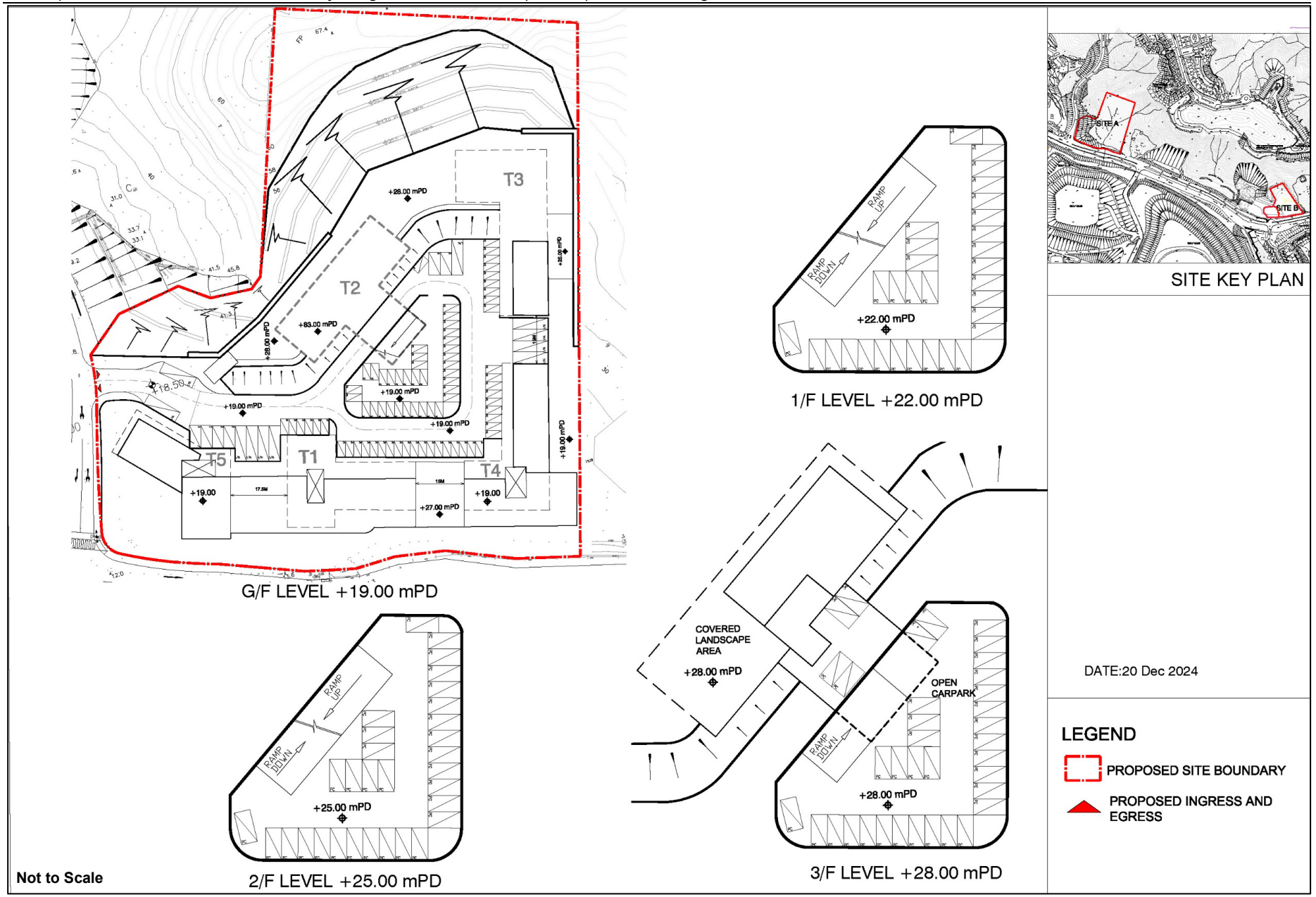


Figure 3.5: Schematic Plan for Podium Car Park at Site A

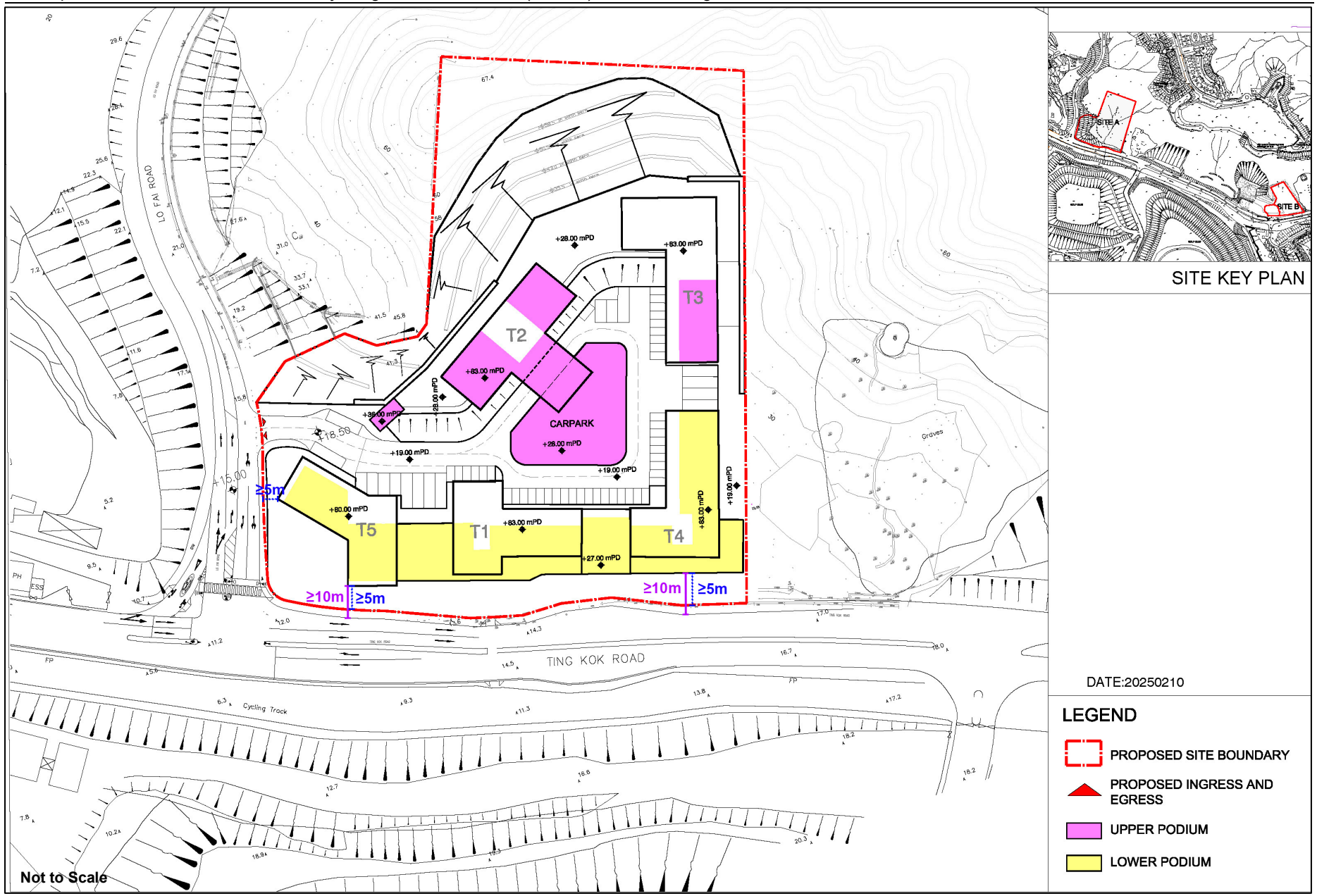


Figure 3.6: Schematic Plan for Podium in Different Levels at Site A

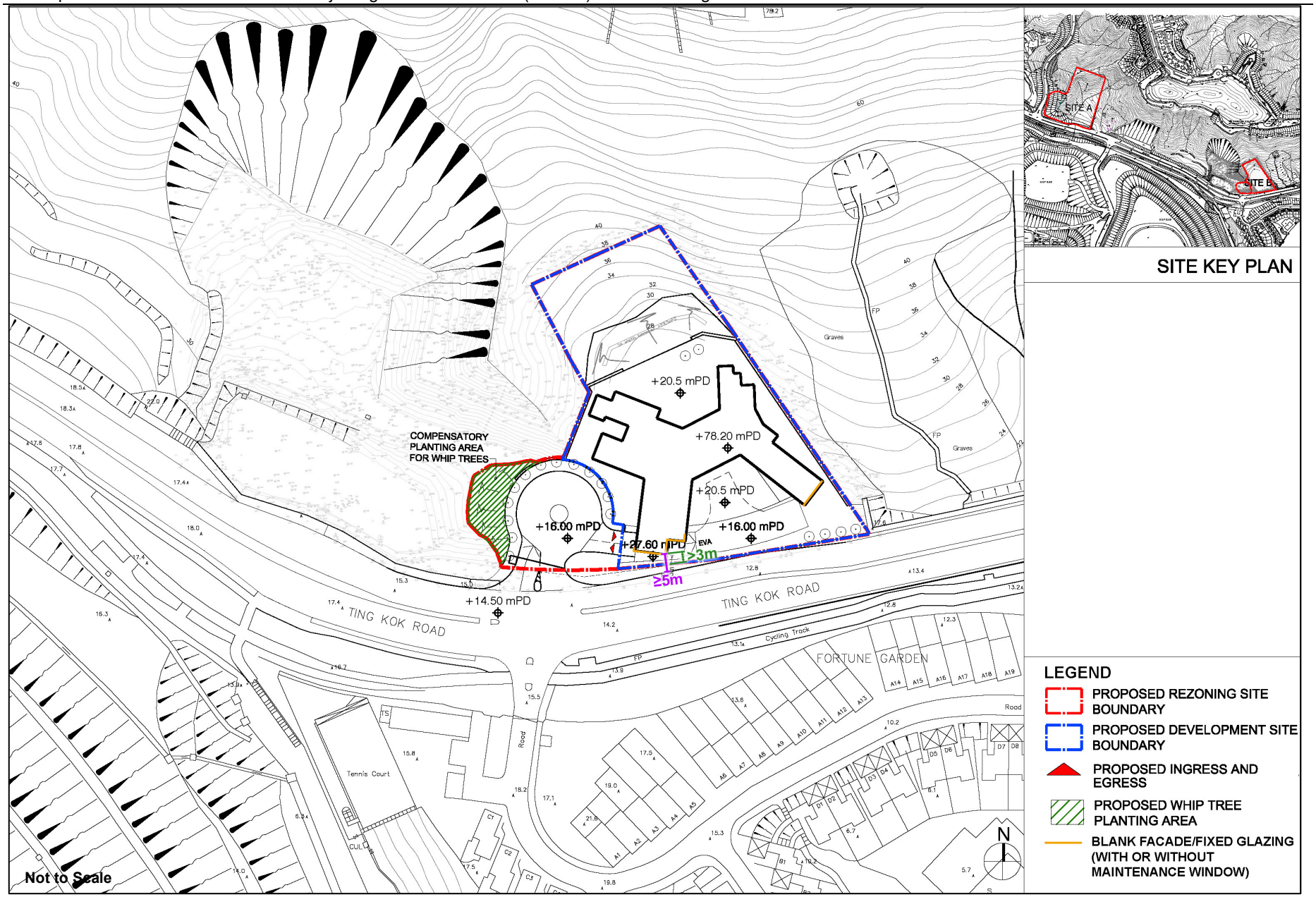


Figure 3.7: Schematic Master Layout Plan for Site B

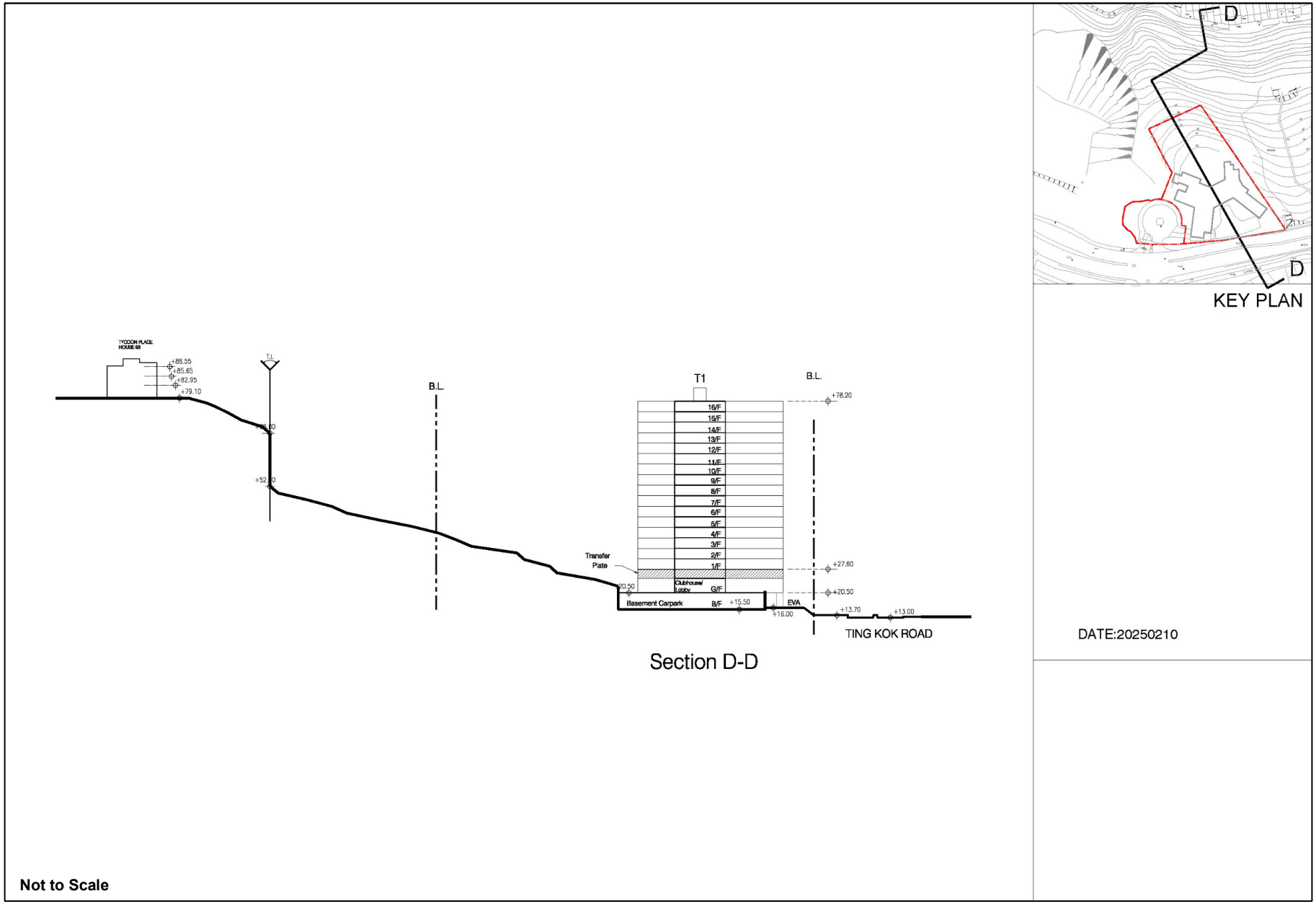


Figure 3.8: Schematic Section Plan for Site B (Section D-D)

4 PLANNING MERITS AND JUSTIFICATIONS

4.1 In-line with Government's Policies on Increasing Housing Supply

4.1.1 In addressing the housing shortage problem and to meet the pressing housing demand in Hong Kong, the Government has been adopting a multi-pronged approach to increase land supply in short, medium and long term. The development proposal is submitted under the LSPS to unleash earlier the development potential of the private lots at the Sites located outside specified environmentally sensitive areas and not covered by the Government's planning efforts in order to boost both public and private housing supply. The development proposal is totally in-line with the Government's policy to increase housing land supply.

4.1.2 In order to optimize the development potential of the Sites in response to the acute demand for housing supply, the development intensity has been carefully considered taken into account the site and surrounding context as well as prevailing policy initiatives. With the maximum BH (at main roof level) at Site A and Site B kept at 83mPD and 78.2mPD respectively, the average plot ratio of the housing developments will be about 3.21 to achieve optimal production of housing units (please refer to **Sections 4.3 and 4.4**). Land resources in Hong Kong are extremely scarce and the current proposal would represent a more optimum and efficient use of land resources.

4.2 Compliance with the Relevant Requirements of Land Sharing Pilot Scheme

4.2.1 As detailed in **Section 2.7**, each project under the LSPS should be capable of delivering an increased GFA of no less than 50,000 m^2 in total and at least 1,000 additional housing units (assuming an average flat size of 50 m^2), in which no less than 70% of the increased GFA should be set aside for public housing or Starter Homes development as intended by the Government. The development proposal at the Sites currently zoned for non-residential use contributing an increased domestic GFA of about 87,522m^2 and 1,750 of residential units in total (of which 70% will be set aside for proposed public residential housing / SH development at Site A is in compliance with the LSPS requirements and other relevant criteria set out in the Guidance Note.

4.3 Compatible with the Surrounding Land Use and Development Intensity

4.3.1 Tai Po New Town is well-developed with relatively higher development intensity concentrated on both sides of East Rail Line, Tai Po Tai Wo Road and Ting Kok Road to the west of Yuen Shin Road. Among these higher density developments, majority of them are "R(A)" sites subject to a maximum domestic PR of 5. Medium-density developments with maximum PRs ranging from 1.6 to 3.6 are found at various locations at the fringe of the new town area. Low-density developments with PRs lower than 1.5 are generally found at remote areas with infrastructural constraints.

4.3.2 As discussed in para 2.3.4, the Government has rezoned 5 "GB" sites in Tai Po for

residential purpose since 2014 for releasing more developable land for housing supply. Among the 5 rezoned site, 3 of them are for low to medium density development residential developments.

4.3.3 The Sites are situated at the urban fringe of Tai Po New Town gradually transitioning from the denser urban core towards suburban area in Ting Kok. Existing low- to medium-density residential neighbourhoods/ developments along Ting Kok Road are mainly located on local feeder roads connecting Ting Kok Road, such as Fung Yuen Road, Ting Hing Road & Lo Fai Road with limited capacity. Site A is about 1.7km away from the nearest public housing estate (i.e. Fu Shin Estate) in Tai Po New Town and both Sites directly abut Ting Kok Road.

4.3.4 The proposed overall domestic plot ratio of the Sites is about 3.21 while the individual domestic plot ratio of Site A and Site B is about 3.18 and about 3.28 respectively. The proposed development intensity is also confirmed and supported by submitted technical assessments to be acceptable in technical terms and will not lead to adverse and insurmountable impacts to the surroundings. As potential development sites at the fringe of new town area, medium density developments at the Sites are generally considered to be compatible.

4.4 Compatible with the Building Height Profile of the Area

4.4.1 The maximum BHs of the proposed public residential housing / SH development and proposed private residential development at the Sites have been optimized. As outlined in the Explanatory Statement of the Approved OZP, in a wider context, a stepped BH concept with BHs gradually descending from the urban core at Tai Po Hui and the adjacent reclaimed areas to the peripheral areas has been adopted taking into account the local context, the local wind environment, and the need to maintain visually compatible building masses in the wider setting. The proposed height bands help to preserve the natural topographical profile, public views to the ridgelines, maintain visual permeability, and wind penetration and circulation as far as possible.

4.4.2 Considering that the closest facing platform levels of existing residential developments uphill namely Casa Marina I, Villa Lucca and Tycoon Place to the immediate north of the Sites at about 83.5 to 93.5mPD, 96mPD and 83.4mPD respectively, the proposed maximum BHs (at main roof level) for Site A and Site B would be kept at 83mPD and 78.2mPD respectively to minimize potential visual impacts to the adjacent developments. Such maximum building height will also ensure that there will be a descending building height profile from the uphill areas towards the waterfront of Tolo Harbour; i.e. from max. 113mPD at the uphill, to max. 83mPD at the Sites and then to max. 36mPD to Fortune Garden or max. 41mPD to the golf course.

4.4.3 The public residential housing/SH development at Site A will adopt Modular Integrated Construction ("MiC"). As promulgated in the Joint Practice Note ("JPN")

No. 8 by Buildings Department, Lands Department and Planning Department, MiC enables better quality control, shortens construction period, reduces disturbance and nuisance to the neighbourhood etc. Since the adoption of MiC normally involves thickened/double slabs between MiC modules, resulting in an increase in storey height of MiC floor and hence in the overall building height (BH) of the building. Therefore, the proposed building height of about +83mPD in Site A is considered necessary and appropriate for the intended adoption of MiC at the Site. The increase in BH is about 4% of the total storey height of MiC floor which shall be favourable considered under the JPN No. 8.

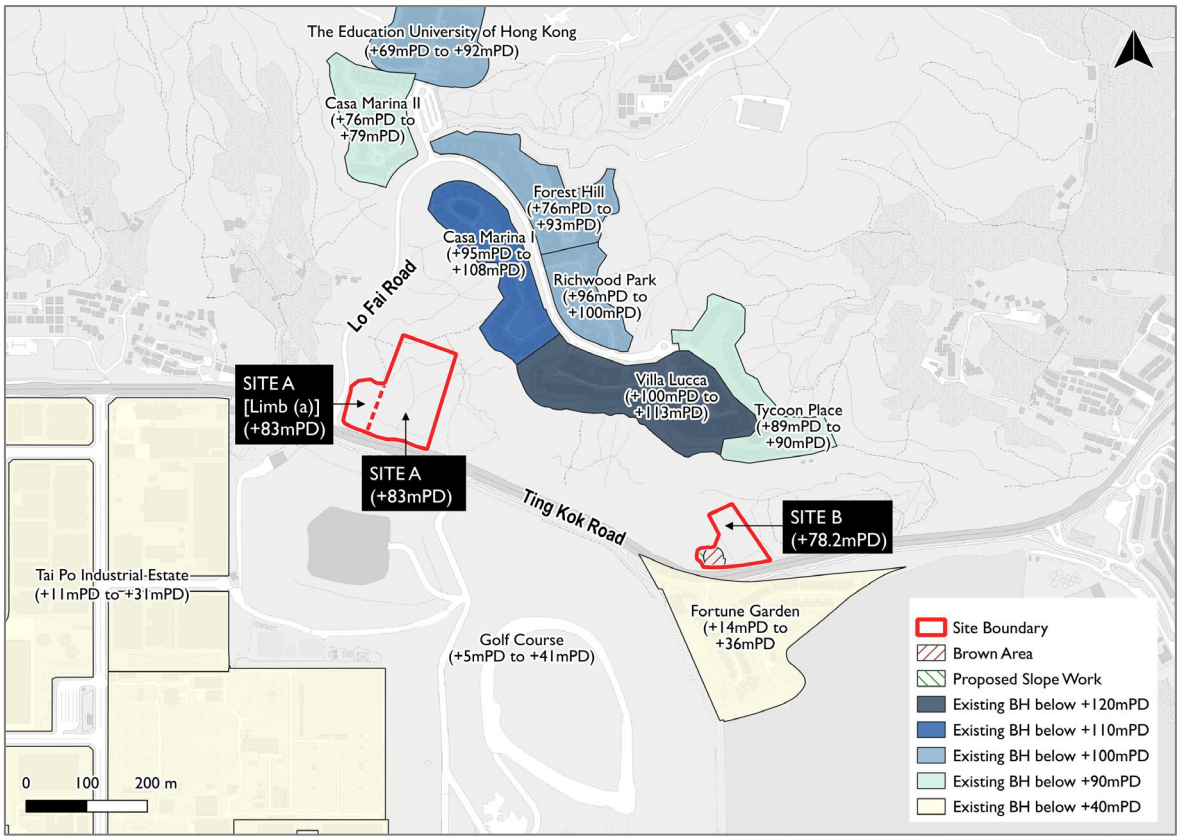


Figure 4.1: Existing Building Height Profile of the Area

4.5 Sensitive Design in Response to the Surrounding Settings

4.5.1 Having taken into account the site topography and surrounding settings including a number of graves found to the immediate southeast of Site A and a permitted burial ground site no. TP-E2 to the immediate east of Site B, the building disposition has been sensitively designed to minimize possible visual interface as far as practicable. Building separation of not less than 15m between T1 and T5 and minimised podium bulk are proposed for Site A with no erection of building structures at southwestern corner, while car parking facilities will be provided at basement level of Site B. There will be open areas without building structures at the northern portions of both Site A and Site B. Sustainable Building Design Guidelines (APP-152) will also be complied.

4.5.2 The residential blocks will set back along Ting Kok Road of not less than 5m from the southern site boundary of Site A (i.e. at least 10m residential tower setback from

the kerbline of Ting Kok Road) and not less than 3m from the southern site boundary of Site B (i.e. at least 5m residential tower setback from the kerbline of Ting Kok Road). Residential tower setback of not less than 5m from the western boundary of Site A along Lo Fai Road is also proposed. This will not only meet the buffer distance requirement for addressing potential vehicular emission impact[19] from Ting Kok Road, but also alleviate the degree of visual obstruction by surrendering some spaces to certain the visual permeability along Ting Kok Road.

4.5.3 Within the setback area, landscape areas have been proposed to retain the character of Ting Kok Road for both Site A and Site B. Design for the landscape areas will be further determined in the planning and detail design stage. Under the indicative development scheme, whip tree planting areas at both Sites will be reserved to compensate the trees to be affected by the proposed developments, while some existing trees are proposed to be retained. For Site B, roadside tree planting along Ting Kok Road is proposed and aesthetically pleasing building design will be explored in detailed design stage.

4.5.4 The above-mentioned proposed sensitive design measures are indicated in **Figures 3.1 and 3.7** for Site A and Site B respectively.

4.6 Maximizing Greening Provision

4.6.1 To create a pleasant and sustainable neighbourhood environment, the overall greening ratio of the proposed public residential housing / SH development as well as the proposed private residential development would accord the requirement stipulated on the Sustainable Building Design Guidelines (APP-152) with the provision of planting, green buffer along site boundary, shaded outdoor spaces and visual amenity for the pedestrians. The greenery at various levels (i.e. at-grade and lower levels) would visually soften the built form and help to provide a smooth transition between the proposed residential developments and the adjacent neighbourhood. Please refer to **Figures 4.16 and 4.17** for the Landscape Master Plans for Site A and Site B respectively. Local open space at a minimum standard of $1m^2$ per person will be provided in accordance with the Hong Kong Planning Standards and Guidelines ("HKPSG"). Please refer to **Figures 4.18 and 4.19** for the proposed open space provision at Site A and Site B respectively.

4.7 No Insurmountable Technical Impact

4.7.1 Technical assessments including Traffic Impact Assessment, Geotechnical Assessment, Environmental Assessment, Water Supply Impact Assessment, Drainage Impact Assessment, Sewerage Impact Assessment, Ecological Impact Assessment have been conducted and no insurmountable technical impact/concern has been identified in the assessments.

[19] For the portion of residential tower falling within the 10m buffer area, no openable window will be provided for the habitable space.

Visual (Appendix 2 refers)

4.7.2 A Visual Impact Assessment ("VIA") has been conducted to demonstrate the visual implication of the proposed developments with reference to TPB PG-No. 41 TPB Guidelines on Submission of VIA for Planning Applications to the TPB.

4.7.3 The VIA covers a total of 12 viewpoints, including 6 distant viewpoints and 6 close-up viewpoints and photomontages have been prepared for each viewpoint to demonstrate the visual effect of the proposed developments. As compared with the baseline conditions, the visual impacts caused by the proposed developments are moderately to significantly adverse when viewed from VP1 – cycling tack near Tai Po East Fire Station (**Figure 4.2** refers), VP2 – cycle track near the "OU(Golf Course)" zone (**Figure 4.3** refers), VP3 – cycle track near Fortune Garden bus stop (**Figure 4.4** refers) and VP4 – cycle track near Fortune Garden (**Figure 4.5** refers), due to close proximity to the Site. For the other eight VPs, the proposed development is anticipated to induce insignificant to slightly adverse visual impacts (**Figure 4.6 to 4.13** refer).

4.7.4 To mitigate the visual impacts of the proposed developments, sensitive design measures as detailed in Section 4.5 above will be adopted. In particular, though the proposed developments will affect the visual access to the greenery, sky view and openness at the close-up viewpoints on Ting Kok Road, the proposed landscape area and building setbacks along the site boundaries facing Ting Kok Road will maintain the green character along Ting Kok Road. The proposed maximum BH of 83mPD at Site A and 78.2mPD at Site B will be lower than maximum building height of the adjoining residential developments up-hill to the north at 113.2mPD, which demonstrate a stepped building height profile descending from the uphill residential cluster at the Sites, and then to the Fortune Garden at the shoreline of Tolo Harbour. As reflected in the photomontages from the distant viewpoints (e.g. VP5 – Pak Shek Kok Promenade (**Figure 4.6** refers) and VP6 – Shuen Wan Typhoon Shelter Breakwater (**Figure 4.7** refers)), the proposed developments will not be incompatible with the development context of the fringe area of Tai Po New Town.

Air Ventilation (Appendix 3 refers)

4.7.5 An Air Ventilation Assessment – Expert Evaluation (AVA-EE) report has been prepared to evaluate if the proposed developments would have any impact on the overall air ventilation performance of the assessment area. According to Planning Department's Regional Atmospheric Modeling System (RAMS), the annual prevailing wind directions concerning both Site A and Site B are ENE, E and ESE (**Figure 4.14** refers) whereas summer prevailing wind directions are E, SE, SSE for Site A, and E, SE, SSE and SSW for Site B (**Figure 4.15** refers).

4.7.6 Site A and Site B is vacant and covered with dense vegetation, which are more than about 450m apart from each other. It is anticipated that the surrounding traffic network and open areas would be the main air corridors under the annual and summer conditions, especially Ting Kok Road aligning with most of the prevailing

wind directions.

4.7.7 The proposed building heights (i.e. 83mPD for Site A and 78.2mPD for Site B) are relatively high in comparison to the other existing developments in the surroundings. Comparing to the Baseline Scheme, the proposed developments may alter wind flow and result in some wind blockage impact to their downwind areas under prevailing wind directions. However, under southerly wind directions, the building frontage of the proposed development will induce building downwash and provide wind availability for Ting Kok Road at the pedestrian level. The distance between Site A and Site B is sufficient for the wake areas to gradually dissipate over distance, and therefore no cumulative impact induced by Site A and Site B to their downwind areas is anticipated.

4.7.8 The proposed layouts and disposition of buildings under the indicative development scheme have been carefully considered to minimise air ventilation impacts. The layouts of the proposed developments have incorporated good design measures as detailed in Section 4.5 above. In particular, since Ting Kok Road is a main air corridor under most of the prevailing wind directions, building tower setback of not less than 5m from the southern site boundary along Ting Kok Road at Site A (i.e. at least 10m building tower setback from the kerbline of Ting Kok Road at Site A) and building tower setback of not less than 3m from the southern site boundary along Ting Kok Road at Site B (i.e. at least 5m building tower setback from the kerbline of Ting Kok Road at Site B) could minimise the obstruction to wind flow along the road. Open areas without building structures at the northern portions at both Site A and Site B, as well as no erection of building structures at southwestern corner at Site A could also allow wind penetration. With the design measures incorporated, the proposed developments are unlikely to impose significant impact on the surrounding sites from air ventilation perspective.

Traffic and Transport (Appendix 5 refers)

Traffic

4.7.9 A Traffic Impact Assessment ("TIA") has been carried out to assess the traffic impact associated with the proposed developments at the Sites. Manual classified traffic surveys were conducted at the eight critical junctions in the vicinity of the proposed developments (**Figure 4.20** refers), including J1 – Ting Kok Road/Yuen Shin Road/Dai Fuk Street; J2 – Yuen Shin Road/Dai Fat Street; J3 – Tai Po Tai Wo Road/Yuen Shin Road; J4 – Ting Kok Road/Dai Fat Street; J5 – Ting Kok Road/Dai Kwai Street; J6 – Ting Kok Road outside Fortune Garden; J7 – Ting Kok Road/Lo Fai Road and J8 – Ting Kok Road/Fung Yuen Road, from 7:30am to 9:30am and from 5:00pm to 7:00pm on a typical weekday in March 2023. Results of the junction capacity assessment indicated that J1, J2, J5, J6 and J7 are currently operating with adequate capacity except J3, J4 and J8 are currently operating beyond the acceptable criteria (i.e. RC < 15%) during the peak hours (**Table 4.1** refers).

Table 4.1 Junction Capacity Analysis - Existing (2023)

NO.	JUNCTION LOCATION	EXISTING (2023) R.C.(1)	
		AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	31%	17%
J2	Yuen Shin Road / Dai Fat Street	29%	46%
J3	Tai Po Tai Wo Road / Yuen Shin Road	14%	23%
J4	Ting Kok Road / Dai Fat Street	13%	29%
J5	Ting Kok Road / Dai Kwai Street	22%	24%
J6	Ting Kok Road Access Road to Fortune Garden	86%	134%
J7	Ting Kok Road / Lo Fai Road	33%	39%
J8	Ting Kok Road / Fung Yuen Road	0%	1%

Note: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C.>15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.

4.7.10 Taking into account the traffic trips generated by the proposed developments at the Sites and the future planned/committed developments in the vicinity of the Sites (e.g. development at Fung Yuen and transitional housing developments at Wong Yue Tan and Shuen Wan), the assessment results in design scenario in 2036 without any proposed traffic improvement works indicates that all critical junctions would be operated beyond the acceptable criteria (i.e. RC < 15%) or overloaded (i.e. RC < 0%) during both AM and PM peak period (**Table 4.2** refers).

Table 4.2 Junction Capacity Analysis – Reference and Design Scenarios (2036)

JUNCTION NO.	JUNCTION LOCATION	2036 REFERENCE (WITHOUT DEVELOPMENT)		2036 DESIGN (WITH DEVELOPMENTS)	
		R.C.[1]		R.C.[1]	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	9%	-2%	0%	-7%
J2	Yuen Shin Road / Dai Fat Street	2%	22%	-4%	15%
J3	Tai Po Tai Wo Road / Yuen Shin Road	-6%	3%	-8%	1%
J4	Ting Kok Road / Dai Fat Street	-3%	10%	-11%	3%
J5	Ting Kok Road / Dai Kwai Street	3%	6%	-4%	-6%
J6 [2]	Ting Kok Road Access Road to Fortune Garden	67%	111%	-27%	-27%
J7	Ting Kok Road / Lo Fai Road	21%	20%	9%	14%
J8	Ting Kok Road / Fung Yuen Road	-14%	-12%	-19%	-16%

Notes: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C. >15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.
(2) Junction J6 will change from existing 3-arm signal-controlled junction to 4-arm signal-controlled junction (Method of Control with 5 stages) in Design Scenario upon Completion of Site B and adopt in 2036 Design Scenario Assessment.

4.7.11 To alleviate traffic impacts, junction improvement measures (e.g. additional lane(s), conversion of staggered crossing into straight crossing and road widening) are recommended for all critical junctions (**Figure 4.21 to 4.28** refer). With the implementation of proposed junction improvement measures, all of the critical junctions would be operating in desirable performance in 2036 during both AM and PM peak hours, except J4 would still be operated beyond the acceptable criteria (i.e. RC < 15%) during AM peak period (**Table 4.3** refers). In view of the site constraint and the surrounding area are limited to be further widened or setback to provide additional traffic lane to cater the additional traffic capacity from the new developments. The RC of 10% for J4 is still tolerable from traffic view point. Proposed junction improvement works will be carried out by the Applicant. The cost will be agreed with the Government as lump sum infrastructure cost to be reimbursed by land premium deduction.

Table 4.3 Junction Capacity Analysis – Design Scenario with and without Proposed Junction Improvement Works (2036)

JUNCTION NO.	JUNCTION LOCATION	2036 DESIGN (WITHOUT IMPROVEMENT)		2036 DESIGN (WITH IMPROVEMENT)	
		R.C.(1)		R.C.(1)	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	0%	-7%	17%	25%
J2	Yuen Shin Road / Dai Fat Street	-4%	15%	35%	35%
J3	Tai Po Tai Wo Road / Yuen Shin Road	-8%	1%	25%	43%
J4	Ting Kok Road / Dai Fat Street	-11%	3%	10%	29%
J5	Ting Kok Road / Dai Kwai Street	-4%	-6%	16%	60%
	Ting Kok Road / Dai Kwai Street (Alternative)	-4%	-6%	16%	64%
J6	Ting Kok Road Access Road to Fortune Garden	-27%	-27%	44%	58%
J7	Ting Kok Road / Lo Fai Road	9%	14%	39%	23%
J8	Ting Kok Road / Fung Yuen Road	-19%	-16%	18%	27%

Note: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C.>15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.

4.7.12 Site A will have an ingress/egress point located at the eastern side of Lo Fai Road, which will be located around 45m far from the junction Ting Kok Road/Lo Fai Road. Site B will have an ingress/egress point located at the northern side of junction of Ting Kok Road / access road to Fortune Garden, which will be combined with the existing junction to form a 4-arm junction. The internal roads within the proposed developments would provide access for general traffic access as well as emergency vehicular access. To cater for the car parking and loading/unloading needs of the proposed developments, car parking and loading/unloading facilities are proposed in accordance with the latest requirements as stipulated in HKPSG.

Public Transport

4.7.13 Additional trips on existing bus and GMB routes are proposed to accommodate the additional passenger demand from both Sites A and B. One new bus route is preliminary proposed, subject to the actual public transport demand in the future and further review by Transport Department and Bus Company.

Pedestrian

4.7.14 Pedestrian assessment is also conducted to assess the pedestrian flows of the footpaths in the surroundings of Site A and Site B in 2036 under the weekday during AM and PM peak hours. The results indicate that the existing operations of all pedestrian facilities are adequate.

4.7.15 The TIA demonstrates that no adverse traffic impact is anticipated from the proposed developments at the Sites after the implementation of proposed junction improvement measures. Therefore, the proposed developments is feasible from traffic point of view.

Geotechnical (Appendix 6 refers)

4.7.16 A Geotechnical Assessment ("GA") has been prepared for the proposed developments at the Sites. According to GA, there are 2 nos. of registered geotechnical features in Site A and 7 nos. in Site B. Detailed site reconnaissance of the surrounding terrain should be undertaken to identify any possible natural terrain hazards to the site such as areas of steep colluvial deposits or unstable boulders, with proposed mitigation measures dependent on nature and scale of any identified risks in detailed design stage. Pile foundation is recommended for the proposed multi-storey building. The utilization of mini-pile/socket H-pile/footings to support some portions of the development may be feasible. All existing structures, slopes and retaining walls affecting or being affected by the proposed development will be assessed. If necessary, precautionary or upgrading works will be carried out in detailed design to ensure that the surrounding structures, slopes and retaining walls will not be adversely affected. It is concluded that the proposed developments at the Sites are geotechnically feasible.

Environmental (Appendix 7 refers)

4.7.17 An Environmental Assessment ("EA") has been conducted to evaluate the noise impact, air quality impact, preliminary landfill hazards and water quality impact on/caused by the proposed developments.

4.7.18 According to the Noise Impact Assessment ("NIA") under the EA, the noise environment is dominated by road traffic noise along Ting Kok Road. All noise sensitive receivers of the proposed developments would be within the road traffic noise standard stipulated under HKPSG with mitigation measures in place. The noise mitigation measures include blank wall/fixed glazing, acoustic window (baffle type), enhanced acoustic balcony (baffle type) are incorporated in the indicative development scheme. On the other hand, there are industrial noise sources within/adjoining Tai Po InnoPark (e.g. WSD Tai Po East Fresh Water Pumping Station and Kee Wah Group Limited). The industrial noise impact assessment result demonstrates that there is no exceedance of relevant standard under unmitigated scenario of the proposed developments. The design of the proposed developments at the Sites will meet the relevant standards stipulated in the HKPSG. No unacceptable fixed noise impact on the surroundings and the proposed developments is anticipated. NIA will be required in the detailed design stage

4.7.19 According to the Air Quality Impact Assessment under the EA, both Sites are situated along Ting Kok Road where Site A is bounded by Ting Kok Road and Lo Fai Road to the south and west respectively. Based on block disposition of the latest scheme, only a small portion of residential block at Site B are found within the buffer area (10m from Ting Kok Road). Mitigation measures such as blank façade/fixed glazing without any opening window is proposed at the portion of residential façade within buffer area to avoid any adverse impact (**Figure 3.7** refers), and therefore the buffer separation from openable window can meet the buffer separation requirement. All future fresh air intake points of retail facilities, clubhouse, any other air sensitive uses, and outdoor recreational area will be located outside of the buffer area and to be determined in detailed design stage. With the implementation of this design measure in place, no excessive air quality impact due to vehicular emission is anticipated. Based on the result of the field survey, there is no active chimney located within 200m of the Sites, and impact from chimney emissions is not anticipated. There is no fluff, odour and other air pollutant emission identified in the surroundings. For the future car parks within the proposed developments, the applicant will observe and follow the Environmental Protection Department's ProPECC PN2/96 on Control of Air Pollution in Car Parks for the design and operation. Overall, it is envisaged that the proposed developments at the Sites would not be subject to/induce significant air quality impact.

4.7.20 The proximity of the proposed developments to the restored Shuen Wan Landfill has necessitated the Preliminary Qualitative Landfill Gas ("LFG") Hazard Assessment to investigate the likelihood of LFG migration problems and to propose subsequent LFG mitigation measures. Active control measures (e.g. mechanical ventilation), passive control measures (e.g. impermeable lining for envelope in touch with ground and sealing for penetration for utilities entry), detective/monitoring systems, safe design and working practice for landfill gas are recommended to mitigate potential hazards during construction and operation stages. A detailed LFG hazard assessment adopting the latest LFG monitoring data and the refined scheme should be conducted in the detailed design stage.

4.7.21 Other than a natural stream located within Site A, there is no water sensitive receivers (WSR) immediate to both Site A and Site B. Tolo Harbour and a marshland are within 500m from Site B only. Some watercourses are also located outside Site A and Site B. In other words, the proposed development at Site A would have direct interface with existing WSR on site (stream water flow will be diverted and drained to surface channel nearby), while the proposed development at Site B has no direct interface with any WSR. Proper sewerage and drainage systems are proposed to avoid adverse water quality impact. With the adoption of appropriate mitigation measures, no adverse water quality impact due to the proposed developments is anticipated.

4.7.22 According to the historical and existing use observed in site survey, the risk of land contamination problem is unlikely. Further investigation of potential land

contamination problem is not considered necessary.

Water Supply (Appendix 8 refers)

4.7.23 A Water Supply Impact Assessment ("WSIA") has been carried out to assess the water supply impact associated with the proposed developments at the Sites. Based on the unit water demand and the estimated population, the fresh and flushing water demand for the proposed developments are approximately 1,909.9m^3/day and 573.8m^3/day respectively. For supplying fresh water to the proposed developments, it is proposed to lay new connections to the existing water mains. A Ø150mm fresh water main is proposed in Site A (**Figure 4.29** refers) and Ø100mm fresh water main is proposed in Site B (**Figure 4.30** refers) to connect the existing Ø450mm fresh water main along Ting Kok Road. For saltwater supply system in Site A, a Ø200mm water main is proposed to connect the existing Ø200mm water main across Lo Fai Road. A Ø80mm water main will be branched (after crossing Lo Fai Road) from the proposed Ø200mm water main to the site (**Figure 4.31** refers). For Site B, a Ø200mm water main is proposed along the kerbside of Ting Kok Road by branching off the proposed Ø200mm water main in Site A (**Figure 4.32** refers). No upgrading works of the existing pumping stations, service reservoirs and water mains is necessary for both freshwater and saltwater system. Based on the assessment, the existing and proposed water mains are adequate to serve both Site A and Site B. No adverse water supply impact is anticipated due to the proposed developments.

Drainage (Appendix 9 refers)

4.7.24 A Drainage Impact Assessment has been conducted to appraise the drainage impact associated with the proposed developments at the Sites. Stormwater flow from the proposed developments at the Sites will be conveyed to the proposed terminal manholes and connected to the existing drainage system. Peripheral channels with adequate capacity are proposed for both Sites, with detailed size, gradient, and layout subject to detailed design stage. For Site A, a Ø900mm pipeline is proposed to connect manhole TA to the existing manhole at Lo Fai Road (**Figure 4.33** refers). For Site B, two options are proposed with proposing the new pipes along Ting Kok Road and upgrading existing drainage segments to the northeast of Fortune Garden to allow the connection with the existing drainage system (**Figures 4.34 and 4.35** refer). Detailed pipeline alignment, invert level and size are tentative and will be subject to the detailed design stage. Thus, the existing and proposed drainage systems with the proposed upgrading works will have adequate capacity to cater for stormwater generated from the proposed developments and related existing catchment areas. The applicant will be responsible for the proposed upgrading works and associated monitoring programme during the construction stage.

Sewerage (Appendix 10 refers)

4.7.25 According to the result of the Sewerage Impact Assessment, the total sewage generation rate from the proposed developments is estimated to be 1538.7 m3/day

(i.e. peak flow 89.0 litre/sec). It is identified that two of the existing pipe segments are close to 100% capacity. Therefore, upgrading work is proposed in these two segments from Ø300mm to Ø375mm in order to allow sufficient capacity for the sewerage pipes. A Ø225 mm sewerage pipe is proposed to be constructed to connect the terminal manhole of the Site A (TA) to existing manhole N1. A Ø225 mm and Ø300 mm sewerage pipe is proposed to be constructed to connect the terminal manhole of the Site B (TB) to existing manhole S1. Please refer to **Figure 4.36** for the proposed sewerage works. On the other hand, it is noted that the Ting Kok Road Pumping Station No.5 and the existing Tai Po Sewage Treatment Works have adequate capacity for the expected daily flows from the proposed developments. With the proposed sewerage works, no adverse impact is anticipated by the proposed developments in terms of sewerage aspect.

Ecology (Appendix 11 refers)

4.7.26 An ecological survey with 6-month duration including dry and wet seasons from 2023 to 2024 was conducted under the Ecological Impact Assessment. No observation of pre-roosting or roosting behavior of Collared Crow (i.e. species of conservation importance) and Black Kite (i.e. most observed raptor species in Hong Kong) was recorded in Site A and Site B during the ecological surveys, while the Sites were also not identified as pre-roosting or roosting sites for Collared Crow and Black Kite by EIA studies in the proximity. Both of the Sites were not identified as any recognised site of conservation importance or habitat of conservation interest. The ecological survey shows that the Sites are of records of low abundance of wildlife and low overall ecological values. With the implementation of planting of whip tree and plants and transplantation of floral species of conservation importance within Sites, the potential ecological impacts due to the proposed development could be fully mitigated to acceptable level. Therefore, the overall potential ecological impacts to the Sites by the proposed developments are considered Insignificant.

Tree (Appendix 12 refers)

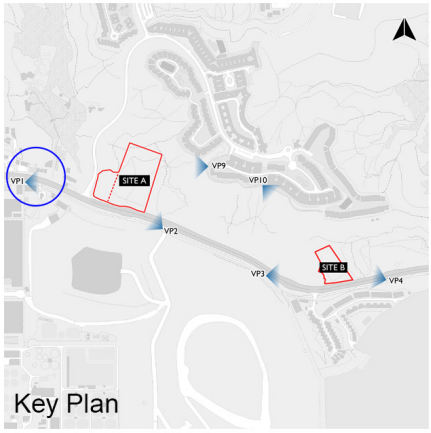
4.7.27 According to the tree survey, a total of 1,416 nos. of existing trees (excluding undesirable species) was surveyed for the proposed developments at the Sites, where 1,065 nos. of trees are surveyed for Site A and 351 nos. of trees are surveyed for Site B. It is noted that there are 4 nos. of near-threatened species, *Aquilaria sinensis,* within the Sites (i.e. 2 nos. in Site A and 2 nos. in Site B). 3 nos. of them are recommended to be removed due to poor conditions and/or low amenity value, while the remaining one in Site B will be retained. Nevertheless, 1 no. of protected/attracted species, Lagerstroemia speciosa (scheduled under Cap. 96), is found within Site B. Despite the fair structure and health of Lagerstroemia speciosa, it is recommended to be removed but not transplanted due to its location on slope with limited accessibility for transplant works and low survival rate. Please refer to **Figures 4.37 and 4.38** for the Proposed Tree Treatment Plans for Site A and Site B respectively. A total of 1,334 nos. of trees (excluding undesirable species) is proposed to be felled for the proposed developments at the Sites (i.e. 1,048 nos. of trees to be felled for Site A; 286 nos. of trees to be felled for Site B). A total of 82

nos. of trees is proposed to be retained within the surveyed areas of the Sites (i.e. 17 nos. for Site A and 65 nos. for Site B).

4.7.28 In terms of the compensatory planting proposal, efforts have been made to the optimum use of common greenery area with environment best suited for tree planting and sustainable tree growth from the proposed architectural layouts. A total of 745 nos. of trees will be planted in both Sites (i.e. 584 nos. of whip trees to be planted in Site A as part of the site formation scheme for the public housing portion; 142 nos. of whip trees and 19 nos. of heavy standard to be planted in Site B as part of the private development). The compensatory ratio for both Sites is 0.56:1 in terms of quantity. Due to site constraints (e.g. provision of emergency vehicular access, minimum spacing of not less than 4m between trees for health and maintenance concerns, planting heavy standards on slopes not recommended and provision of sufficient open amenity and recreational spaces for enjoyment and use by residents of the proposed developments) and the site formation arrangement for Site A under the Land Sharing Pilot Scheme, the proposed numbers of compensatory trees have been maximised. Nevertheless, taking into account future new tree planting within the public housing development to be implemented by the relevant government departments, the tree compensatory ratio for the public housing portion at Site A might be explored to enhance to 0.65:1 (Compensation : Fell) by provision of more heavy standard trees and/or whip trees, subject to further assessment by the relevant government departments at later design stage. Opportunity for off-site tree compensation has been explored with relevant government departments in proximity in compensation for the loss of local tree biodiversity. The future management and maintenance responsibility is of great concern. Off-site tree compensation is therefore not in the compensatory planting proposal. In order to enhance the ecological functions of the plantation and restore local biodiversity, it is recommended to use native tree species in majority as compensatory tree planting to create an urban woodland to the residents and bring local plants closer to people for demonstration of the value of the biodiversity.

Existing Condition

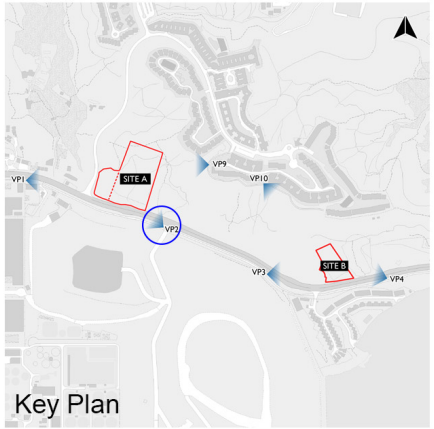
Photomontage of Proposed Public Residential Housing / SH Development



KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 1 – Cycle Track near Tai Po East Fire Station	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 4.2
		Planning Report	Date: 2 January 2025

Existing Condition

Photomontage of Proposed Public Residential Housing / SH Development



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Viewpoint 2 – Cycle Track near Entrance of Golf Course

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

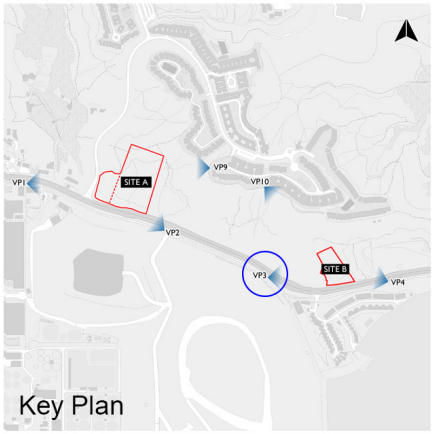
Figure 4.3

Planning Report

Date: 6 February 2025

Existing Condition

Photomontage of Proposed Private Residential Development



KTA PLANNING LIMITED 規劃顧問有限公司

Viewpoint 3 – Cycle Track near Tai Po Fortune Garden Bus Stop

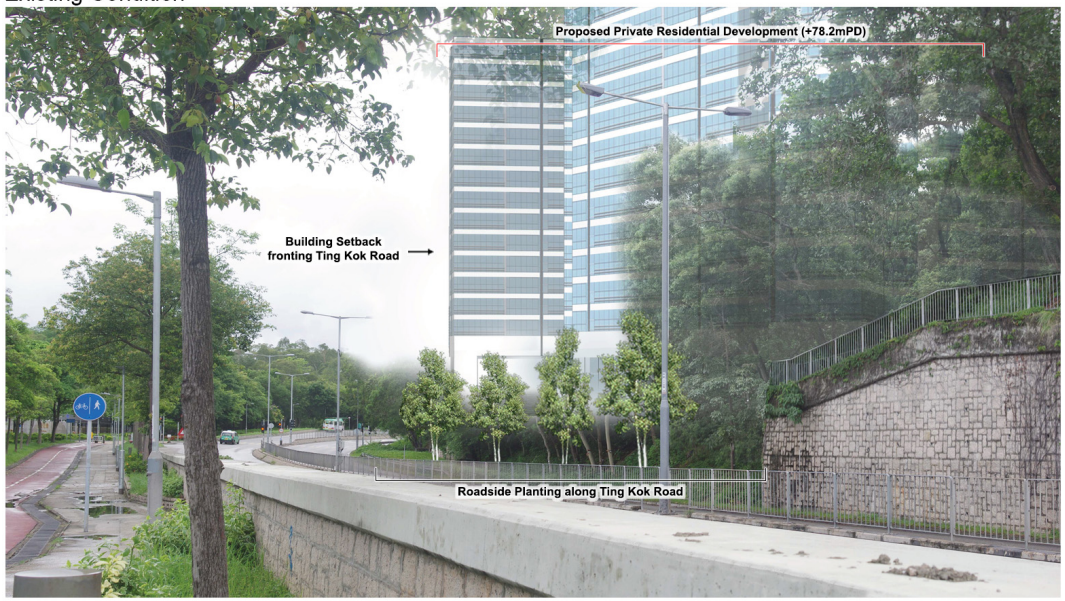
Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 4.4

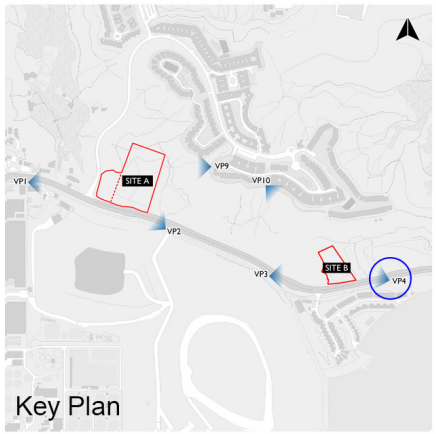
Planning Report

Date: 2 January 2025

Existing Condition



Photomontage of Proposed Private Residential Development



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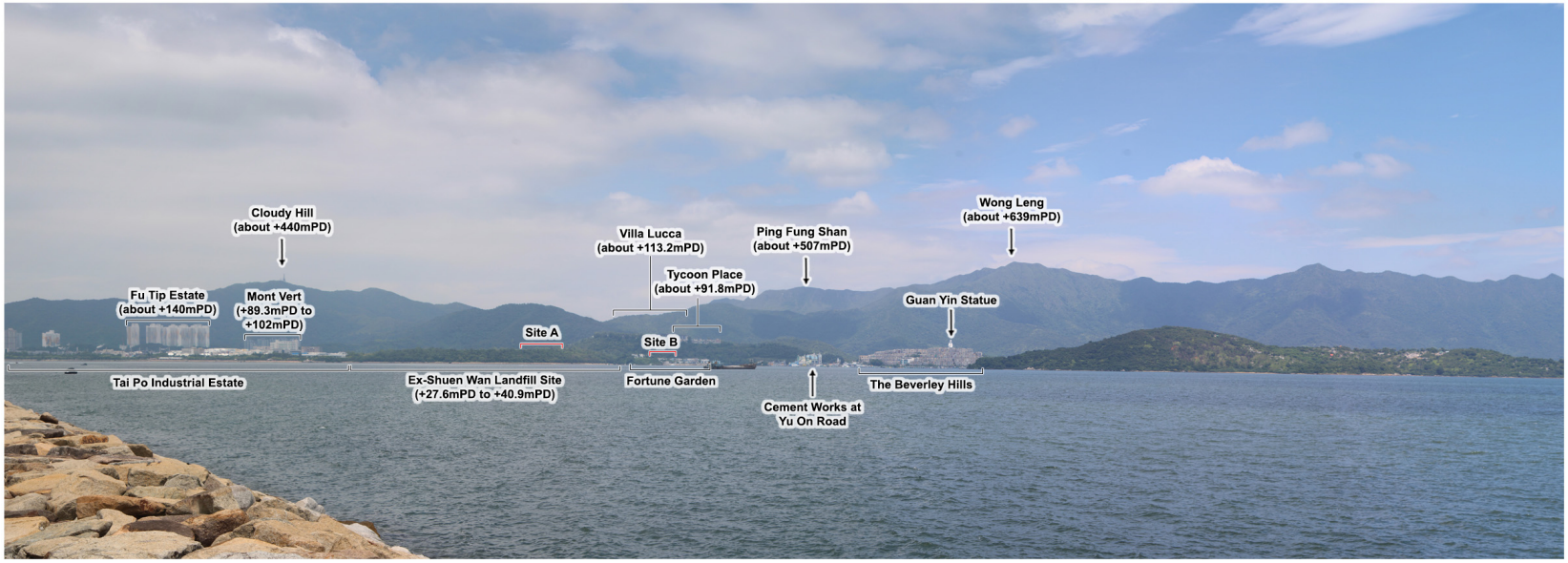
Viewpoint 4 – Cycle Track near Fortune Garden

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 4.5

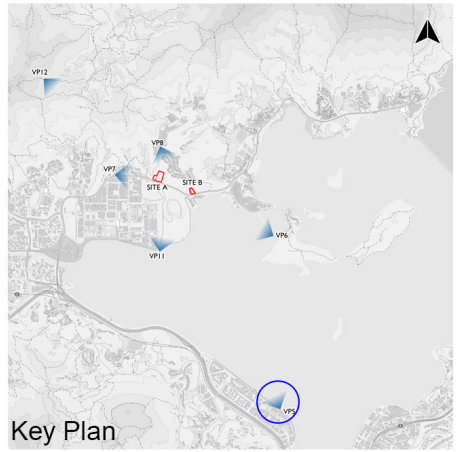
Planning Report

Date: 2 January 2025



Existing Condition

Photomontage of Proposed Developments



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Viewpoint 5 – Pak Shek Kok Promenade

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Planning Report

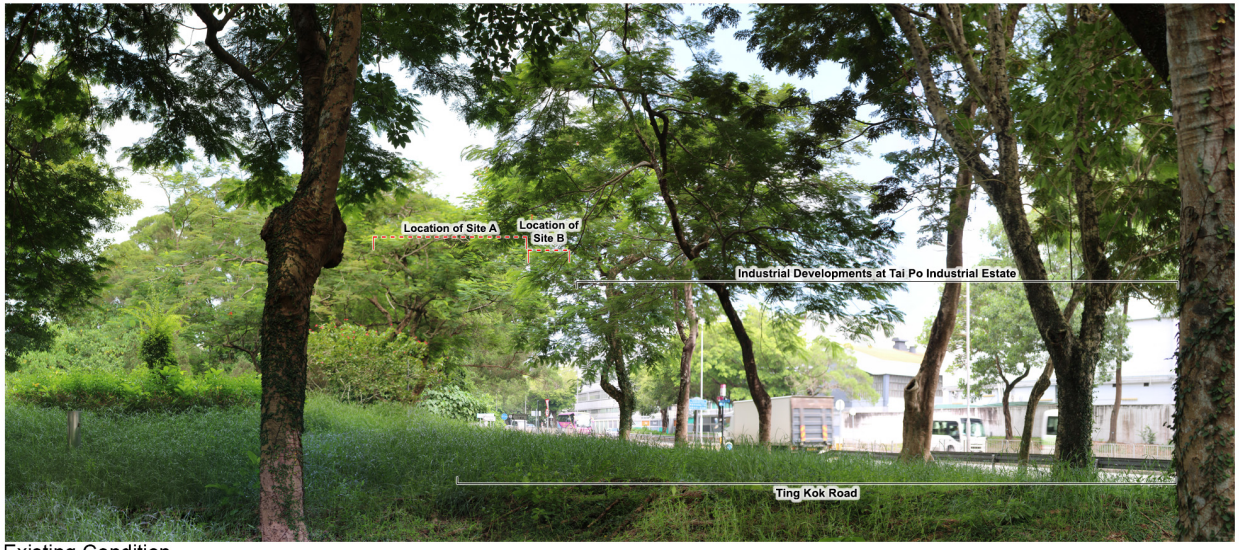
Figure 4.6

Date: 2 January 2025

Existing Condition

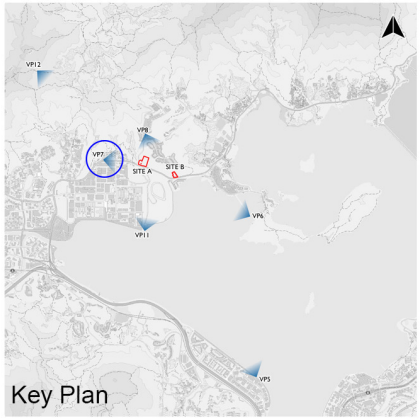
Photomontage of Proposed Developments

KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 6 – Shuen Wan Typhoon Shelter Breakwater	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 4.7
		Planning Report	Date: 2 January 2025



Existing Condition

Photomontage of Proposed Developments



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Viewpoint 7 – Ha Hang Village Sitting-out Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

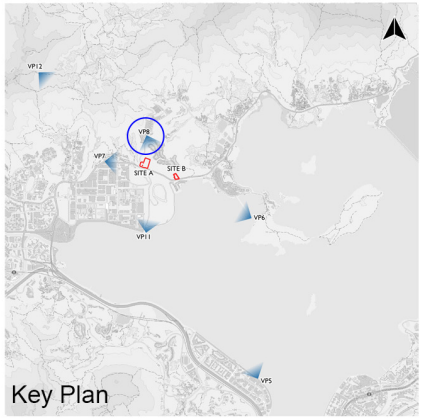
Figure 4.8

Planning Report

Date: 2 January 2025

Existing Condition

Photomontage of Proposed Developments



Key Plan

KTA PLANNING LIMITED 規劃顧問有限公司

Viewpoint 8 – Bus Terminus near
The Education University of Hong Kong

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

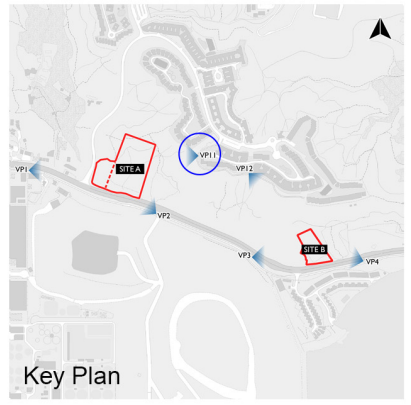
Planning Report

Figure 4.9

Date: 2 January 2025

Existing Condition

Photomontage of Proposed Private Residential Development



KTA PLANNING LIMITED 規劃顧問有限公司

Viewpoint 9 – Pedestrian Trail at the Knoll to the East of Site A

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

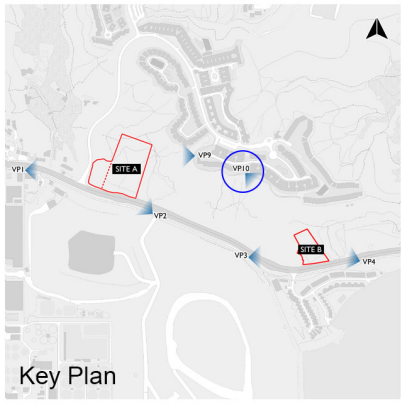
Figure 4.10

Planning Report

Date: 2 January 2025

Existing Condition

Photomontage of Proposed Private Residential Development



KTA PLANNING LIMITED 規劃顧問有限公司

Viewpoint 10 – Pedestrian Trail at the Knoll to the Northwest of Site B

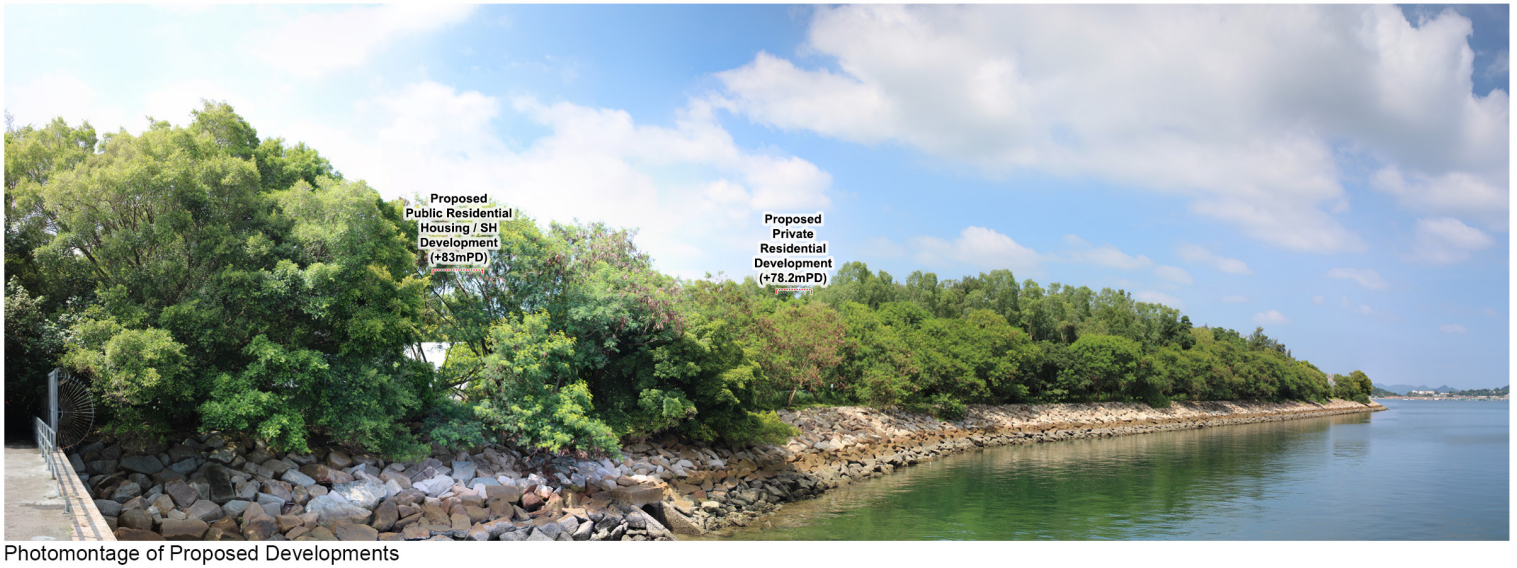
Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Planning Report

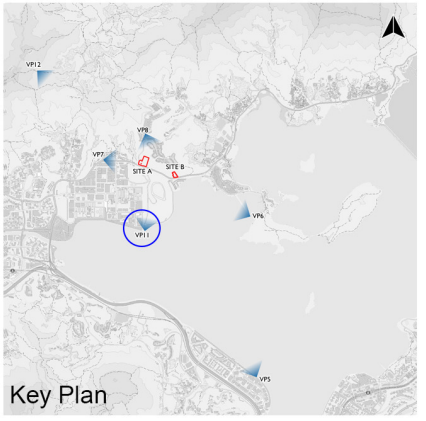
Figure 4.11

Date: 2 January 2025

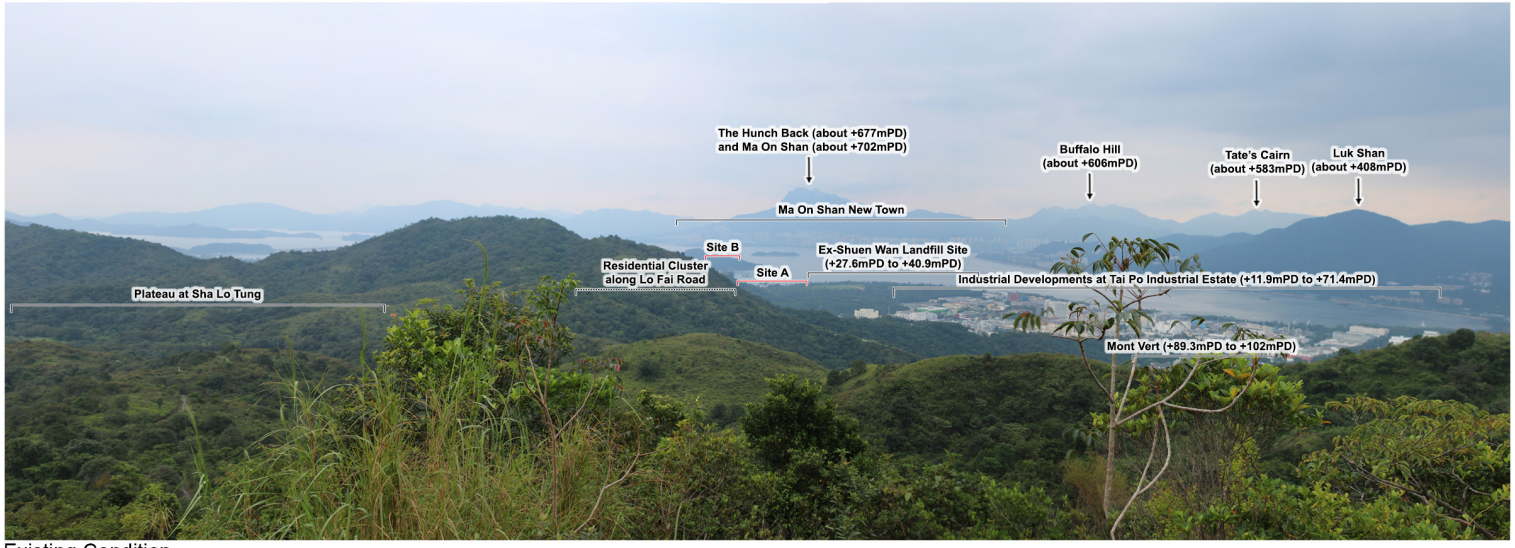
Existing Condition



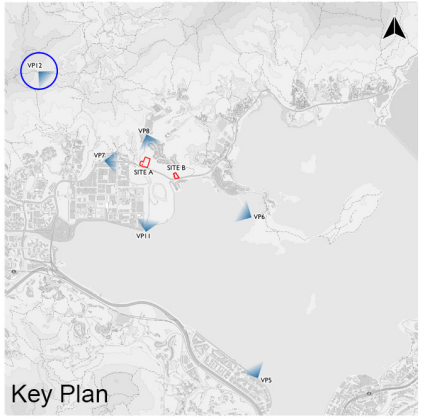
Photomontage of Proposed Developments



KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 11 – Tai Po Waterfront Promenade near the Public Pier	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 4.12
		Planning Report	Date: 2 January 2025



Existing Condition



Photomontage of Proposed Developments

KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 12 – Tai Po Country Trail	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 4.13
		Planning Report	Date: 2 January 2025

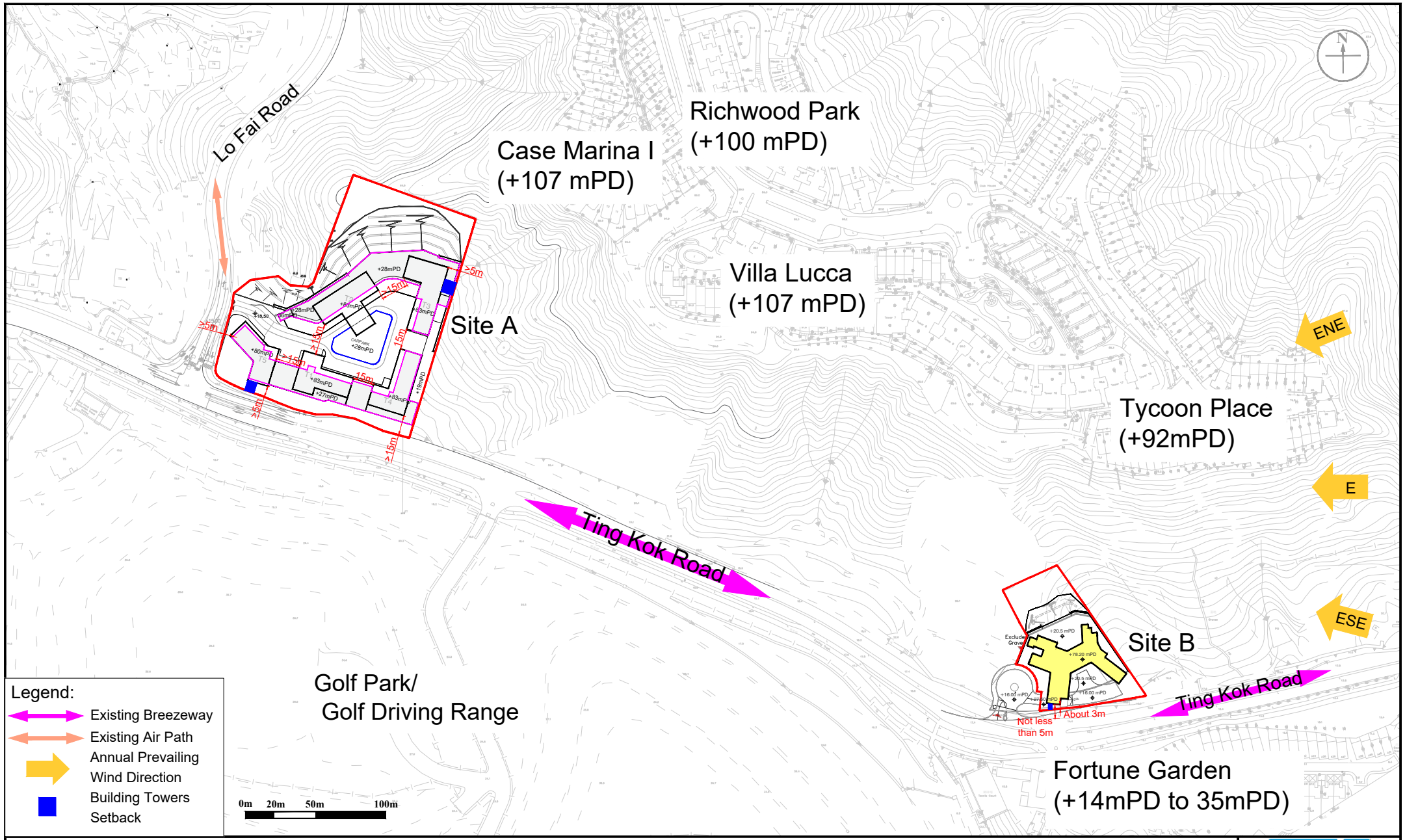


Figure: 4.14

Title: Summary of Annual Prevailing Wind Directions and Mitigation Measures for Site A & Site B

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by: CC

Checked by: MK

Rev.: 1.0

Date: Feb 2025

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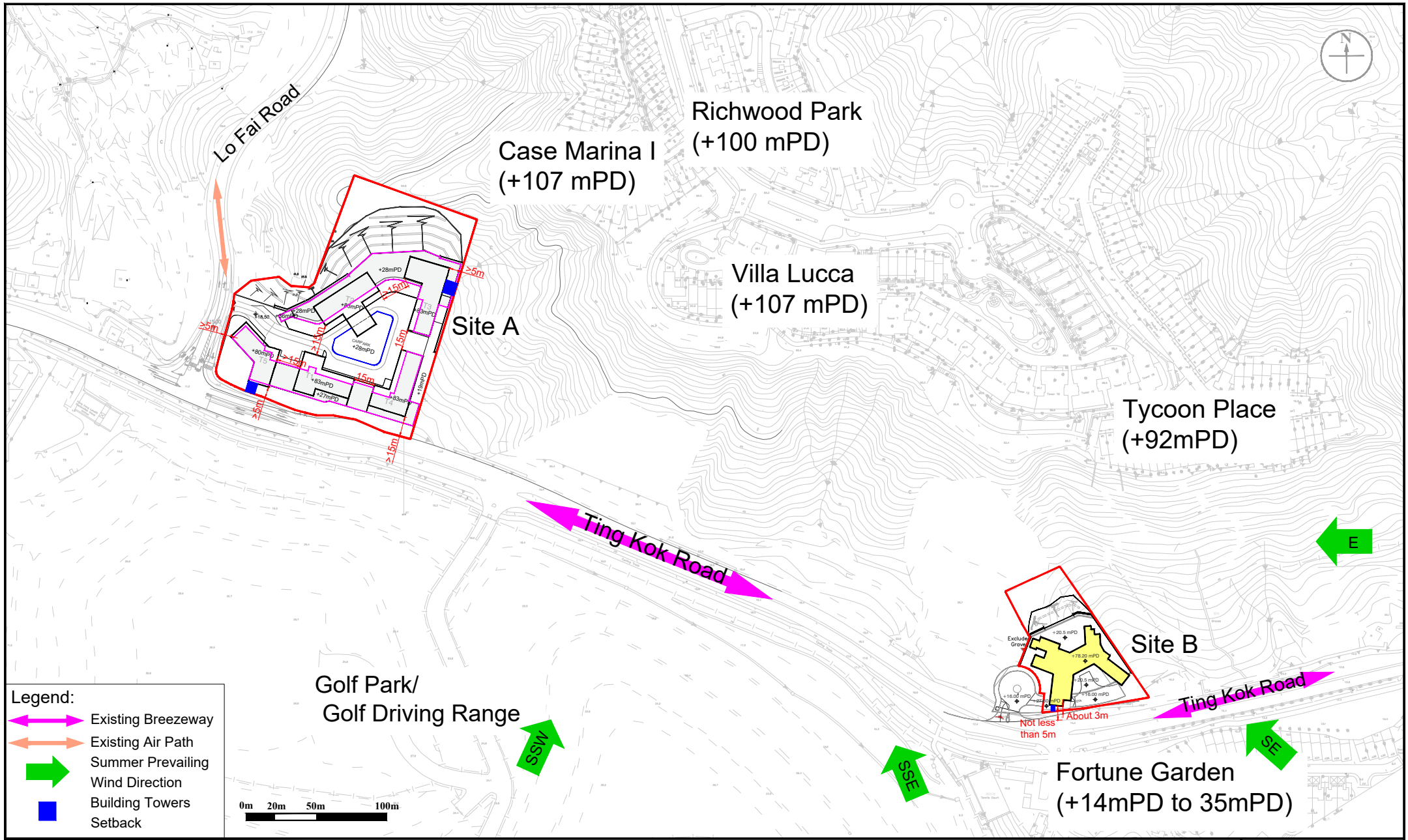

Figure: 4.15

Title: Summary of Summer Prevailing Wind Directions and Mitigation Measures for Site A & Site B

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	CC
Checked by:	MK
Rev.:	1.0
Date:	Feb 2025

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LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	SURVEY BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	VERTICAL GREENERY WIRE SYSTEM (CLIMBER)

eadg泛亞國際
earthasia limited
香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

Kam Luk Investment Company Limited

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025
F	SUBMISSION	FEB 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

LANDSCAPE MASTER PLAN (SITE A)

SCALE:	1:250(A3)
DRAWING NO.: 4.16	REVISION: F
DATE:	FEB 2025
REFERENCE:	

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	PROPOSED REZONING SITE BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	PROPOSED TREES
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	VERTICAL GREENERY WIRE SYSTEM (CLIMBER)

CHILDREN PLAYGROUND +20.5 mPD

BUILDING SCREEN WALL

SITTING-OUT AREA

SITTING-OUT AREA

+20.5 mPD

LANDSCAPE GARDEN

+16.00 mPD

EVA

+16.00 mPD

30° Cut Slope

13M

12.8

15.3

15.0

N

10m 50m 100m

eadg 泛亞國際

earthasia limited

香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

KAM LUK INVESTMENT COMPANY LIMITED

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	APR 2023
A	SUBMISSION	JAN 2025
F	SUBMISSION	FEB 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

LANDSCAPE MASTER PLAN (SITE B)

SCALE:	1:250(A3)
DRAWING NO.: 4.17	REVISION F
DATE:	FEB 2025
REFERENCE:	

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	SURVEY BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	OPEN SPACE (GROUND FLOOR)
	OPEN SPACE (PODIUM FLOOR)

N

55 deg.

55 deg.

55 deg.

30 deg.

30 to 50

CHILDREN PLAY TERRAIN

+28.00 mPD

retaining height 2-8m

LANDSCAPE GARDEN

+83.00 mPD

T2

T3

COVERED LANDSCAPE AREA

+28.00 mPD

FITNESS CORNER

+28.00 mPD

+18.50

LANDSCAPE GARDEN

OPEN CARPARK

CARPARK

+28.00 mPD

+25.00 mPD

CHILDREN PLAYGROUND

T5

+80.00 mPD

LANDSCAPE GARDEN

+19.00 mPD

CHILDREN PLAYGROUND

T1

+28.00 mPD

+83.00 mPD

T4

SITTING-OUT AREA

+27.00 mPD

Excluded Grave

SITTING-OUT AREA

FITNESS CORNER

LO FAI ROAD

TING KOK ROAD

Cycling Track

10m 50m 100m

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earthasia limited

香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

Kam Luk Investment Company Limited

NOTES

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

OPEN SPACE PROVISION PLAN (SITE A)

SCALE:	1:800(A3)
DRAWING NO.: 4.18	REVISION F
DATE:	FEB 2025
REFERENCE:	

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	PROPOSED REZONING SITE BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	PROPOSED TREES
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	OPEN SPACE

CHILDREN PLAYGROUND
+20.5 mPD

SITTING-OUT AREA

SITTING-OUT AREA

BUILDING SCREEN WALL

LANDSCAPE GARDEN

+20.5 mPD

+16.00 mPD

+16.00 mPD

EVA

30° Cut Slope

15.3

15.0

12.8

17.

10m

50m

100m

eadg 泛亞國際
earthasia limited
香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

KAM LUK INVESTMENT COMPANY LIMITED

NOTES

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025

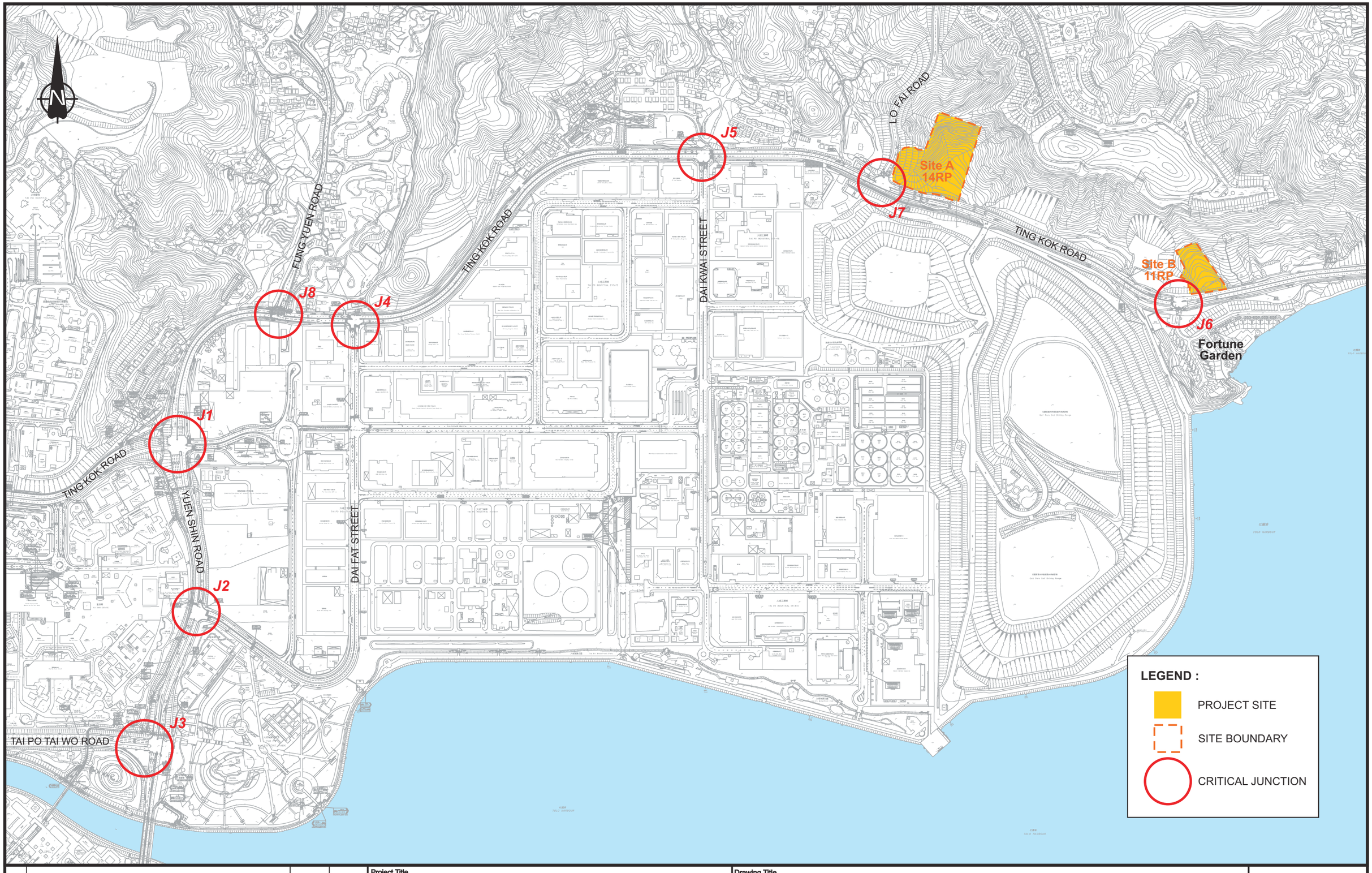
DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

OPEN SPACE PROVISION PLAN (SITE B)

SCALE:	1:500(A3)
DRAWING NO.: 4.19	REVISION F
DATE:	FEB 2025
REFERENCE:	



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

EXISTING ROAD NETWORK AND CRITICAL JUNCTIONS

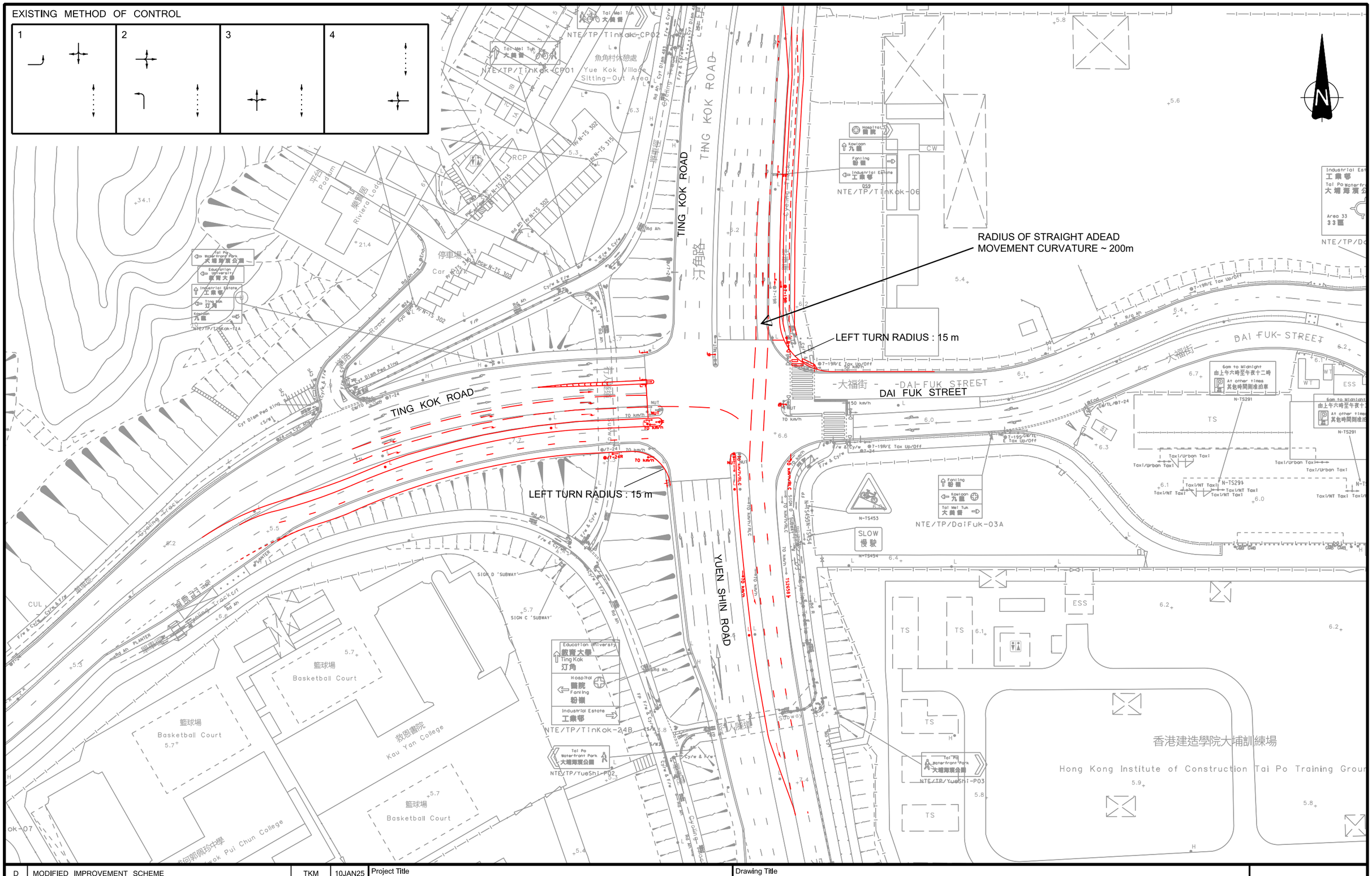
Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	HWL	NTS	NOV 2024	4.20	-

SYSTRA MVA

CHK50539710/FRTIA/F21.CDR/LLH/18NOV24

Original Size : A3

EXISTING METHOD OF CONTROL


TING KOK ROAD
汀角路
TING KOK ROAD
DAI FUK STREET
大福街
YUEN SHIN ROAD
RADIUS OF STRAIGHT ADEAD
MOVEMENT CURVATURE ~ 200m
LEFT TURN RADIUS : 15 m
LEFT TURN RADIUS : 15 m
NTE/TP/TinKok-CP02
NTE/TP/TinKok-CP01
Yue Kok Village
Sitting-Out Area
魚角村休憩處
NTE/TP/TinKok-06
NTE/TP/DaiFuk-03A
NTE/TP/TinKok-24B
NTE/TP/YueShi-P02
NTE/TP/YueShi-P03
Tai Po Waterfront Park
大埔海濱公園
Education University
教育大學
Ting Kok
汀角
Hospital
醫院
Fanling
粉嶺
Industrial Estate
工業邨
Kowloon
九龍
Tai Mei Tuk
大美督
Area 33
33區
Tai Po Industrial Estate
大埔工業邨
Tai Po Waterfront Park
大埔海濱公園
Education University
教育大學
Industrial Estate
工業邨
Ting Kok
汀角
Kowloon
九龍
NTE/TP/TinKok-12A
Podium
平台
Riviera Lodge
樂翠臺
停車場
Car Park
RCP
Basketball Court
籃球場
救恩書院
Kau Yan College
Hong Kong Institute of Construction Tai Po Training Ground
香港建造學院大埔訓練場
Kwok Pui Chun College
郭佩珍中學
Training Track
跑道
Cycle Track
單車徑
PLANTER
SIGN D 'SUBWAY'
SIGN C 'SUBWAY'
SUBWAY
Hospital
醫院
Fanting
粉嶺
Kowloon
九龍
Tai Mei Tuk
大美督
SLOW
慢駛
6am to Midnight
由上午六時至午夜十二時
At other times
其他時間開連泊車
N-TS291
N-TS293
N-TS453
N-TS454
Taxi/Urban Taxi
Taxi/NT Taxi
TS
ESS
WT
CUL
CW
RCP
Cyc Track
Rd Ah
Cy/w & F/w
F/w & Cy/w
F/p & Cy/w
Cy/w & F/p
Cyc Diam Ped Xing
Cyc Diam 483
Cyc Diam 457
Cyc Diam 406
Cyc Diam 305
Cyc Diam 254
Cyc Diam 203
Cyc Diam 152
Cyc Diam 102
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PROPOSED RELOCATION OF TRAFFIC CONTROLLER BOX

LEFT TURN RADIUS : 20m

RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 200m

LEFT TURN RADIUS : 15m

YUEN SHIN ROAD

DAI FAT STREET

EXISTING METHOD OF CONTROL

1	2	3 (DEMAND DEPENDENT STAGE)

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
B	RESPONSE TO COMMENTS	TKM	02SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

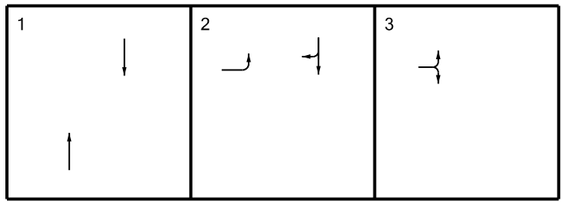
PROPOSED IMPROVEMENT SCHEME OF YUEN SHIN ROAD / DAI FAT STREET (J2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	MAR 2023	4.22	B

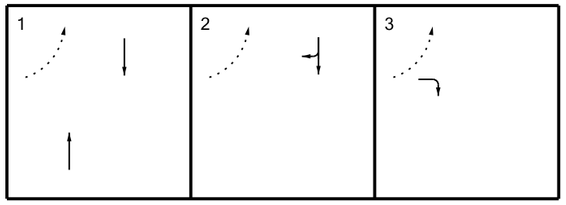
CHK50539710/FRTIA/F52-B.DGN/CKC/02SEP24

Original Size : A3

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL



LEFT TURN RADIUS : 40m

RIGHT TURN RADIUS : 20m

RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 200m

TAI PO TAI WO ROAD

YUEN SHIN ROAD

Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	11FEB25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	RESPONSE TO COMMENTS	TKM	29AUG24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

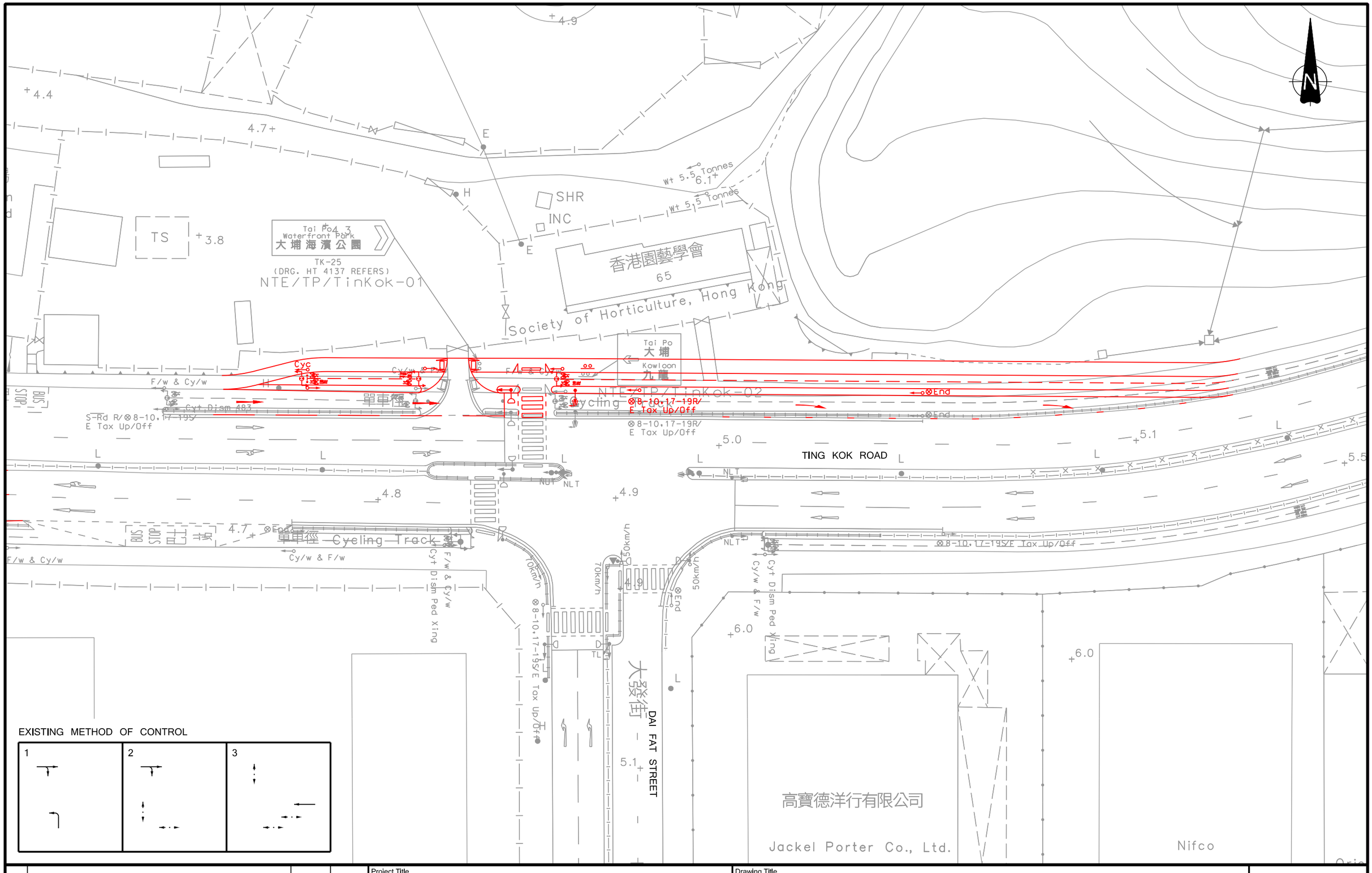
PROPOSED IMPROVEMENT SCHEME OF TAI PO TAI WO ROAD / YUEN SHIN ROAD (J3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	MAR 2023	4.23	D

SYSTRA MVA

CHK50539710/FRTIA/F53-D.DGN/CKC/11FEB25

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
C	RESPONSE TO COMMENTS	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	06JUN24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

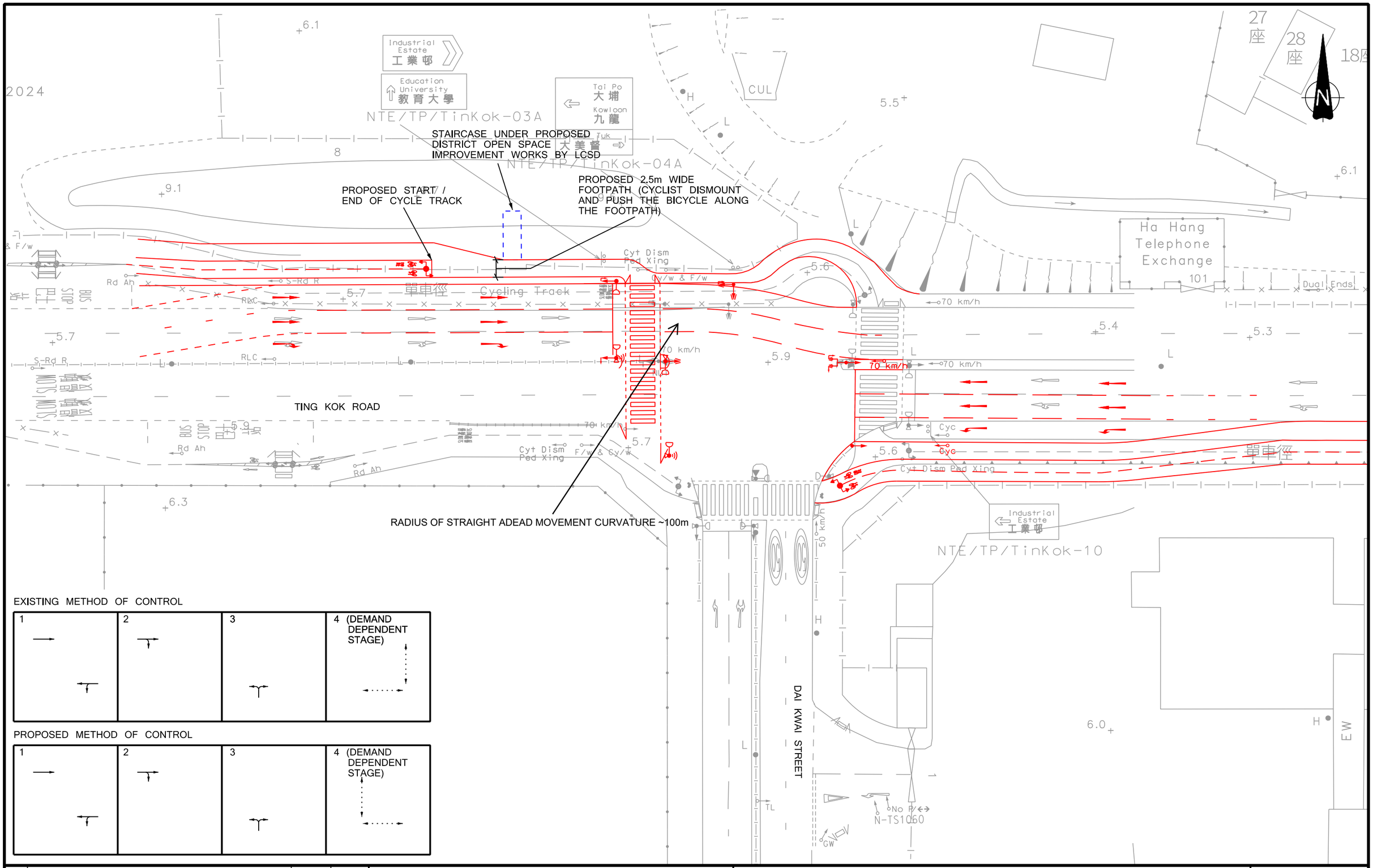
PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / DAI FAT STREET (J4)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	MAR 2023	4.24	C

SYSTRA MVA

CHK50539710/FRTIA/F54-C.DGN/CKC/10JAN25

Original Size : A3



EXISTING METHOD OF CONTROL

1	2	3	4 (DEMAND DEPENDENT STAGE)

PROPOSED METHOD OF CONTROL

1	2	3	4 (DEMAND DEPENDENT STAGE)

Rev.	Description	Checked	Date
D	MODIFIED JUNCTION SCHEME	TKM	11FEB25
C	RESPONSE TO COMMENTS	TKM	29AUG24
B	LCSD LAYOUT INCORPORATED	TKM	06JUN24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

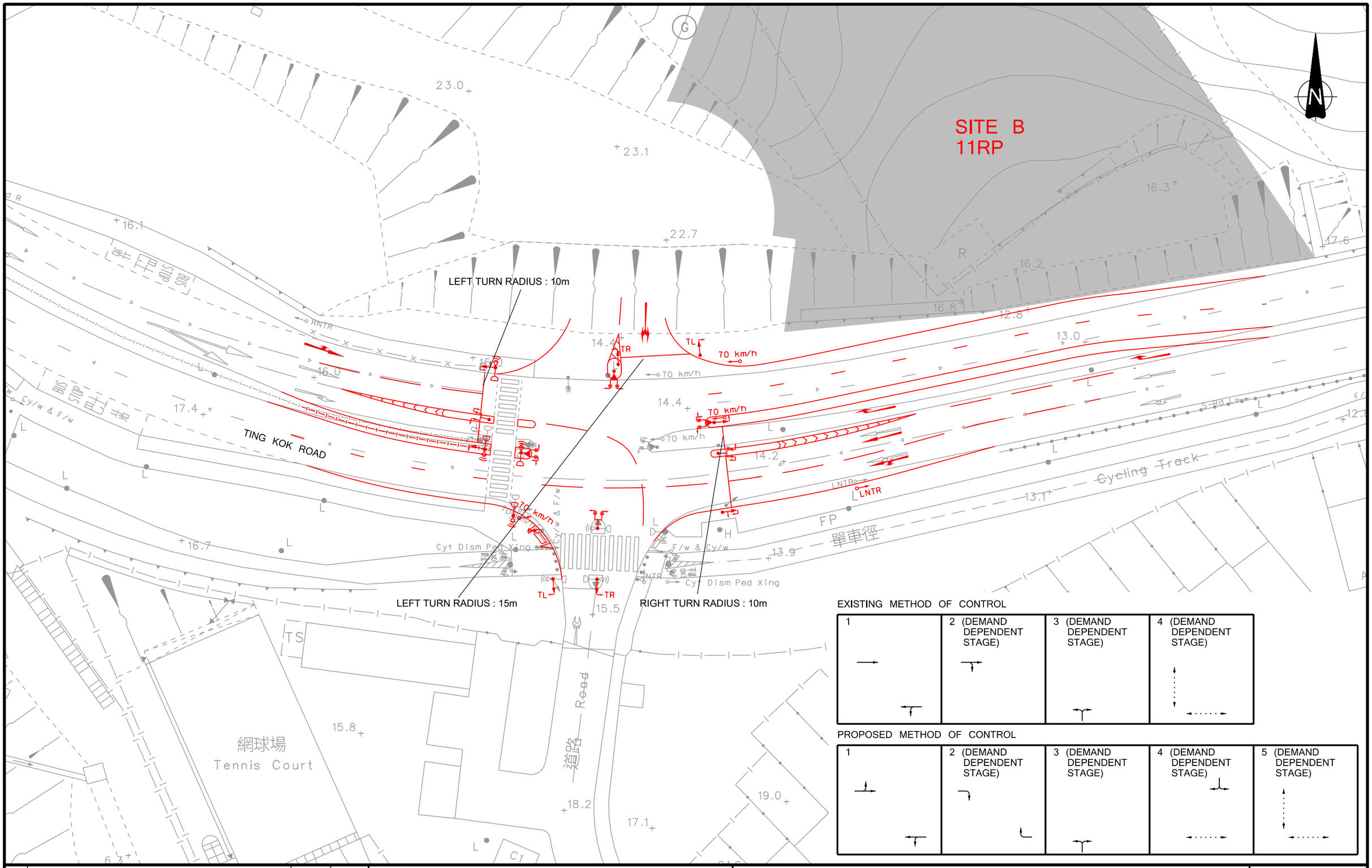
PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / DAI KWAI STREET (J5)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	JUN 2024	4.25	D

SYSTRA MVA

CHK50539710/FRTIA/F55A-A.DGN/CKC/02SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
C	MODIFIED IMPROVEMENT SCHEME	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	05SEP25
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

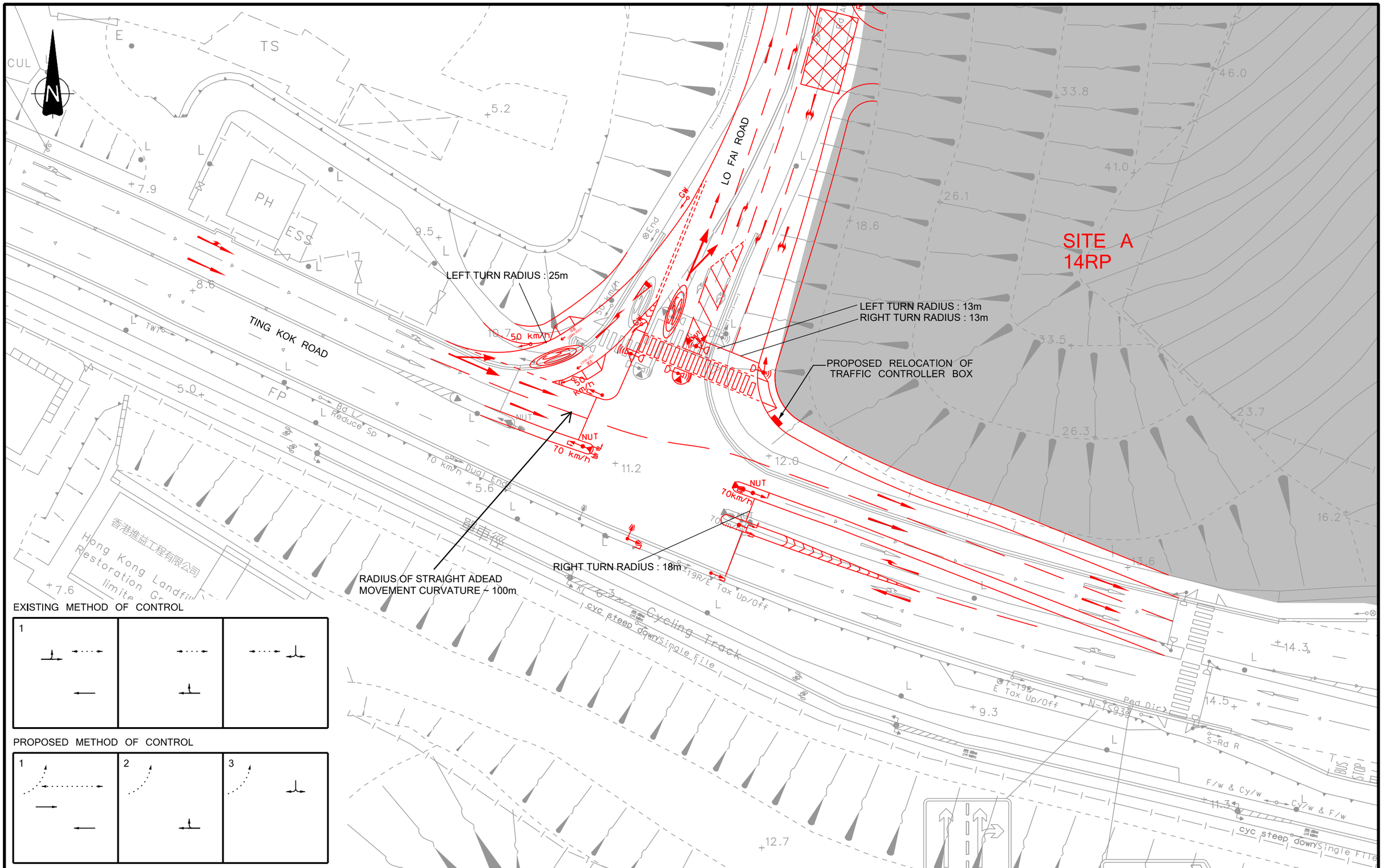
PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD OUTSIDE FORTUNE GARDEN (J6)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	4.26	C

SYSTRA MVA

CHK50539710/FRTIA/F56-C.DGN/CKC/10JAN25

Original Size : A3



EXISTING METHOD OF CONTROL

PROPOSED METHOD OF CONTROL

Rev.	Description	Checked	Date
D		TKM	11FEB25
C	RESPONSE TO COMMENTS	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	31OCT23
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

PROPOSED IMPROVEMENT SCHEME TING KOK ROAD / LO FAI ROAD (J7)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	4.27	D

SYSTRA MVA

CHK50539710/FRTIA/F57-D.DGN/CKC/11FEB25

Original Size : A3

TING KOK ROAD

FUNG YUEN ROAD

鳳園路

道路 Road

田心污水泵房
Tin Sam Sewage Pumping Station

足球場
Football Field

鳳園遊樂場
Fung Yuen Playground

導管

PROPOSED RELOCATION OF TRAFFIC CONTROLLER BOX

RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 100m

EXISTING METHOD OF CONTROL

1	2	3 (DEMAND DEPENDENT STAGE)	4 (DEMAND DEPENDENT STAGE)

PROPOSED METHOD OF CONTROL

1	2	3

Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	06JAN25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	RESPONSE TO COMMENTS	TKM	02SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / FUNG YUEN ROAD (J8)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	MAR 2023	4.28	D

SYSTRA MVA

CHK50539710/FRTIA/F58-D.DGN/CKC/06JAN25

Original Size : A3

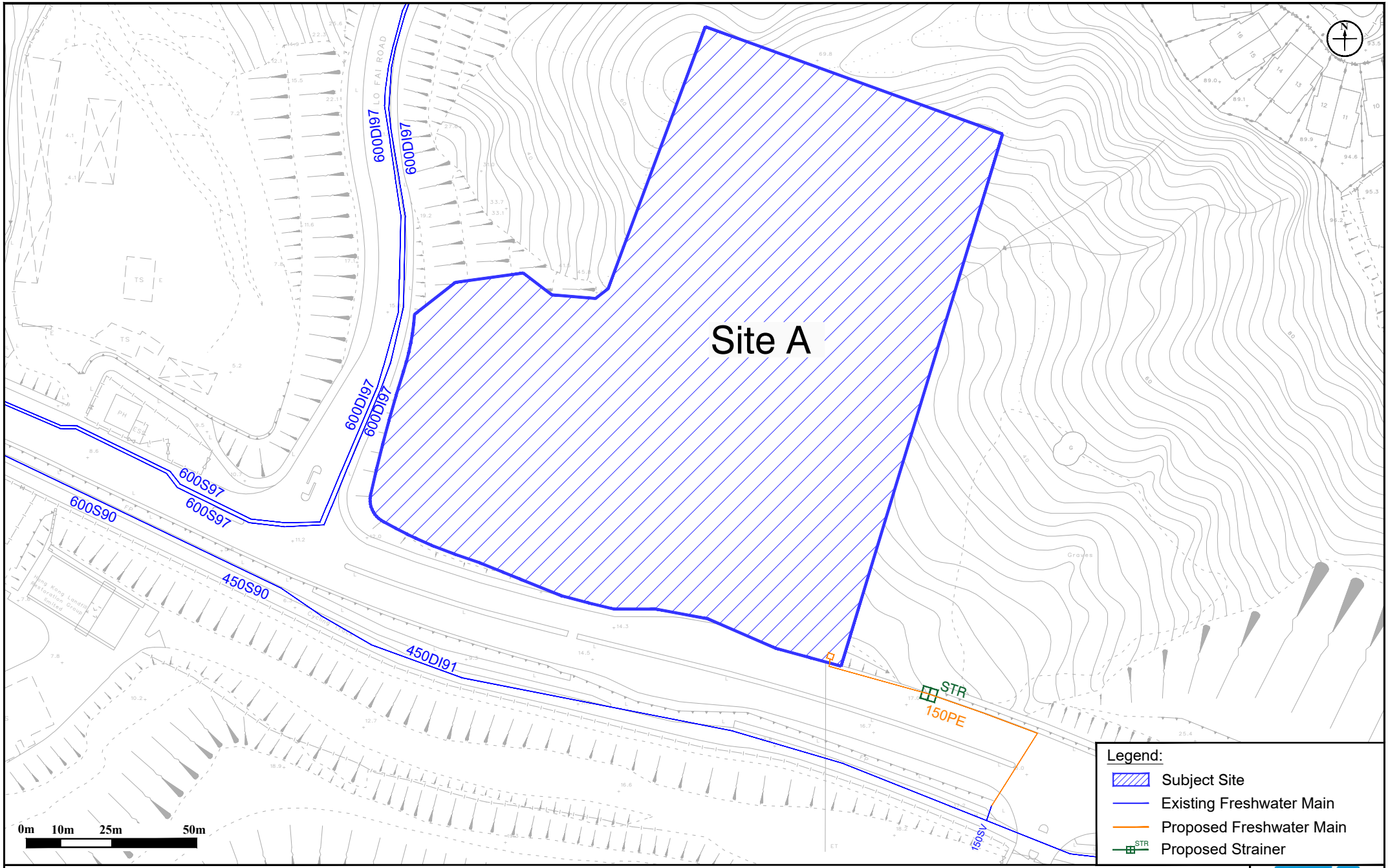


Figure: 4.29	RAMBOLL
Title: Proposed Freshwater Supply System for Site A	Drawn by: MW Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po	Rev.: 1.3 Date: Oct 2024

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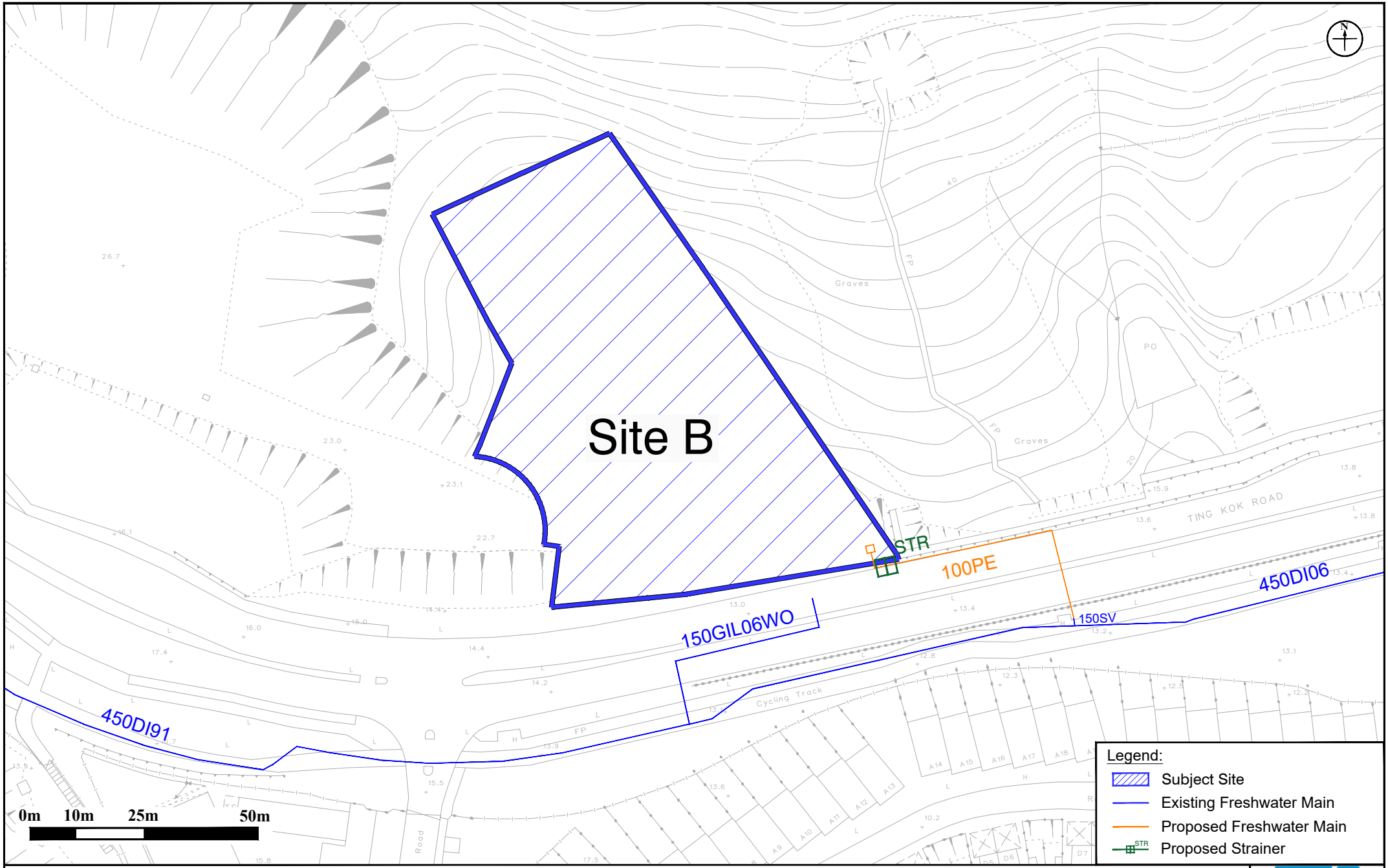

Figure: 4.30	RAMBOLL
Title: Proposed Freshwater Supply System for Site B	Drawn by: AL
	Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po	Rev.: 1.3
	Date: Aug 2023

Q:\Projects\NFDUDWYTEI00\05 Assessments\07 WSIA\20231031 v1.4\WSIA_20231031.dwg

Figure: 4.31

Title: Proposed Saltwater Supply System for Site A

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.3
Date:	Oct 2024

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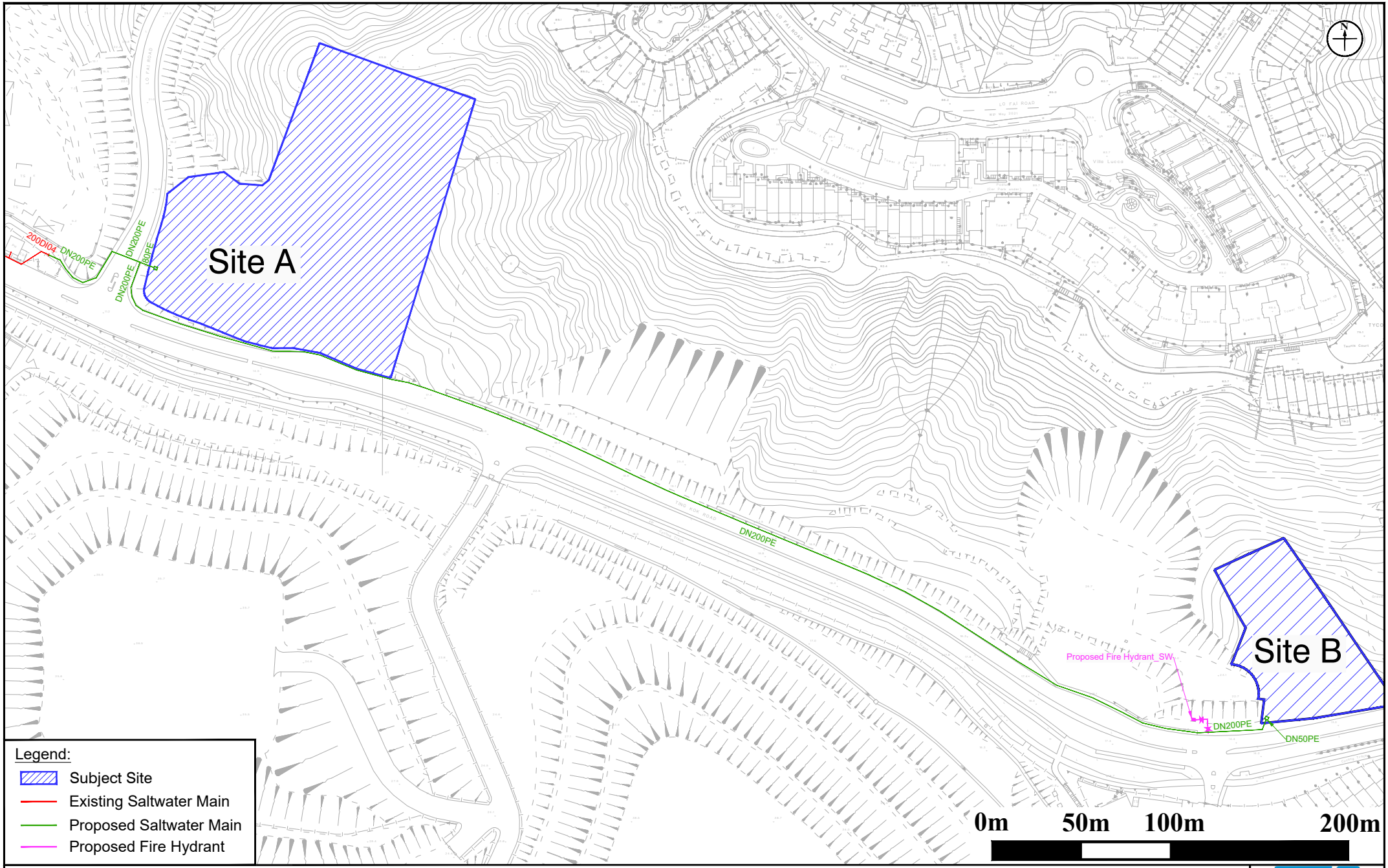

Figure: 4.32

Title: Proposed Saltwater Supply System for Site B

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.4
Date:	Oct 2024

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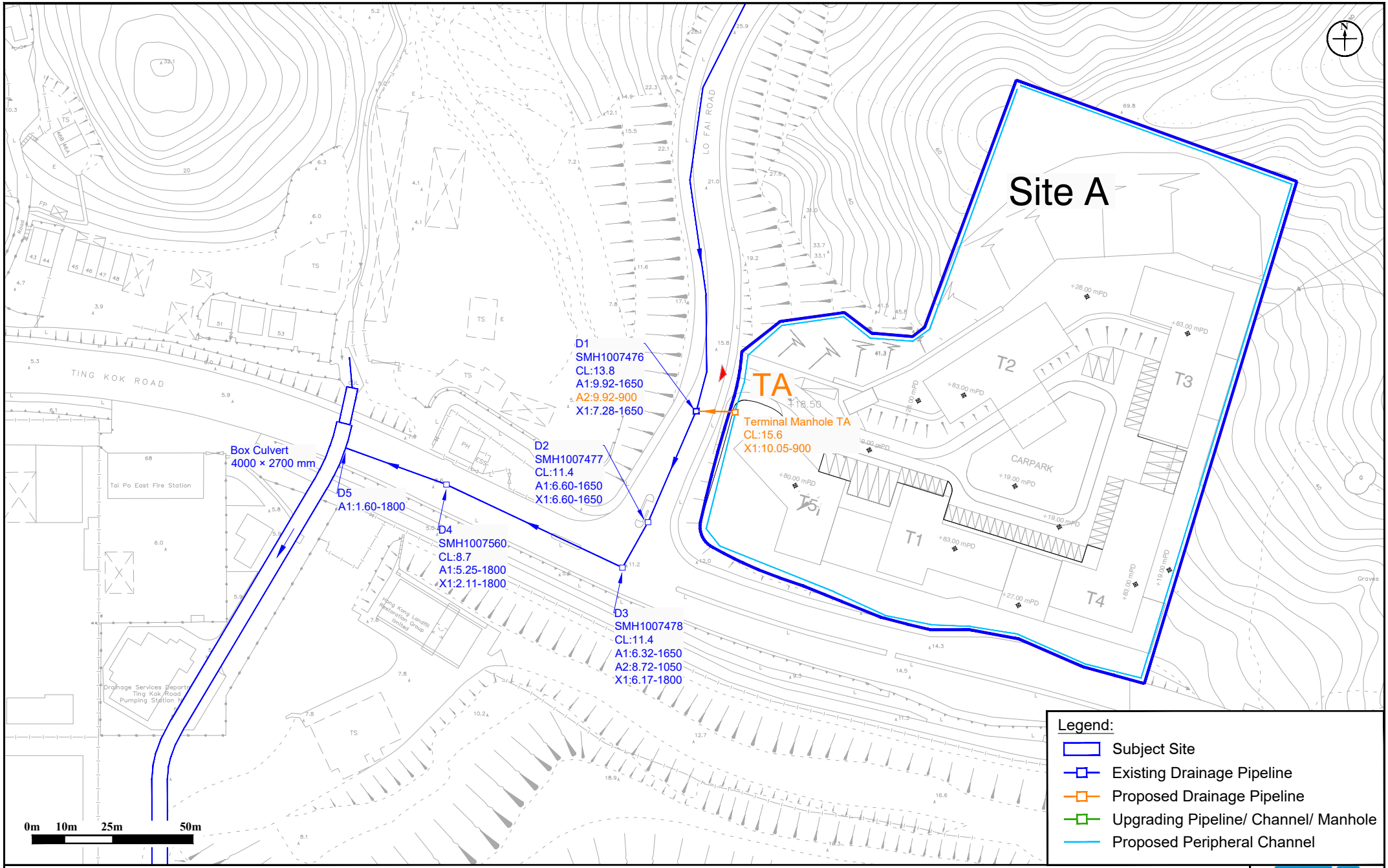

Figure: 4.33

Title: Existing Drainage System in the Vicinity of Site A and Proposed Drainage Pipeline

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.8
Date:	Feb 2025

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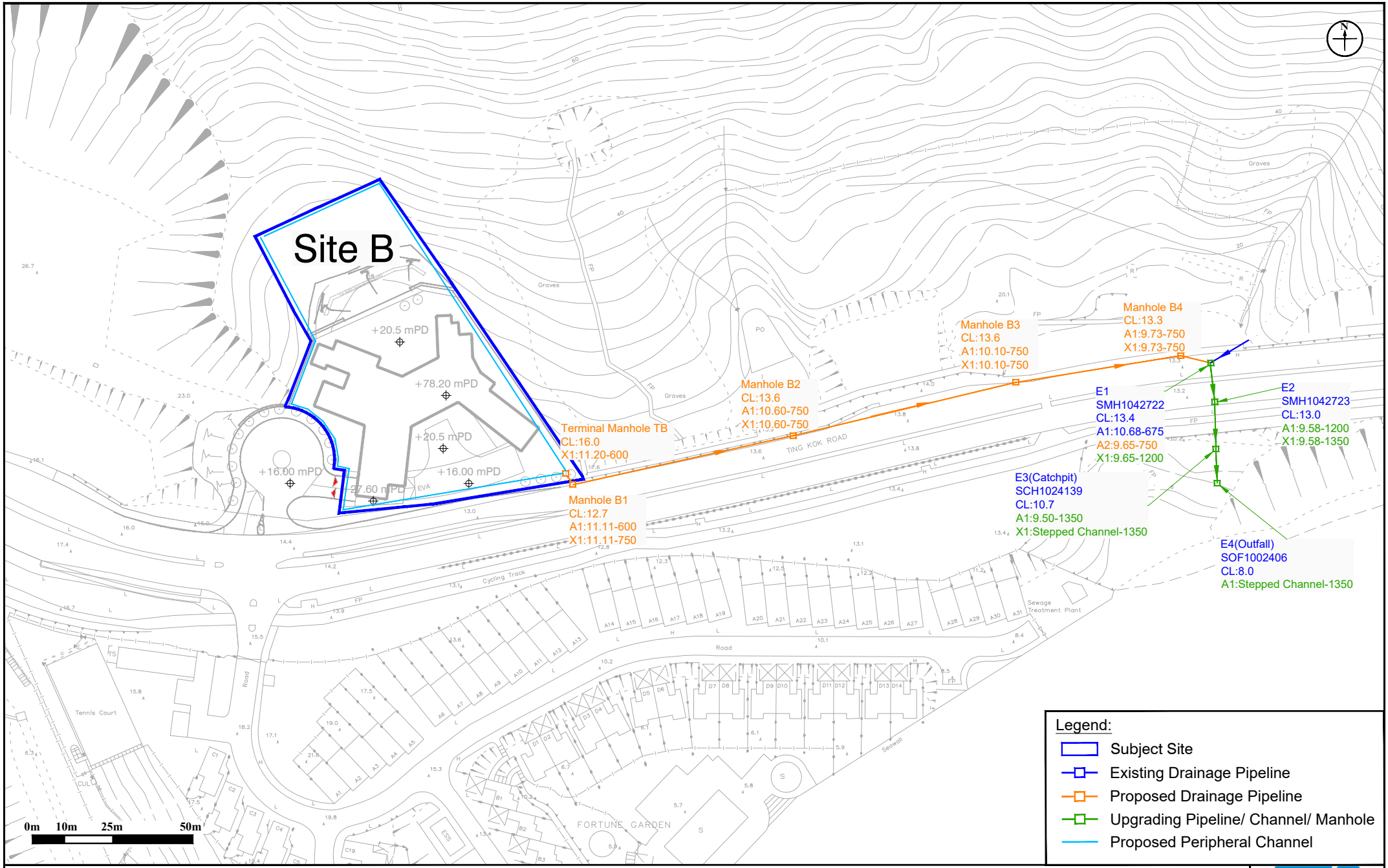

Figure: 4.34

Title: Existing Drainage System in the Vicinity of Site B and Proposed Drainage Pipeline – Option 1

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.8
Date:	Feb 2025

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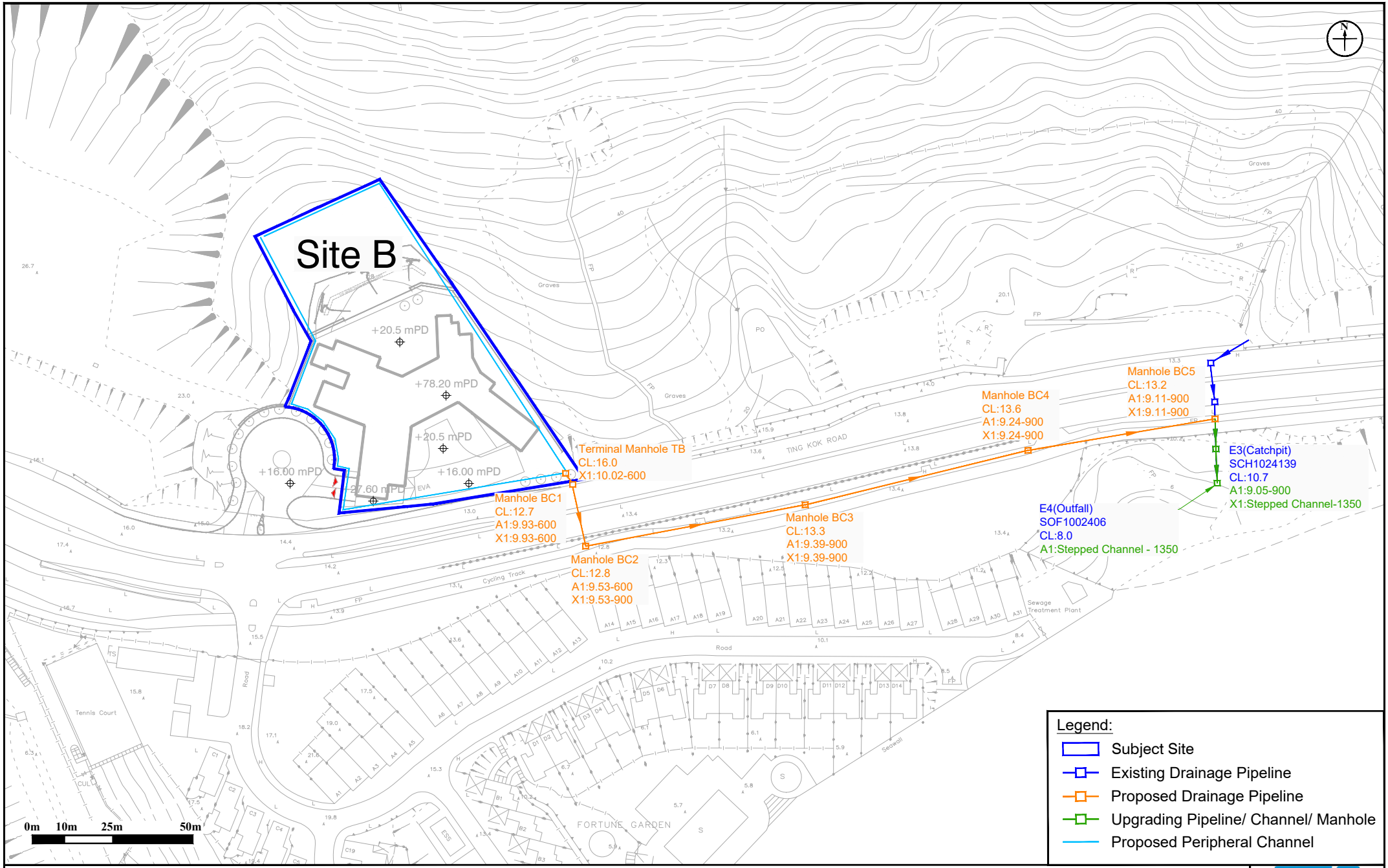

Figure: 4.35

Title: Existing Drainage System in the Vicinity of Site B and Proposed Drainage Pipeline - Option 2

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.8
Date:	Feb 2025

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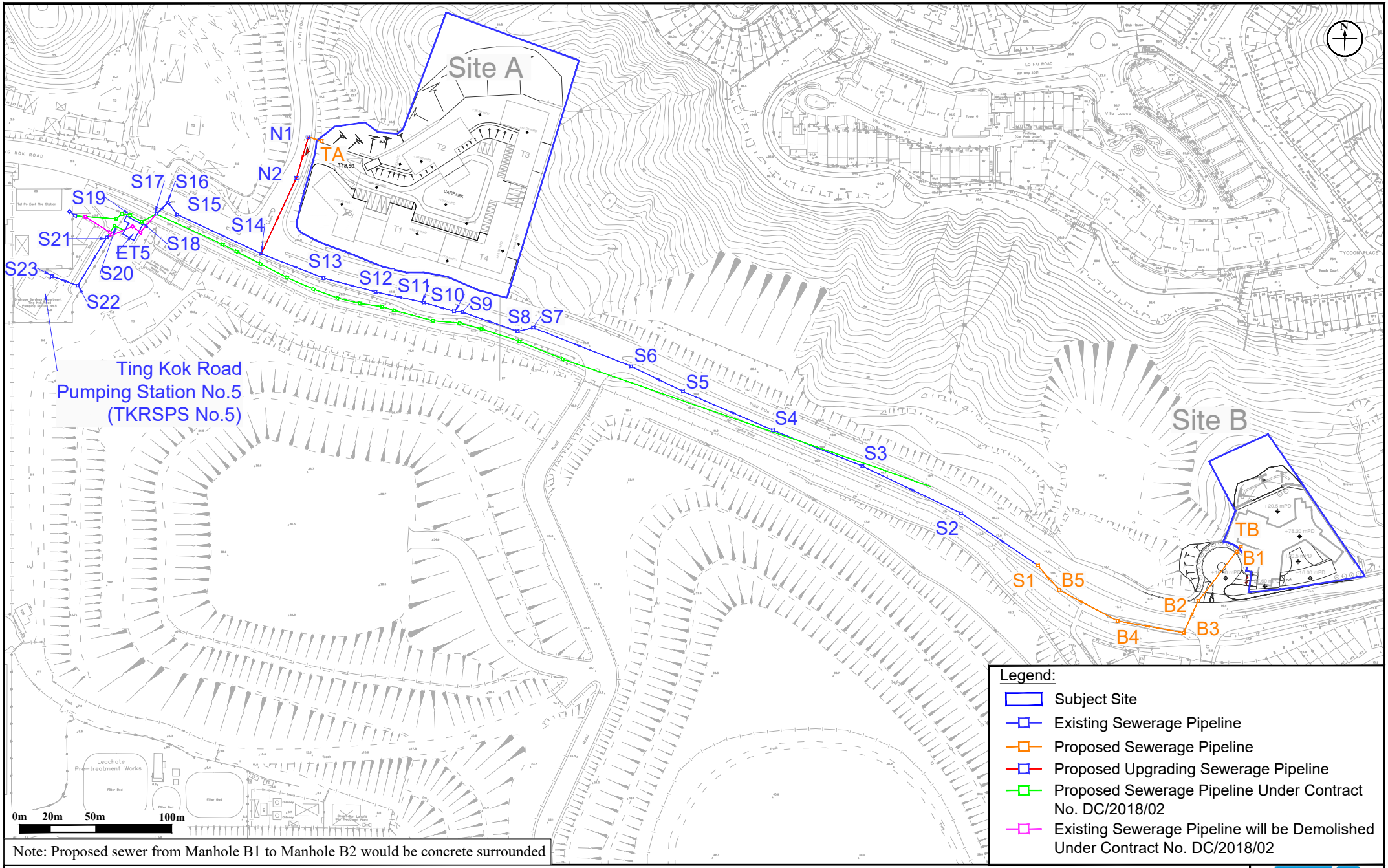

Note: Proposed sewer from Manhole B1 to Manhole B2 would be concrete surrounded

Figure: 4.36

Title: Existing Sewerage System in the Vicinity of Site A and Site B and Proposed Sewerage Pipeline

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.4
Date:	Nov 2023

Q:\Projects\NFDUDWYTEI00\05 Assessments\05 SIA\20241203\Fig_SIA_20241216.dwg

LEGEND

CODE	DESCRIPTION
	SURVEY BOUNDARY
	PROPOSED SITE A BOUNDARY
	PROPOSED EXTENT OF SLOPE
	PROPOSED BUILDING LAYOUT
	PROPOSED SOLDIER PILE WALL
T1915	TREES TO BE RETAINED
T1915	TREES TO BE FELLED
T1915	UNDESIRABLE SPECIES TO BE FELLED

Note: The Tree Treatment Plan is prepared based on the latest Site Formation Plan

LO FAI ROAD

TING KOK ROAD

CARPARK

55 deg.

55 deg.

55 deg.

Max. 55 deg. cut slope with soil nails and berms

Max. 55 deg. cut slope with soil nails and berms

30 deg.

30 to 50

55 deg.

Tie-backs

Permanent Soldier pile wall with tie-back

Permanent Soldier pile wall with tie-back

Max. 30 deg. cut slope

Max. 30 deg. cut slope

Max. 30 deg. cut slope

Max. 30 deg. cut slope

Excluded Grave

Cycling Track

T1

T2

T3

T4

T5

EL:15.58

EL:17.43

EL:16.16

EL:19.00

EL:17.99

EL:15.65

EL:15.63

EL:28.00

EL:28.00

EL:28.00

EL:19.00

EL:26.00

retaining height 8-11m

retaining height 2-8m

retaining height 2-8m

retaining height 2-8m

retaining height 2-8m

1m width berm

1m width berm

1m width berm

1m width berm

58.6

58.5

50.5

43.0

35.5

26.1

33.9

19.18

N

eadg 綠研團隊

earthasia limited

香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

Kam Luk Investment Company Limited

NOTES

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

TREE TREATMENT PLAN (SITE A)

SCALE:	1:800(A3)
DRAWING NO.: 4.37	REVISION: E
DATE:	FEB 2025
REFERENCE:	

LEGEND

CODE	DESCRIPTION
	PROPOSED REZONING SITE BOUNDARY
	SURVEY BOUNDARY
	PROPOSED SITE B BOUNDARY
	PROPOSED EXTENT OF SLOPE
	PROPOSED BUILDING LAYOUT
	PROPOSED SOLDIER PILE WALL
T1915	TREES TO BE RETAINED
T1915	TREES TO BE FELLED
T1915	UNDESIRABLE SPECIES TO BE FELLED

Note: The Tree Treatment Plan is prepared based on the latest Site Formation Plan

OPEN SPACE

EVA

Toe of 1m(H) Retaining Wall at +23.5mPD

Top of Cut Slope

Track

15.3

15.0

12.8

13.4

12.8

14.2

17.6

835680 N

835660 N

835640 N

835620 N

835600 N

835580 N

838400 E

838420 E

838460 E

838500 E

838520 E

838540 E

earthasia limited

香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

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KAM LUK INVESTMENT COMPANY LIMITED

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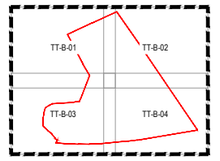
DRAWING NOT SHOWING THE LAST REVISION ARE TO BE CANCELLED.

KEY PLAN



REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	APR 2023
A	SUBMISSION	JAN 2025
B	SUBMISSION	FEB 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

TREE TREATMENT PLAN (SITE B)

SCALE:	1:500(A3)
DRAWING NO.:	REVISION
4.38	B
DATE:	FEB 2025
REFERENCE:	

5 CONCLUSION AND SUMMARY

5.1 In order to unleash development potential of private lots at the Sites located outside specified environmentally sensitive areas and not covered by Government's planning efforts in order to boost both public and private housing supply, an indicative development proposal including proposed public residential housing / SH development and proposed private residential development at Site A and Site B respectively is submitted under the LSPS. The proposed developments will provide a total domestic GFA of about 87,522 m^2, and 1,750 nos. of flats[20].

5.2 The Land Sharing Office and Panel of Advisors are respectfully requested to give favourable consideration to support the development proposal based on the followings:

(a) The development proposal submitted under the LSPS to unleash development potential of eligible private lots in order to boost both public and private housing supply is in line with the Government's policies to increase housing land supply. The development intensity of the Sites has been optimized to achieve optimal production of housing units which is considered a more optimum and efficient use of land resources.

(b) The development proposal for the Sites is in compliance with the minimum requirements and relevant criteria for the LSPS set out in the Guidance Note by providing increased domestic GFA of more than 50,000 m^2 and 1,000 nos. of additional residential units in total, of which 70% of the increased GFA will be handed over to the Government for subsidized housing development at Site A.

(c) The proposed residential developments at the Sites are considered compatible with the surrounding land use pattern and development intensity with due consideration given to the context of the Sites' locations at the urban fringe of Tai Po New Town.

(d) The proposed BHs of not more than 83mPD and 78.2mPD at Site A and Site B respectively have been optimized taking into account topography of the Sites, building height profile of the area and minimization of potential visual impacts to the adjacent developments.

(e) Provision of GIC facilities (which accounts about 5% of the total GFA of Site A) at the proposed public housing development has responded to the imminent need of the community and policy initiatives to increase provision of social welfare facilities.

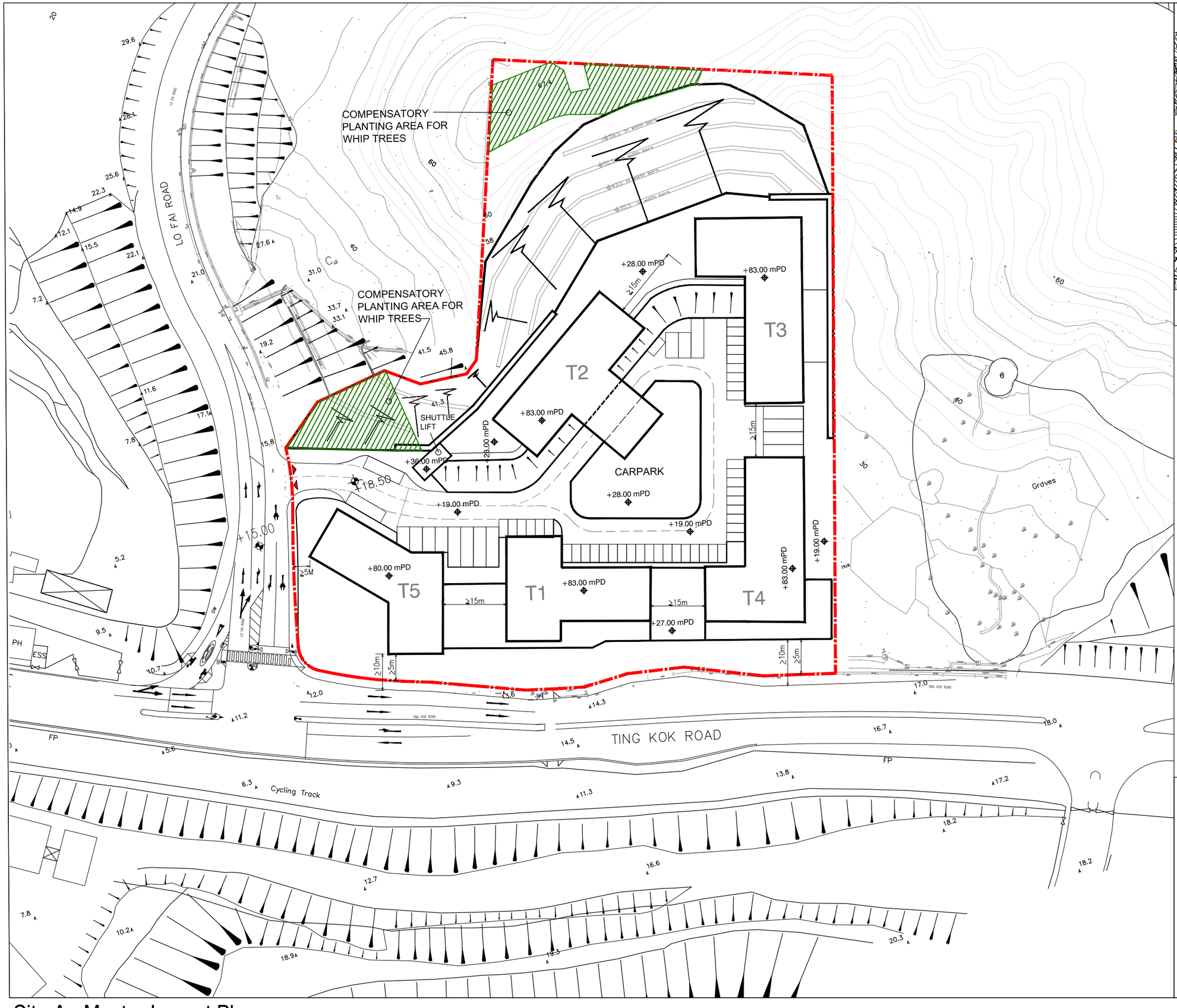
(f) The proposed residential developments have been sensitively designed with

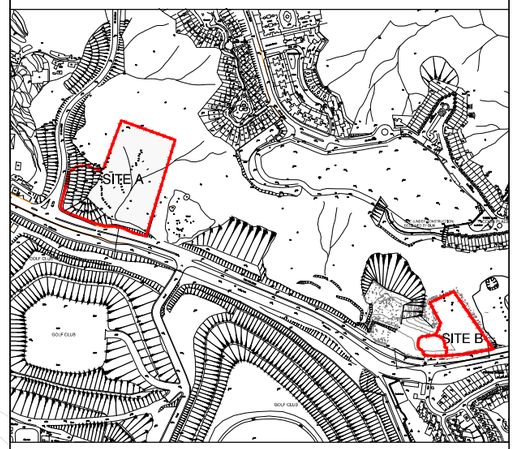
[20] Based on the assumed average flat size of 50m^2, subject to detail design.

carefully designed building disposition in view of the site topography and surrounding settings including the graves and/or permitted burial ground adjacent to the Sites to minimize any visual interface as far as practicable.

(g) Greenery provision at the proposed developments has been maximized to create a pleasant and sustainable neighbourhood environment.

(h) Technical assessments demonstrated that the development proposal will not result in insurmountable traffic, visual, air ventilation, environmental, drainage, sewerage, water supply, ecological, geotechnical and landscape impact on the surrounding areas.





SITE KEY PLAN

DATE:20250212

LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- PROPOSED WHIP TREE PLANTING AREA

Site A - Master Layout Plan

Scale 1:1000 (A3)

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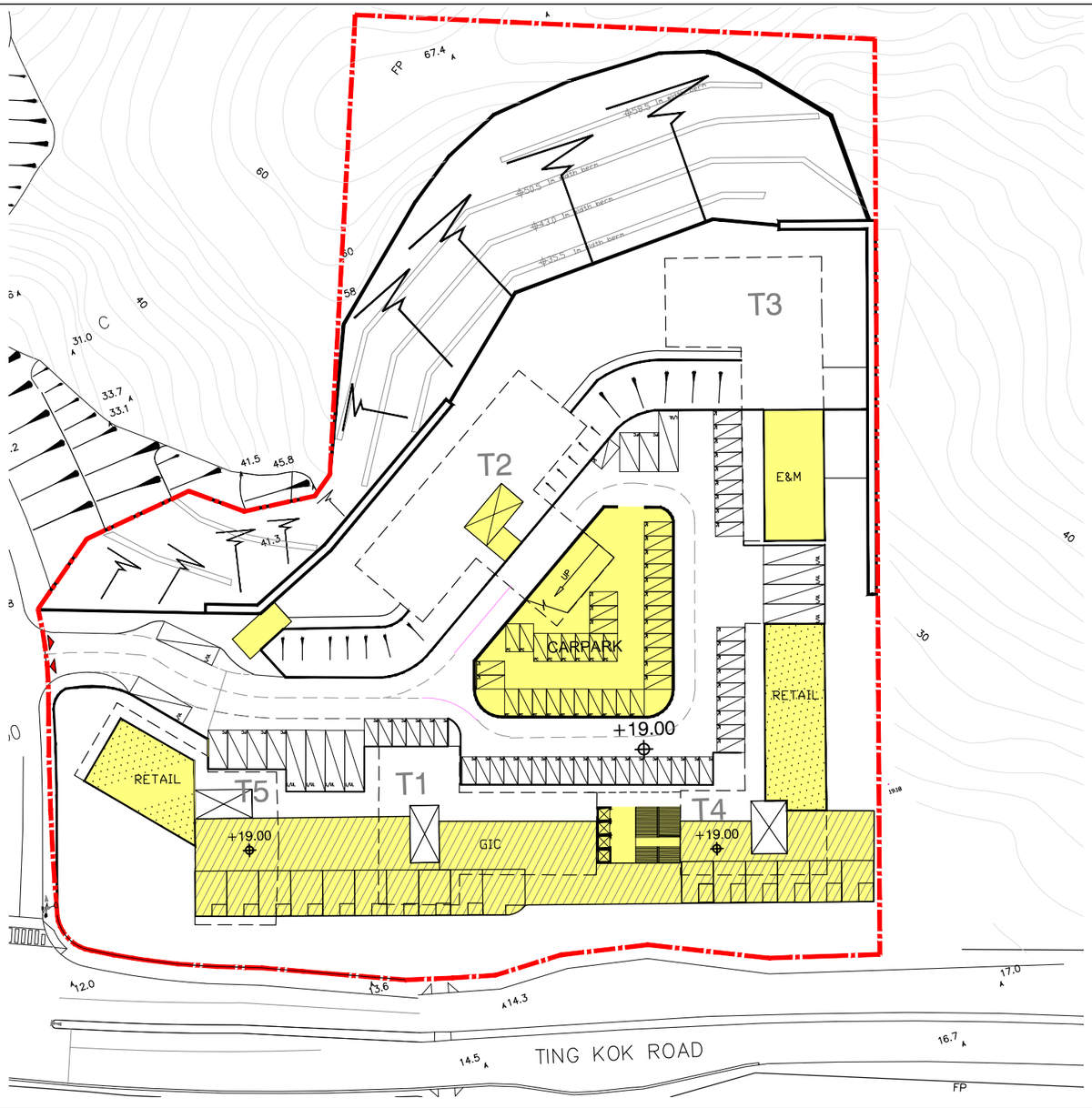
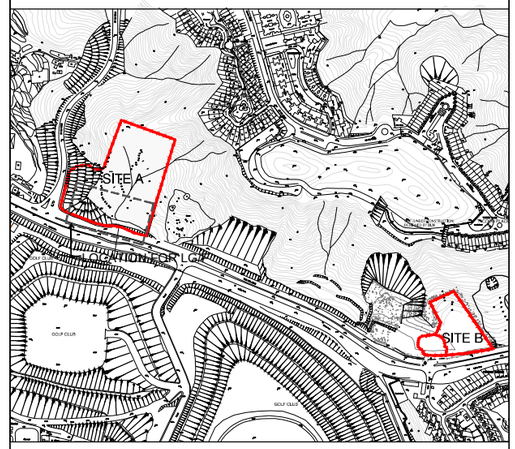




SITE KEY PLAN

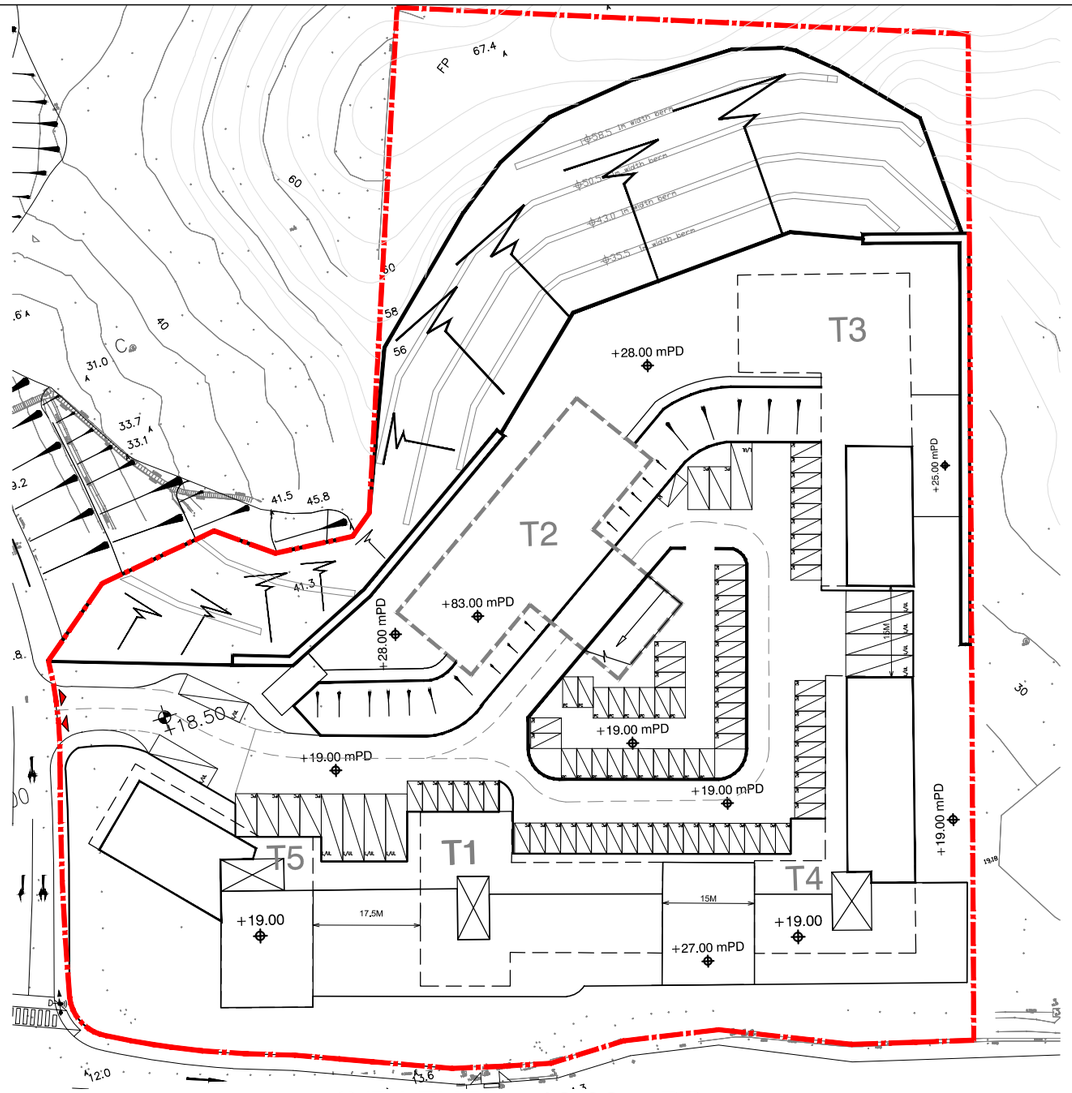
DATE:20250210

LEGEND

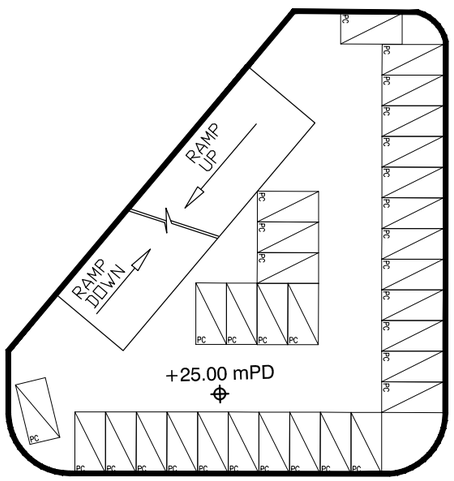
- PROPOSED SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- GIC
- RETAIL
- UPPER PODIUM
- LOWER PODIUM

Site A - LG/F & G/F Part Plan

Scale 1:1000 (A3)



G/F LEVEL +19.00 mPD



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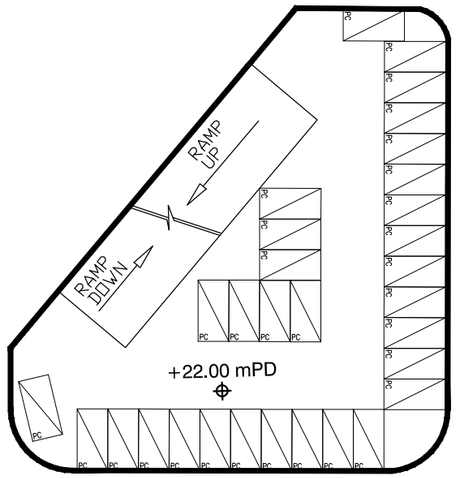
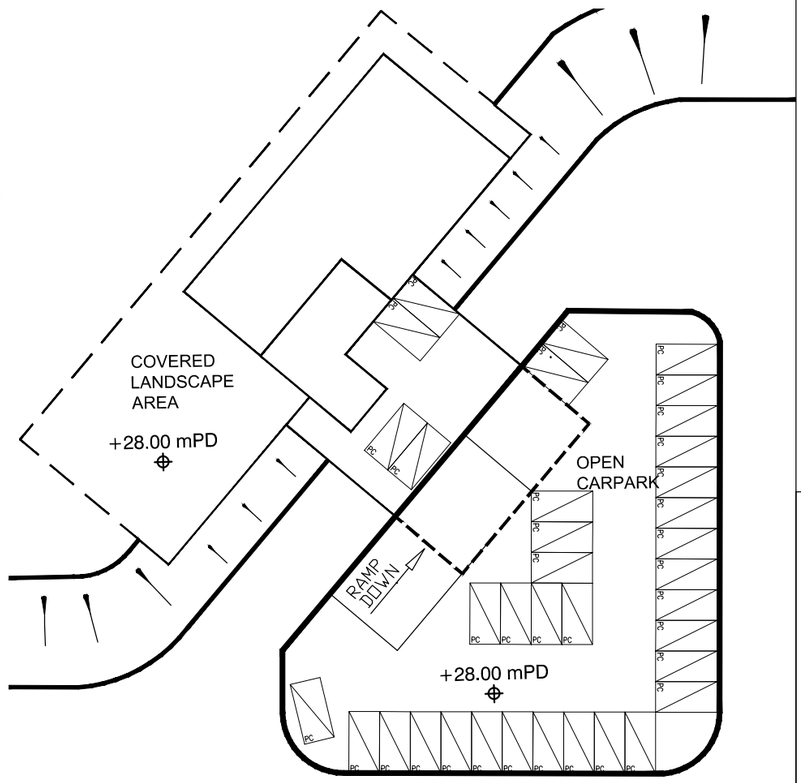
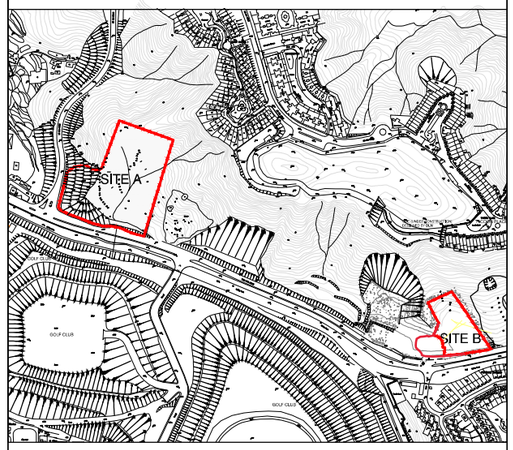


1/F LEVEL +22.00 mPD



3/F LEVEL +28.00 mPD



SITE KEY PLAN

DATE:20 Dec 2024

LEGEND

PROPOSED SITE BOUNDARY

PROPOSED INGRESS AND EGRESS

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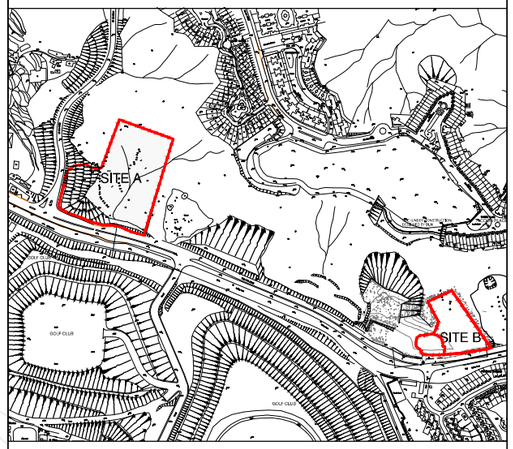

SITE KEY PLAN

DATE:20250210

LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- UPPER PODIUM
- LOWER PODIUM

Site A - Master Layout Plan

Scale 1:1000 (A3)

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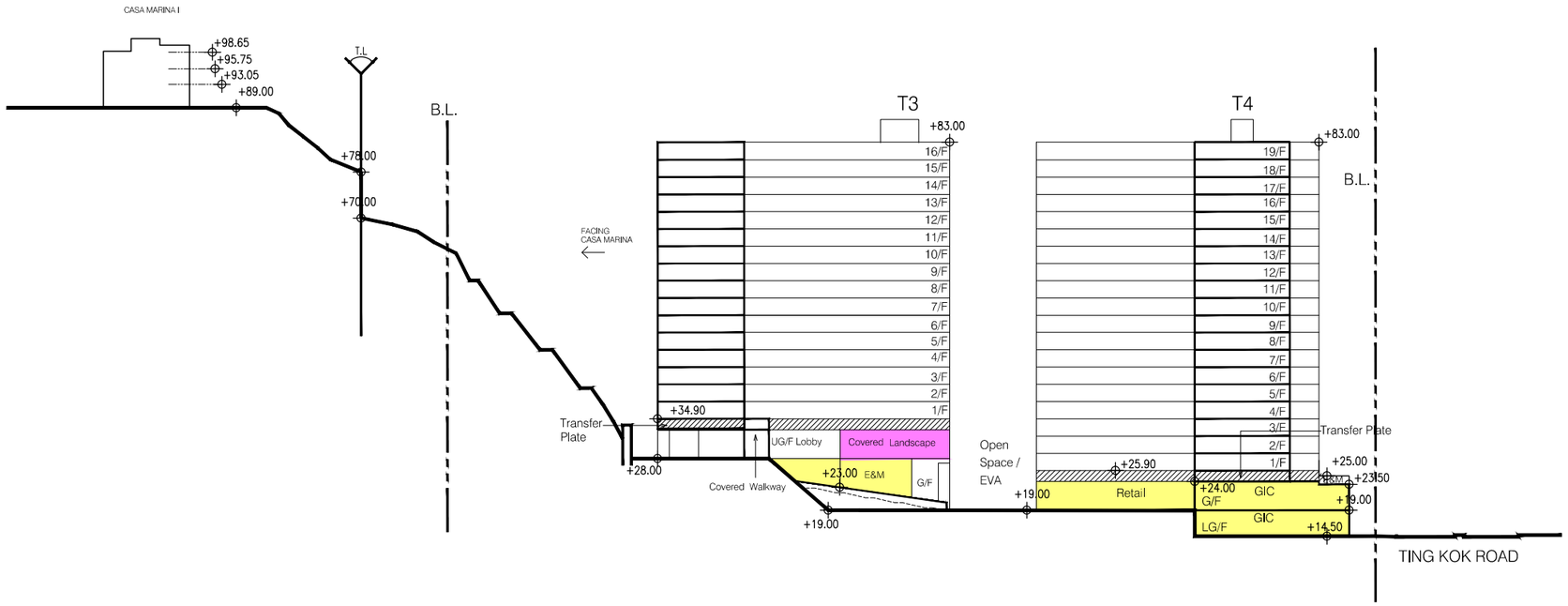
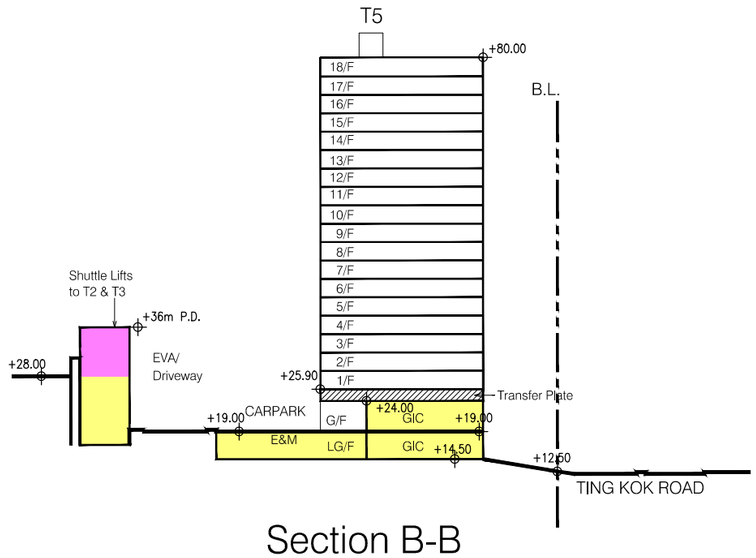


Section A-A



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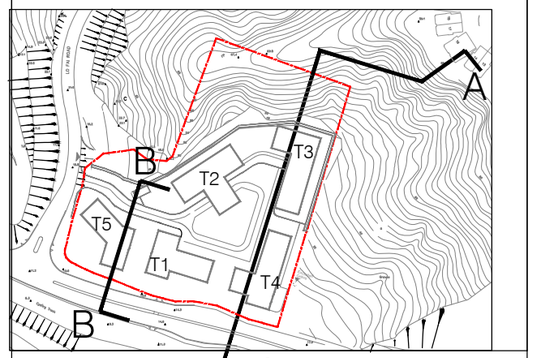


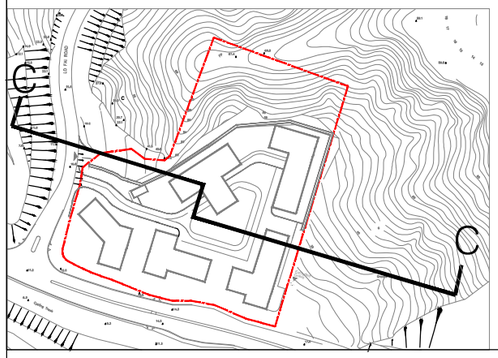
KEY PLAN

DATE:20240212

LEGEND

- UPPER PODIUM
- LOWER PODIUM

Site A - Section A-A & B-B
Scale 1:1000 (A3)



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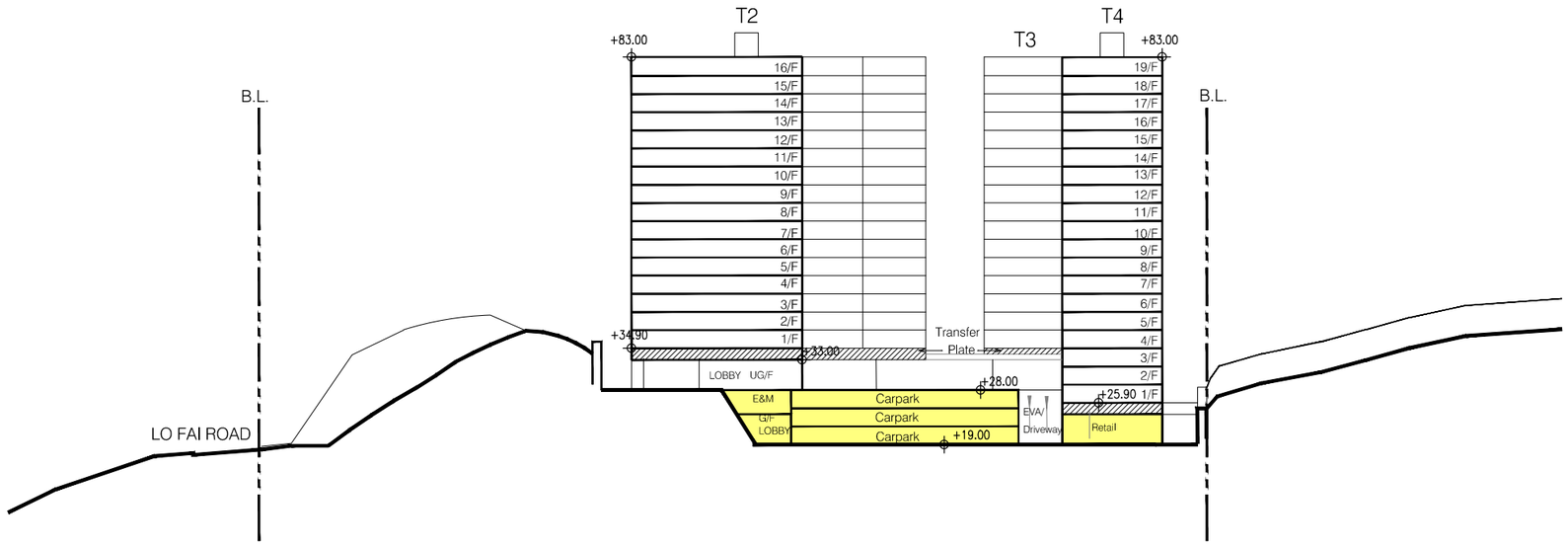


Section C-C

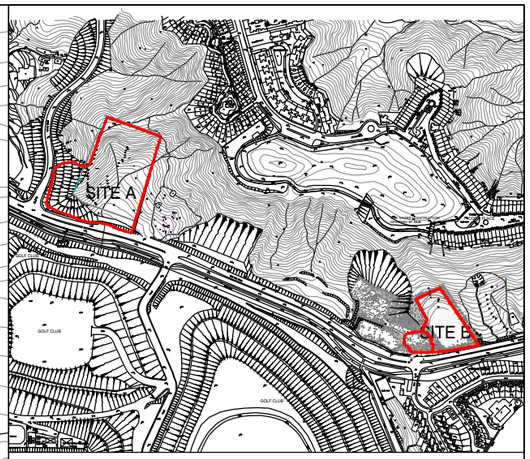
DATE:20250206

LEGEND

UPPER PODIUM

LOWER PODIUM

Site A - Section C-C
Scale 1:1000 (A3)



SITE KEY PLAN

COMPENSATORY
PLANTING AREA
FOR WHIP TREES

+20.5 mPD
+78.20 mPD
+20.5 mPD
+16.00 mPD
+16.00 mPD
+27.60 mPD
+14.50 mPD
EVA
≥5m
≥5m

TING KOK ROAD
TING KOK ROAD
Cycling Track
FP
Graves
FP
Graves
FORTUNE GARDEN
A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18 A19
B1 B2
C1 C2 C3 C4
D1 D2 D3 D4 D5 D6 D7 D8
Tennis Court
TS
CUL
Road
Road
N
S

LEGEND:

- PROPOSED REZONING SITE BOUNDARY
- PROPOSED DEVELOPMENT SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- PROPOSED WHIP TREE PLANTING AREA

Site B - Master Layout Plan
Scale 1:1000 (A3)

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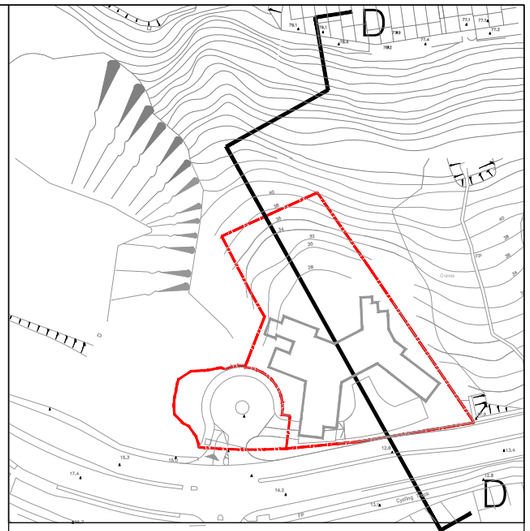

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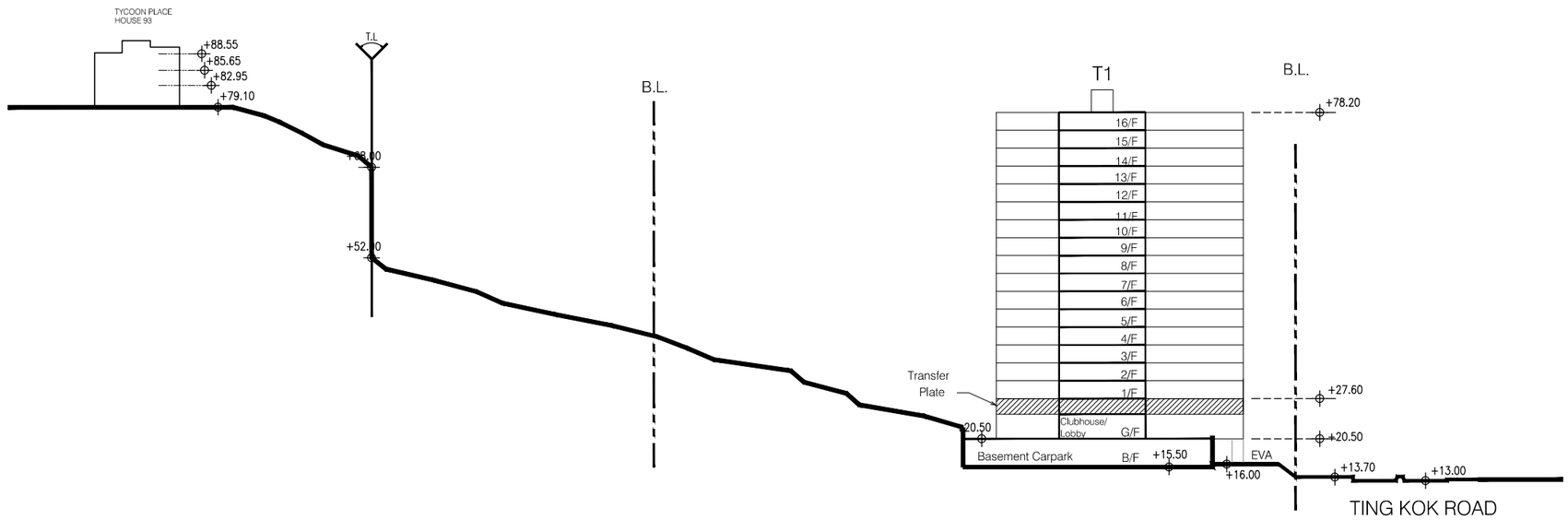

Section D-D

DATE:20250210

Site B - Section D-D
Scale 1:1000 (A3)

LAND SHARING PILOT SCHEME

Proposed Public Residential Housing / Starter Homes Development at Lot 14 RP in Unsurveyed District at Wong Yue Tan and Adjoining Government Land and Proposed Private Residential Development at Lot 11 RP in Unsurveyed District at Wong Yue Tan and Adjoining Government Land, Tai Po, New Territories

VISUAL IMPACT ASSESSMENT

February 2025

Applicant:
Kam Luk Investment Company Limited

Prepared By:
KTA Planning Limited

PLANNING LIMITED
規劃顧問有限公司

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Proposed Public Residential Housing / Starter Homes Development in Lot 14 RP in Unsurveyed District at Wong Yuen Tan and Proposed Private Residential Development in Lot 11 RP in Unsurveyed District at Wong Yuen Tan Tai Po, New Territories

Visual Impact Assessment

1. INTRODUCTION

1.1 Purpose

1.1.1 This Visual Impact Assessment ("VIA") report is prepared for Kam Luk Investment Company Limited in support of the development proposal prepared for the Land Sharing Pilot Scheme ("LSPS") for proposed public residential housing / starter homes ("SH") development at Lot 14 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 14 RP") and adjoining Government Land ("Site A"), and proposed private residential development at Lot 11 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 11 RP") and adjoining Government Land ("Site B") in Wong Yue Tan, Tai Po ("the Sites"). The Sites are both situated on vegetated slopes along Ting Kok Road, Tai Po (**Figure 1.1** refers).

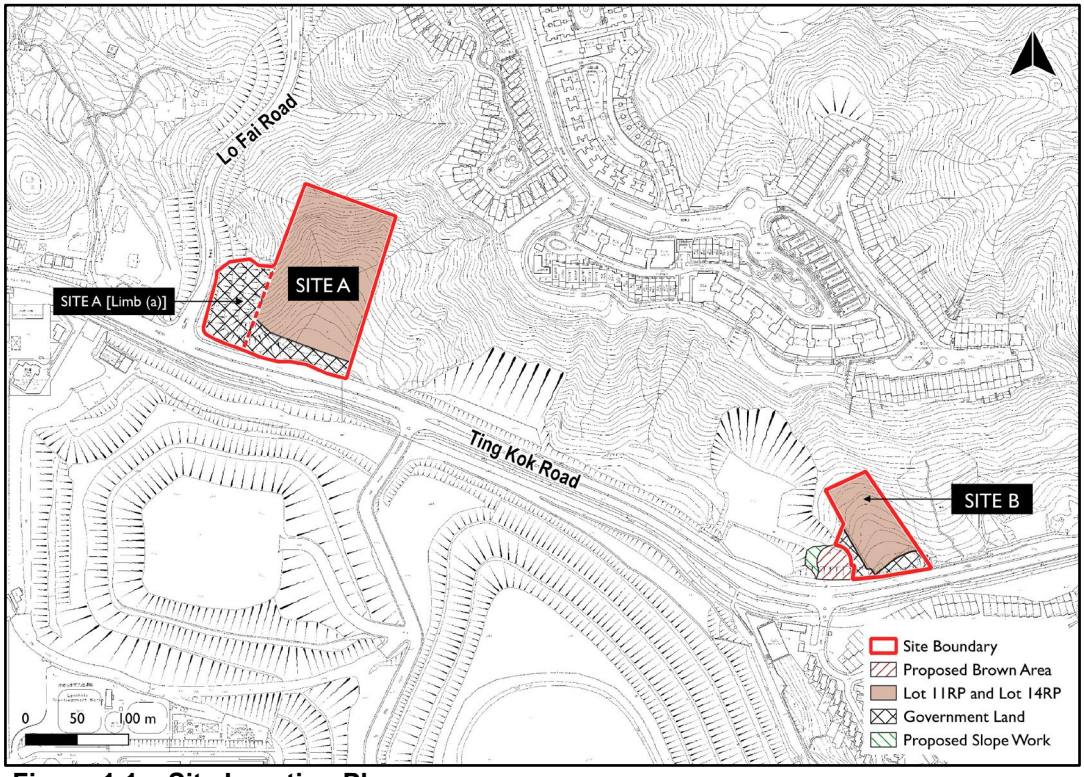


Figure 1.1 Site Location Plan

1.1.2 This VIA evaluates, with reference to the "*TPB Guidelines on Submission of Visual Impact Assessment for Planning Applications to TPB*" (TPB PG-No. 41), the existing visual quality, visual compatibility and degree of anticipated visual impacts of the proposed developments on the Visually Sensitive Receivers ("VSRs") relevant to

the Site. The report comments on the visual acceptability of the proposed public and private housing developments and concludes with recommendation on mitigation measures, if necessary.

1.2 Report Structure

1.2.1 Following this introductory section, the methodology adopted in this assessment will be set out in Section 2. The baseline review of the assessment area is included in Section 3. Section 4 includes the proposed development schemes and the discussion on design merits. Visual elements will be identified and analysed in Section 5 and followed by assessments of visual impacts in Section 6. Section 7 concludes and summarizes this VIA.

2. METHODOLOGY

2.1 Visual Impact Assessment Approach

2.1.1 This VIA aims at evaluating the visual impact of the proposed developments with proposed BH of +83mPD for Site A and +78.2mPD for Site B at public visually sensitive receivers ("VSRs").

2.1.2 According to TPB PG-No. 41, the overall visual impact shall be assessed based on i) the sensitivity of the key public viewers; ii) visual resources and visual amenities likely to be affected; iii) the magnitude, extent and duration of impact and any resultant improvement or degradation in the visual quality and character of the surrounding area; and iv) the planning intention and known planned developments of the area. Visual Impacts could be either beneficial or adverse. Visual sensitivity of public viewers/VSRs is determined taking into account the activity of the VSR, the duration and distance over which the proposed development would remain visual, and the public perception of the value attached to the view being assessed.

2.1.3 Visual changes could be positive or negative and they are not necessarily mutually exclusive. In considering the effect of visual changes, it covers the following four aspects:

- the total effect on the **Visual Composition** of the surrounding context;
- the degree of **Visual Obstruction** to key public viewing points;
- the visual **Effect on Public Viewers**/VSRs; and
- the **Effect on Visual Resources.**

2.1.4 The resultant overall impact may be concluded and classified qualitatively within a range of threshold, from Enhanced to Significantly adverse.

2.1.5 The VIA will be undertaken in the following steps:

- A baseline review will be conducted to understand the existing visual elements in the surroundings and the planning context of the Site.
- The development scheme for the proposed developments at the Sites will be briefly presented.
- The Visual Envelope ("VE") will be determined based on the size and distance of the proposed developments and appropriate public viewpoints ("VPs") will be identified to represent the view from public VSRs will be identified.
- Each VP and potential visual impacts of the Proposed Schemes on the VSRs will be analyzed based on the photomontages prepared from the selected VPs.
- The overall visual impact will be assessed and conclusion on the visual acceptability of the proposed developments will be made.

3. BASELINE REVIEW

3.1 Site Location and Existing Site Condition

3.1.1 The Sites are both situated along Ting Kok Road, Tai Po New Town, with a total area of about 2.7 hectare. Site A with an area of about 2 hectares bounded by Ting Kok Road to its southwest, Lo Fai Road to its northwest, existing vegetation to its immediate northeast, and a number of graves to its southeast. It comprised UDWYT Lot 14 RP, adjoining Government land sandwiched between UDWYT Lot 14 RP and Ting Kok Road and a piece of Government land of about 3,797m^2 on Lo Fai Road. Site B, located at about 500m to the southeast from Site A, is bounded by Ting Kok Road to its south, a proposed roundabout to the west (proposed brown area), existing vegetation to its north and a permitted burial ground site no. TP/E2 to its east. Site B has a site area of about 0.7 hectare; it comprises UDWYT Lot 11 RP and the adjoining Government land sandwiched between UDWYT Lot 11 RP and Ting Kok Road and a piece of Government Land for the proposed roundabout and slope work.

3.1.2 The Sites are both covered by trees and vegetation. Both Sites are sloping ground and different parts at Site A and Site B vary from 14mPD to 68mPD and 13mPD to 44mPD respectively. Some registered slopes are found within the Sites, of which some are maintained by the Highways Department. An existing structure is found within UDWYT Lot 11 RP near its southern boundary abutting Ting Kok Road.

3.1.3 The Sites are located as part of the vegetated slopes with trees and greenery along Ting Kok Road where are mainly zoned "GB" and partly within areas shown as 'Road' on the Approved Tai Po Outline Zoning Plan ("Approved OZP"). Existing greenery on the slopes is considered as the only visual resources at the sites. **Figure 3.1** shows the surrounding site context.

3.2 Existing Visual Elements in the Surrounding Context

3.2.1 The visual outlook of an area is shaped by a combined composition of all the visual elements which come into sight of the viewers. The Sites are situated in the fringe area in the northeast portion of Tai Po New Town characterized by hilly topography where existing low- to medium-rise developments are situated in the limited developable land. The existing hilly topography with vegetated slopes separates developments in the area into clusters and gives a unique character of having a mixed of low-rise houses, medium-rise residential towers and industrial buildings intermingle with the greenery and waterfront scenery. **Figure 3.2** illustrated the visual setting of the Tai Po New Town and its fringe area. Key visual elements in the surrounding context of the Sites are included in **Figure 3.3** to **3.6** and summarised below:

Positive Attributes

- Tolo Harbour is a key natural visual resource in the Northeast New Territories that offers visual openness and waterfront view along the shoreline of Tai Po and Ma On Shan area. It is located to the southeast of the Sites.

- To the north and northwest of the Sites are the mountain named Cloudy Hill, Ping Fung Shan and Wong Leng with the levels ranging from about 440mPD to about 639mPD, where the most latter is known as the highest mountain in the Northeast New Territories Region. Their ridgeline and greenery are considered as key visual resources in the surrounding areas by performing as backdrop and visual attractors.

- Ting Kok Road is the key vehicular road connecting Ting Kok/ Tai Mei Tuk to Tai Po New Town. The roadside trees and existing greenery along Ting Kok Road contribute to a green character in the surrounding areas.

- To the north of the Sites is a knoll with a number of low-to-medium rise residential developments including Tycoon Place, Casa Marina I and II, Richwood Park, Forest Hill and Villa Lucca. They are built on platform levels ranging from +68.2mPD (Casa Marina II) to +96.0mPD (Villa Lucca). Together with the Education University of Hong Kong, they formed a low-to-medium development cluster on the plateau along Lo Fai Road;

- To the west of the Sites beyond Ha Hang Village is Mont Vert, a medium-rise development clusters with the building height ranging from +89.3mPD to +102mPD situated in the Fung Yuen Valley. The medium-rise development clusters demonstrated a harmonious development in a green setting.

- Ha Hang Village and Fortune Garden are the low-rise development located the immediate surrounding of the Sites. With the variation of building heights and sufficient building separation, these low-rise developments would not break the visual harmony and create obstructions to surrounding areas;

- To the south of the Sites across Ting Kok Road is the ex-Sheun Wan Landfill Site. Situated on the small hill at levels ranging from of about +27.6mPD to +40.9mPD, it is rehabilitated and served as golf course with driving range. It provided sufficient greenery between the development cluster above the knoll to the north of the Sites and Tai Po Industrial Estate;

Negative Attributes

- To the southwest of Site A across Ting Kok Road, with the distance of about 400m is the Tai Po Sewage Treatment Work and Tai Po Industrial Estate with the total area of about 75 hectares. Situated on reclaimed land, the

existing factory buildings are in low-to-medium density with building height ranging from 5 to 12 storeys. The presence of chimneys, bulky industrial plants and dull industrial building facades gives an industrial character of the area with no visual attraction to surrounding areas;

- A cement works is situated at Yu On Road along the waterfront of Tolo Harbour. It has reinforced the industrial/ mixed character at the fringe of Tai Po New Town;

- The Beverley Hill is located to the southeast of the Sites beyond the cement works. Its linear strips of houses of 4 to 5 storeys and continuous façade of 92m to 122m formed a major building mass at Tolo Harbour.

- At some sections of Ting Kok Road, there are retaining structures with the length of about 80m to 240m and about 7 meters in height, constructed with granites blocks. The retaining structures occasionally breaks the continuous greenery along Ting Kok Road.

- Built in 2023, a public housing development namely Fu Tip Estate is located to the further west of the Sites with the distance of about 1500m from Site A. With the roof level of about +140mPD, the building mass may create visual obstruction to the viewers in the surrounding area. The building mass obstructed the view to the greenery of Cloudy Hill at the backdrop.

3.2.2 The existing visual quality of the Sites can be regarded as good to fair in general. The Sites and its surroundings are characterised by the mixture of industrial developments, low and medium-rise residential developments and natural settings.

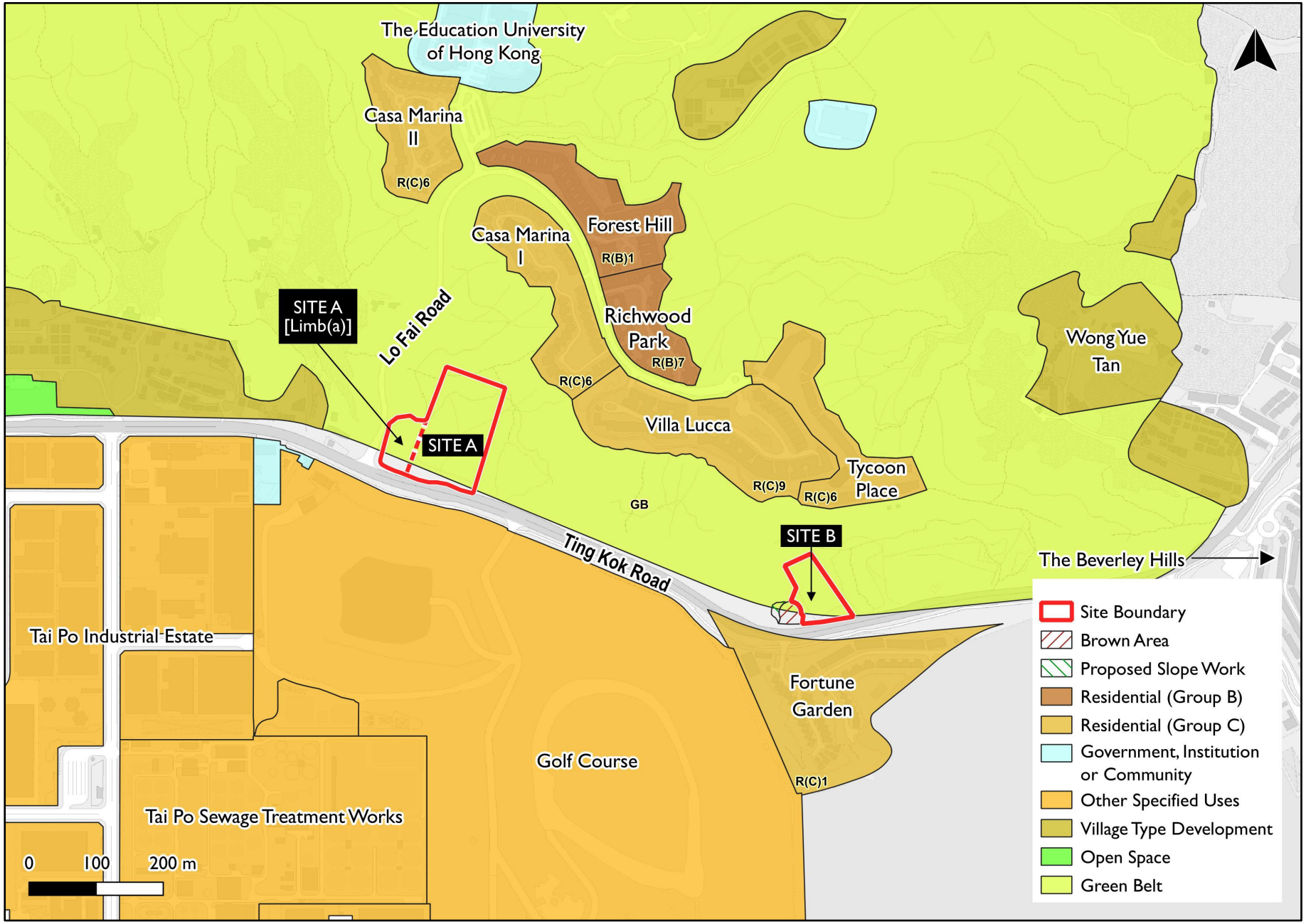
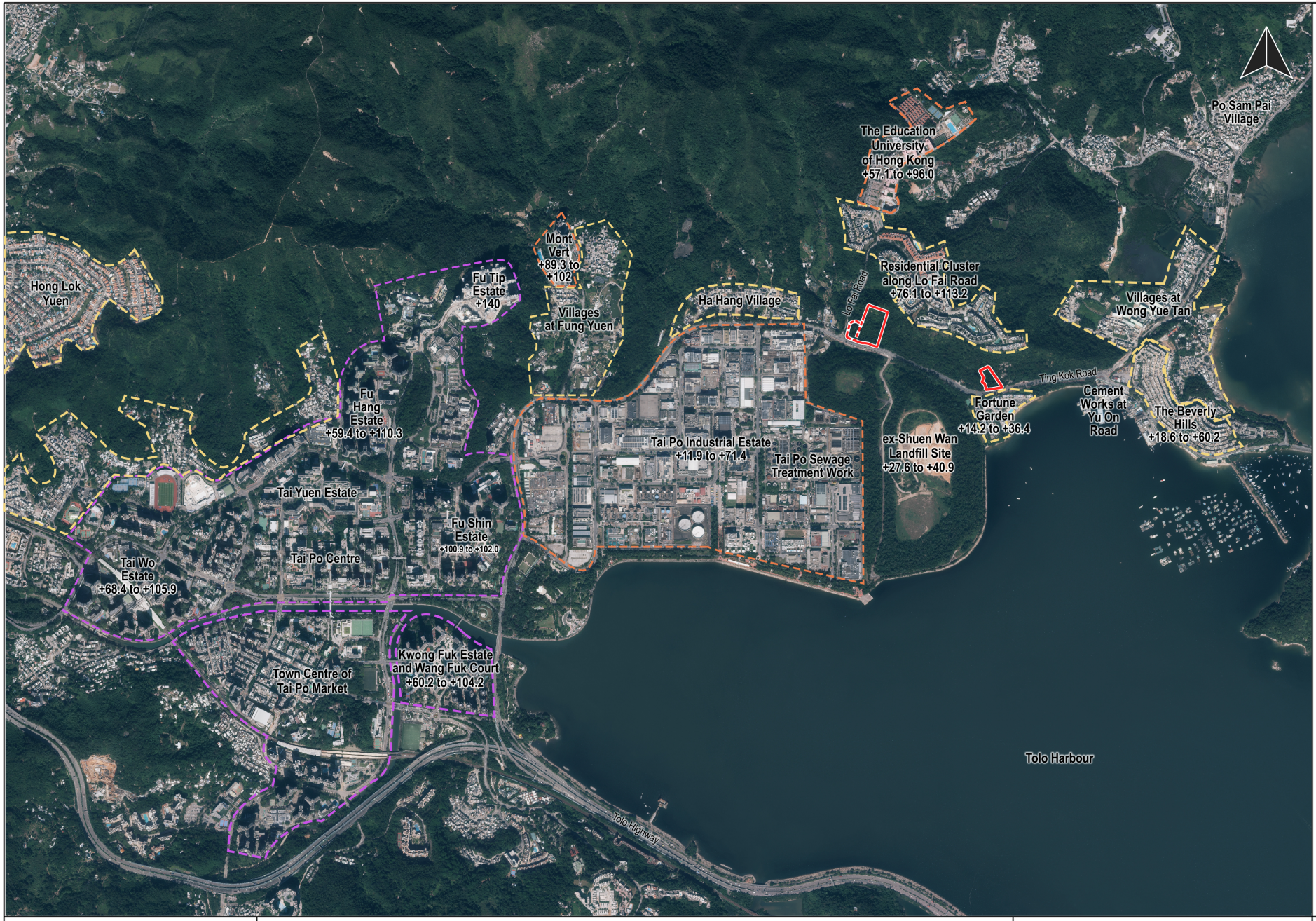


Figure 3.1 Site and Surrounding Context



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Visual Setting of Tai Po New Town and its Fringe Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Visual Impact Assessment

Figure 3.2

Scale: 1:12,500

Date: 2 January 2025

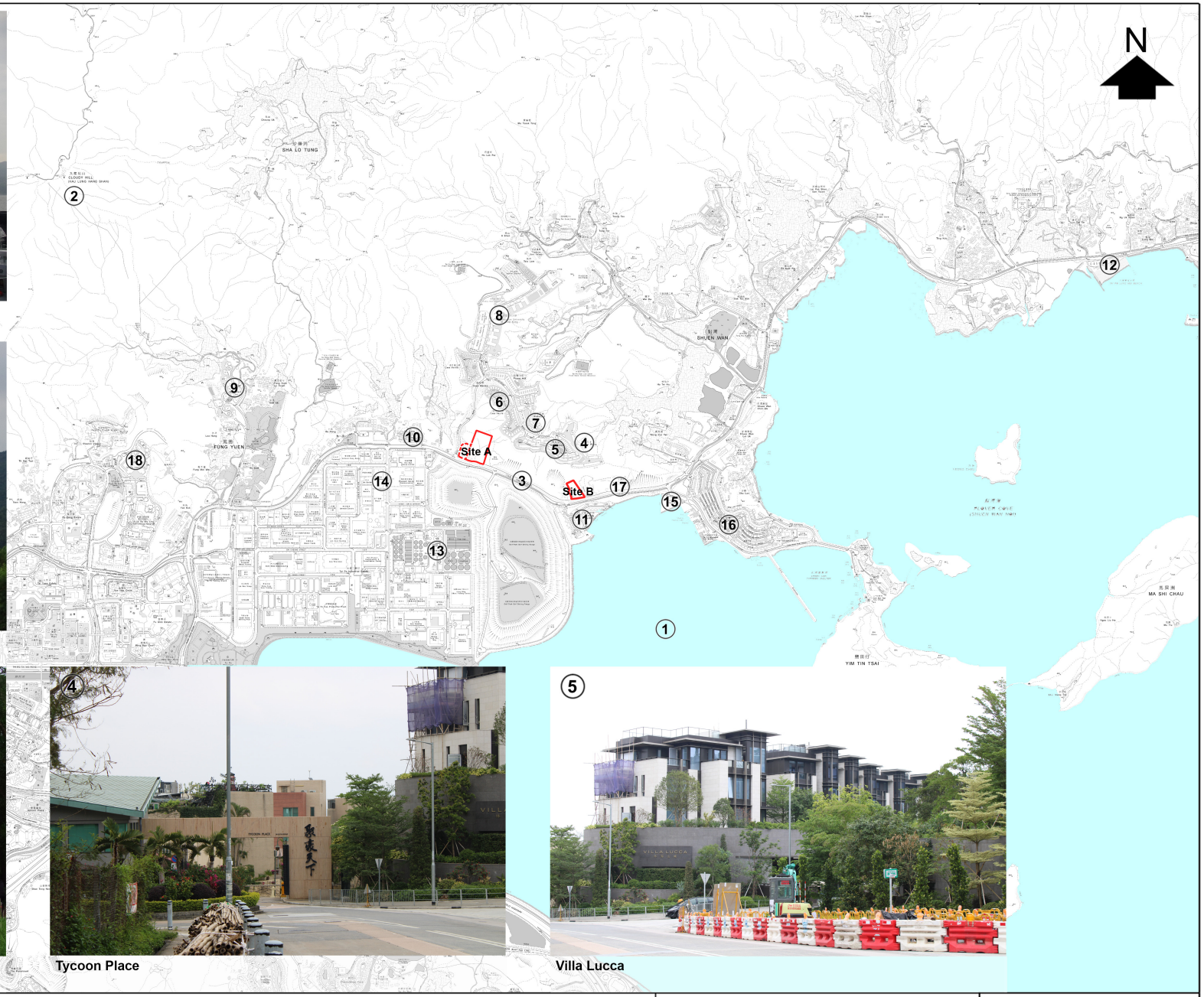
Tolo Harbour

Ridgelines at the backdrop of Cloudy Hill, Ping Fung Shan and Wong Leng

Roadside Greening along Ting Kok Road

Tycoon Place

Villa Lucca



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Photos of Visual Elements in Surrounding Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Source: Survey Sheet Nos. 3-SE-C, 3-SW-D, 7-NE-A & 7-NW-B

Figure 3.3

Scale: 1:10,000 (A3)

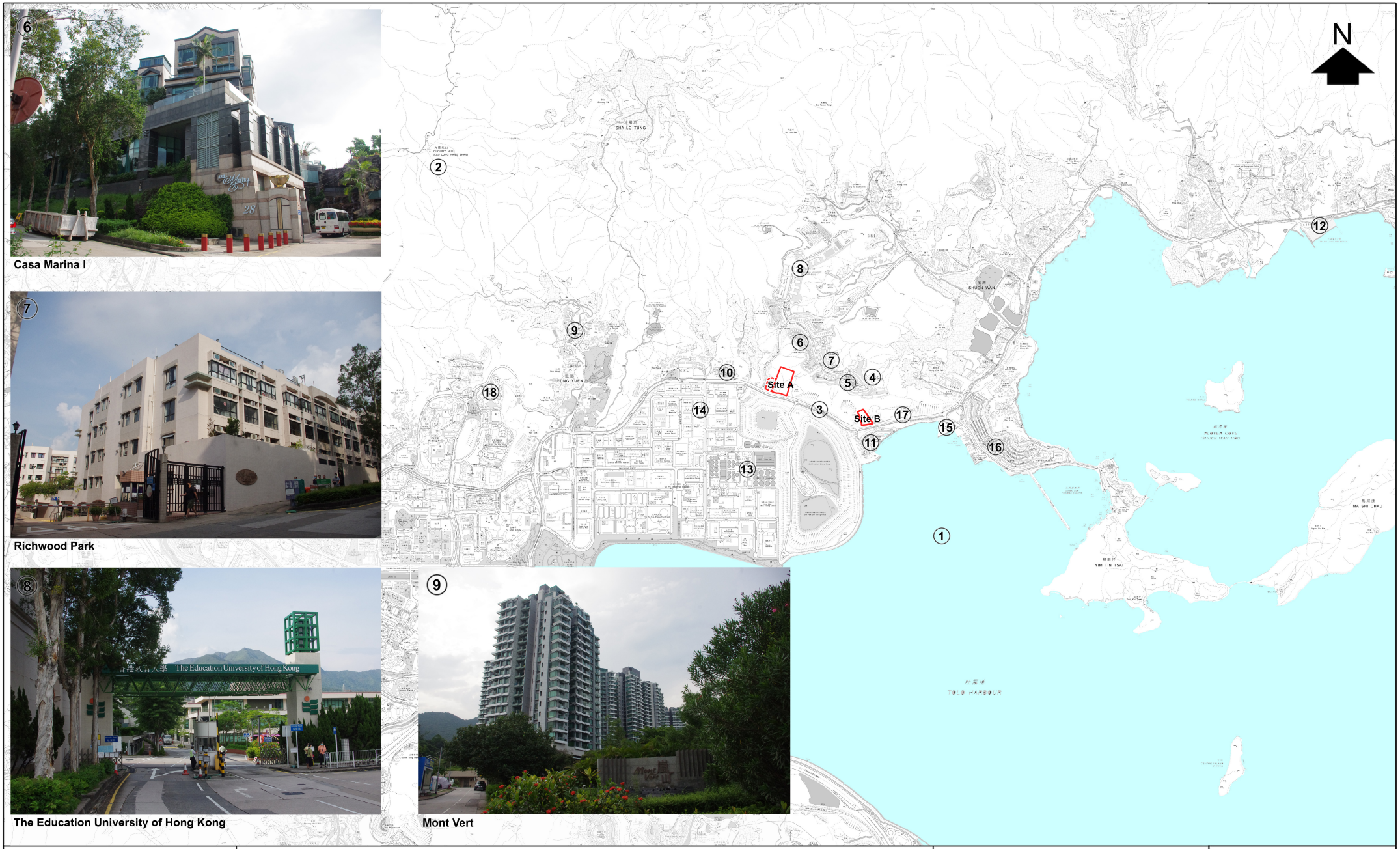
Date: 2 January 2025

Casa Marina I

Richwood Park

The Education University of Hong Kong

Mont Vert



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Photos of Visual Elements in Surrounding Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Source: Survey Sheet Nos. 3-SE-C, 3-SW-D, 7-NE-A & 7-NW-B

Figure 3.4

Scale: 1:10,000 (A3)

Date: 2 January 2025

Residential Developments at Ha Hang Village

Fortune Garden

Tai Po Lung Mei Beach

Tai Po Sewage Treatment Works

PLANNING LIMITED
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Photos of Visual Elements in Surrounding Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Source: Survey Sheet Nos. 3-SE-C, 3-SW-D, 7-NE-A & 7-NW-B

Figure 3.5

Scale: 1:10,000 (A3)

Date: 2 January 2025

One of the Industrial Buildings at Tai Po Industrial Estate

Cement Works at Yu On Road

The Beverley Hill

Retaining Wall at Ting Kok Road

Fu Tip Estate

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Photos of Visual Elements in Surrounding Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Source: Survey Sheet Nos. 3-SE-C, 3-SW-D, 7-NE-A & 7-NW-B

Figure 3.6

Scale: 1:10,000 (A3)

Date: 2 January 2025

3.3 Statutory Zoning Requirement

3.3.1 The Sites are mainly zoned "GB" and partly within areas shown as 'Road' on the Approved Tai Po Outline Zoning Plan No. S/TP/30 (**Figure 3.7** refers). According to the Statutory Notes of the Approved OZP, the planning intention of "GB" zone is "*primarily for defining the limits of urban and sub-urban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There is a general presumption against development within this zone.*" Rezoning the Sites into appropriate zones will be required to enable the proposed residential developments.

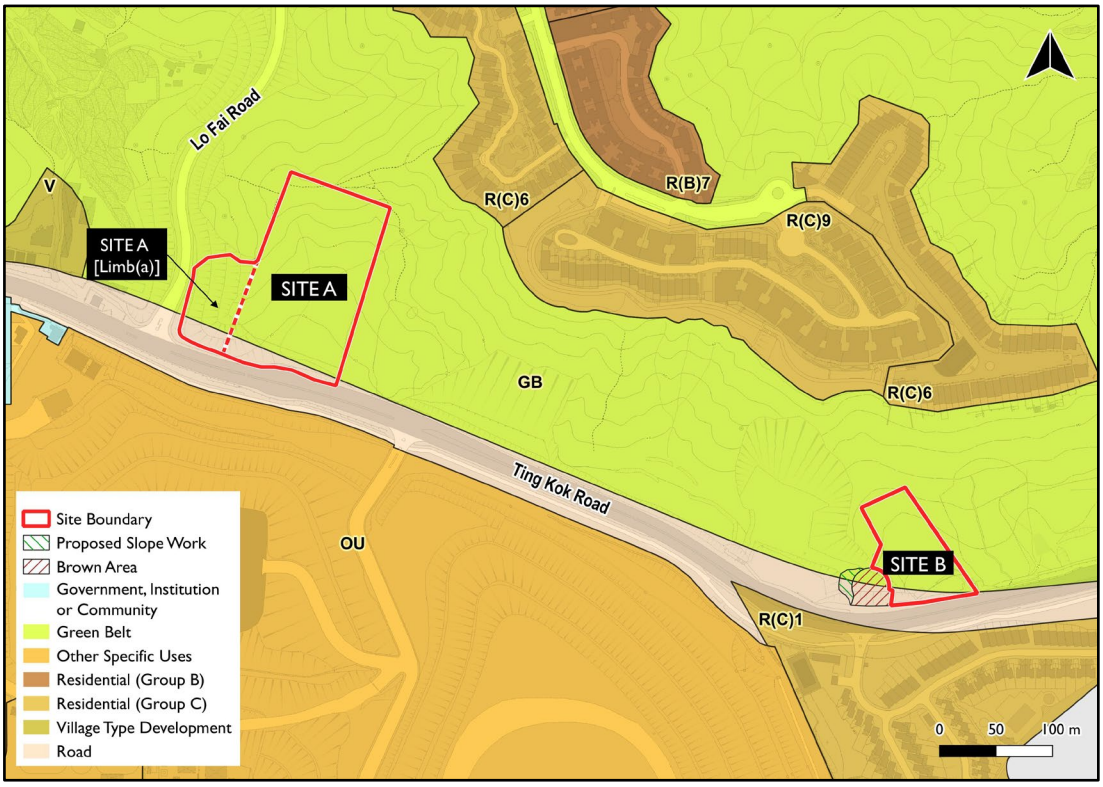


Figure 3.7 Zoning Context Plan

4. THE PROPOSED DEVELOPMENT

4.1 The Indicative Development Proposal

4.1.1 The proposed public residential housing / SH development is proposed at Site A which has a total area of about 2 hectares. With reference made to the existing residential developments at the uphill, the public residential housing/SH development at Site A will have a maximum building height of 83mPD[1] at main roof level. There will be 5 nos. of residential towers with a total maximum domestic GFA of about 64,522m^2 providing a total of about 1,290 nos. of flats[2]. The proposed development will have a terraced platform and its main platform will be at the level of about 19mPD. Car parking spaces and about 1,000m^2 of retail facilities will be provided at the main platform level. G/IC facilities of about 3,226m^2 (equivalent to about 5% of domestic GFA) will also be provided on the southern side of the site with direct pedestrian access from Ting Kok Road.

4.1.2 The private residential development is proposed at Site B which has a total area of about 0.7 hectare[3]. Based on the 70:30 public housing/SH and private housing split of domestic GFA, the private housing will have an about 23,000m^2 of domestic GFA[4] Aiming to keep the maximum building height lower than the platform level of existing residential developments uphill, the proposed private residential development will be a 18-storey tower (including the residential carpark at basement level at about 15.5mPD) with the maximum BH of 78.2mPD at main roof level. There will be about 460 number of flats[6] for an estimated population of about 1,288[5].

4.1.3 With an aim to avoid lengthening the EVA to the northern portions which will inevitably increase the hard paved area and hence the associated landscape and tree impact under the indicative development proposal, residential blocks are proposed to be located to the southern portions of Site A and Site B. In the respective northern portions of Site A and Site B, necessary geotechnical works such as installation of soil nails to ensure the slope safety will be carried out and compensatory trees/whips for the residential developments will be planted. The compensatory planting in the northern portion of the sites could enhance the landscape quality of the proposed developments and serve as a visual relief for future residents. Such areas are an integral part of the proposed residential developments.

[1] Floor-to-floor height of 3m has been assumed to allow for the adoption of MiC method with thickened/double slabs between MiC modules. According to Joint Practice Note No. 8 for Buildings Department, Lands Department and Planning Department, an increase in building height of about 4% of the total storey height of MiC floor may be favourably considered.
[2] Based on the assumed average flat size of 50m^2, subject to detail design.
[3] The calculation of area for Site B including about 0.1 hectare of Government Land for proposed roundabout and slope work.
[4] After excluding the about 10,855m^2 GFA generated from the additional Government Land of about 3,797m^2 [limb (a)] in Site A, the remaining GFA of about 53,667m^2 for public housing / SH will be used as the basis for deriving the GFA for the private housing portion. 53,667m^2 / 0.7 x 0.3 = 23,000m^2.
[5] Calculated based on the average domestic household size of 2.8 in Tai Po New Town in 2021 Population Census.

4.1.4 The schematic master layout plan and section plans showing the proposed public residential housing / SH development at Site A and the proposed private residential development at Site B is shown in **Figures 4.1** to **4.9** accordingly.

Table 4.1 Major Development Parameters of Site A and Site B

	Proposed Public Residential Housing / SH Development at Site A	Proposed Private Residential Development at Site B	Entire LSPS Scheme
Rezoning Site Area (about)	About 2.0ha [6]	About 0.7ha[7]	About 2.7ha
Total Domestic GFA (about)	64,522 m^2	23,000 m^2	87,522 m^2
Public / Private Domestic GFA Ratio[8]	70%	30%	/
Max. BH (at main roof level)	83mPD[9]	78.2mPD	83mPD
No. of Storeys	18 to 21 [10]	18 [11]	18 to 21
Site Coverage (above 15m)	Not more than 37%	Not more than 35%	/
No. of Blocks	5	1	6
No. of Units (about) [12]	1,290	460	1,750
Design Population	3,612 ##	1,288 ##	4,900
GFA for Retail Facilities	1,000 m^2	N/A	1,000 m^2
GFA for G/IC Facilities Provision (about)	3,226 m^2 ^	N/A	3,226 m^2
Local Open Space	Not less than 1m^2 per person	Not less than 1m^2 per person	Not less than 1m^2 per person

Note:
Based on an assumed average flat size of 50m^2.
Based on the average domestic household size of 2.8 in Land Sharing Pilot Scheme and Guidance Note on Applications.
^ Social welfare facilities as required by the Government is proposed to be disregarded from GFA calculation

[6] Including about 3,797m^2 of additional Government Land [limb (a)] for the sole purpose for public housing development.
[7] The calculation of the area for Site B including about 0.1 hectare of Government Land for proposed roundabout and slope work.
[8] The calculation of the public/private domestic GFA ratio has excluded the domestic GFA of about 10,855m^2 generated by the additional Government Land of 3,797m^2 [limb (a)].
[9] Floor-to-floor height of 3m has been assumed to allow for the adoption of MiC construction method.
[10] Including G/IC facilities but excluding transfer plate.
[11] Including basement level but excluding transfer plate.
[12] Based on the assumed average flat size of 50m^2, subject to detail design.

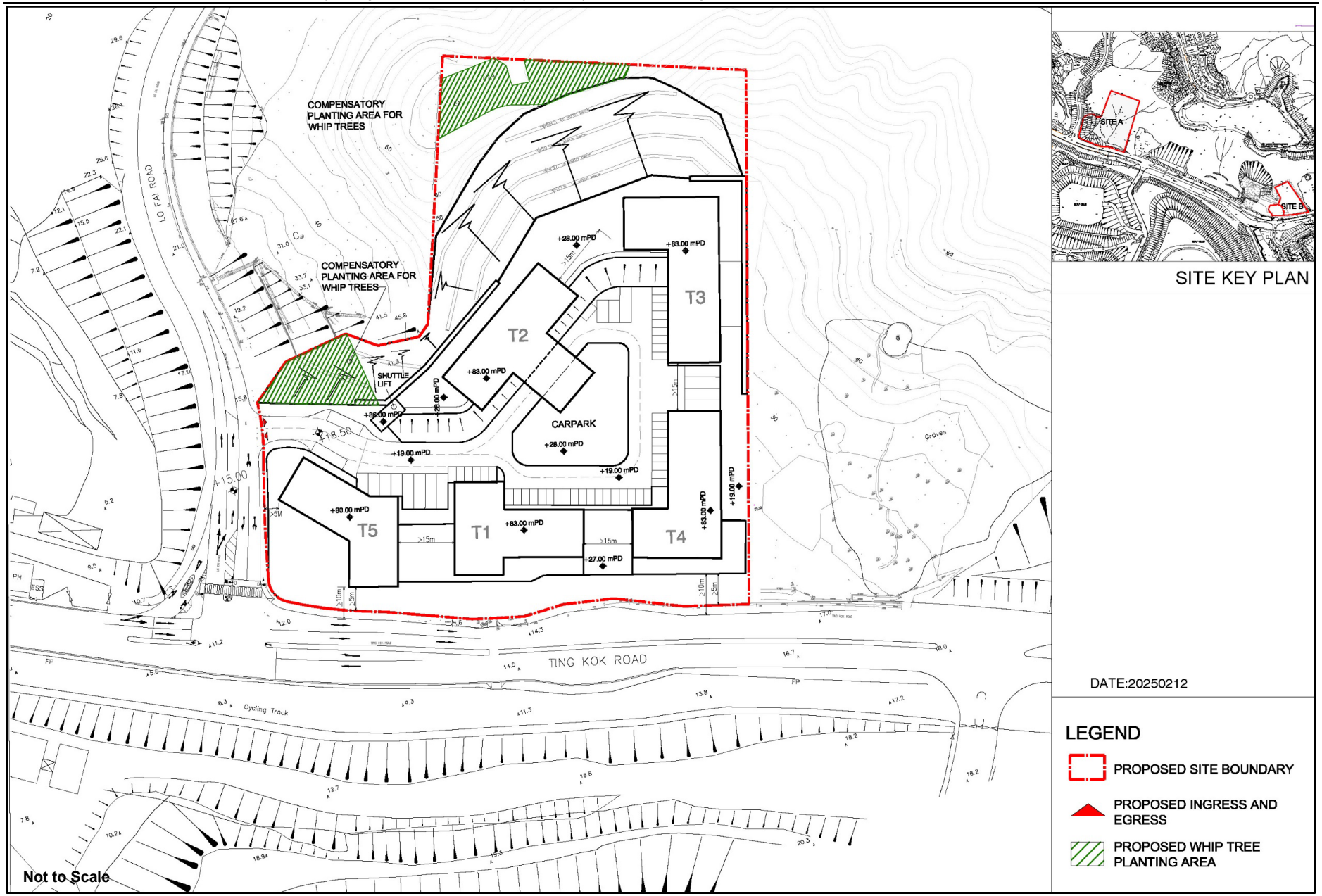
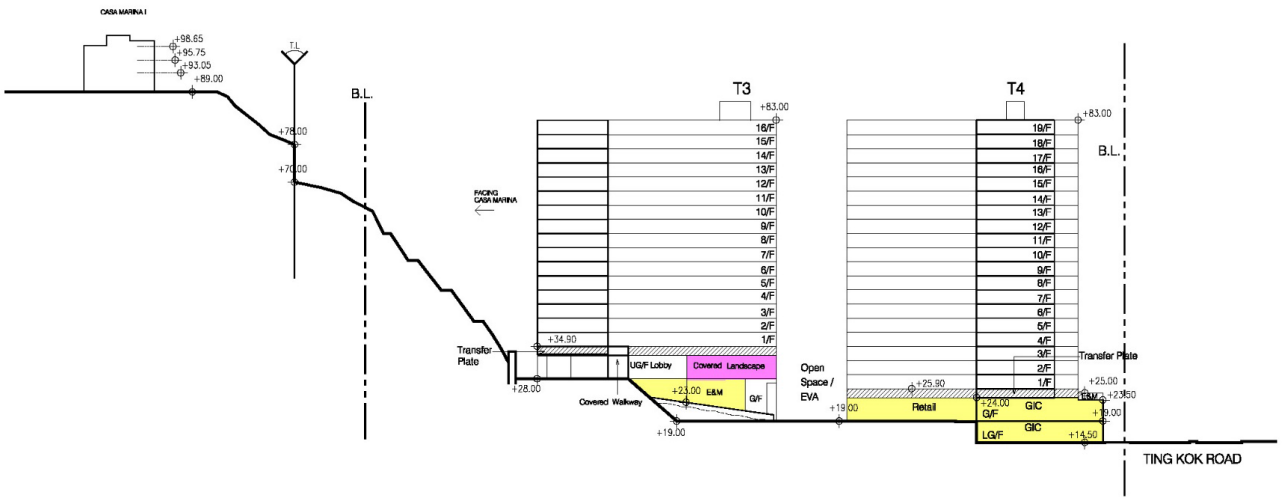
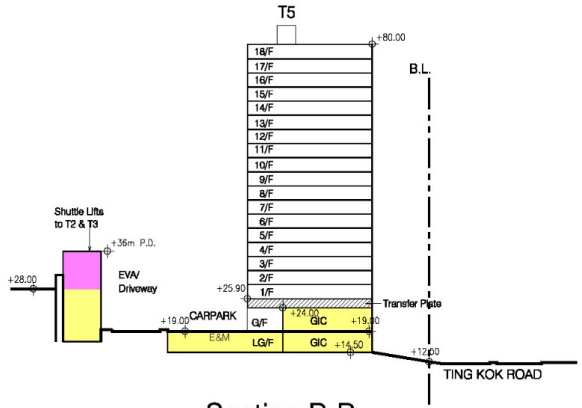


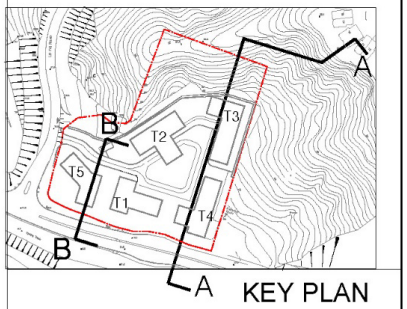
Figure 4.1: Schematic Master Layout Plan for Site A



Section A-A



Section B-B



KEY PLAN

DATE:20240212

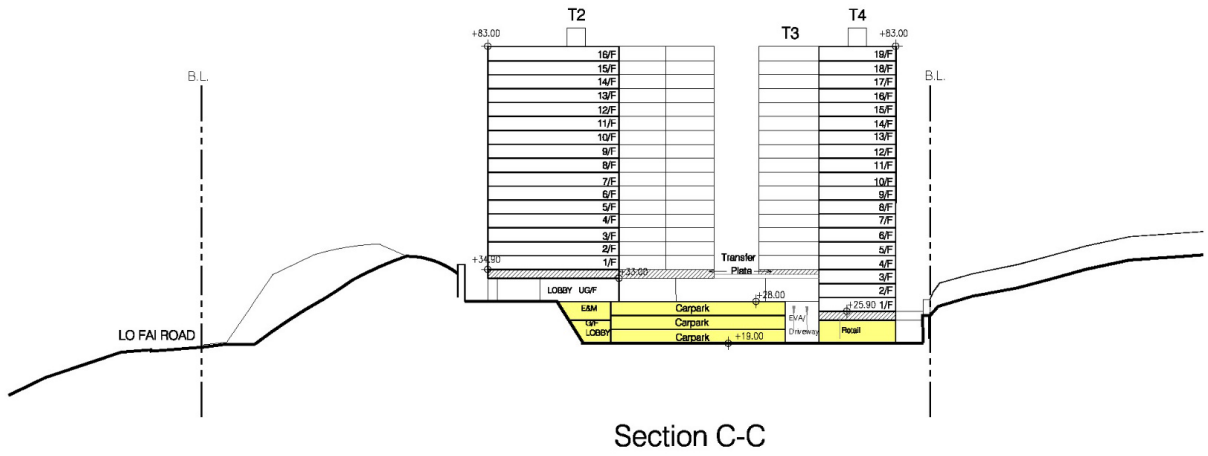
LEGEND

UPPER PODIUM

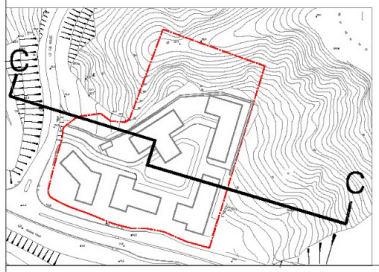
LOWER PODIUM

Not to Scale

Figure 4.2: Schematic Section Plan for Site A (Section A-A and B-B)



Section C-C



KEY PLAN

DATE:20250206

LEGEND

UPPER PODIUM

LOWER PODIUM

Not to Scale

Figure 4.3: Schematic Section Plan for Site A (Section C-C)

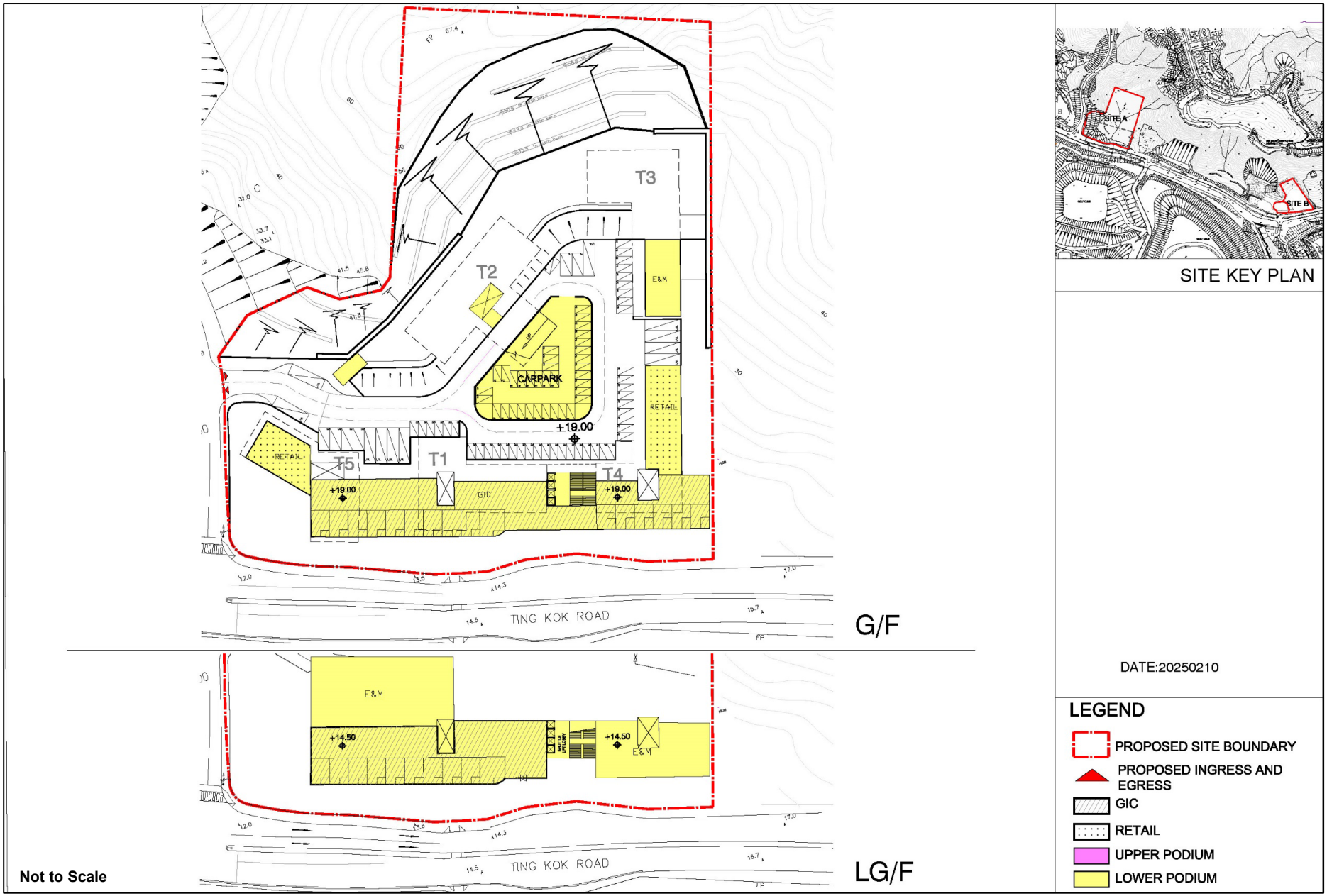


Figure 4.4: Schematic Plan for GIC at Site A

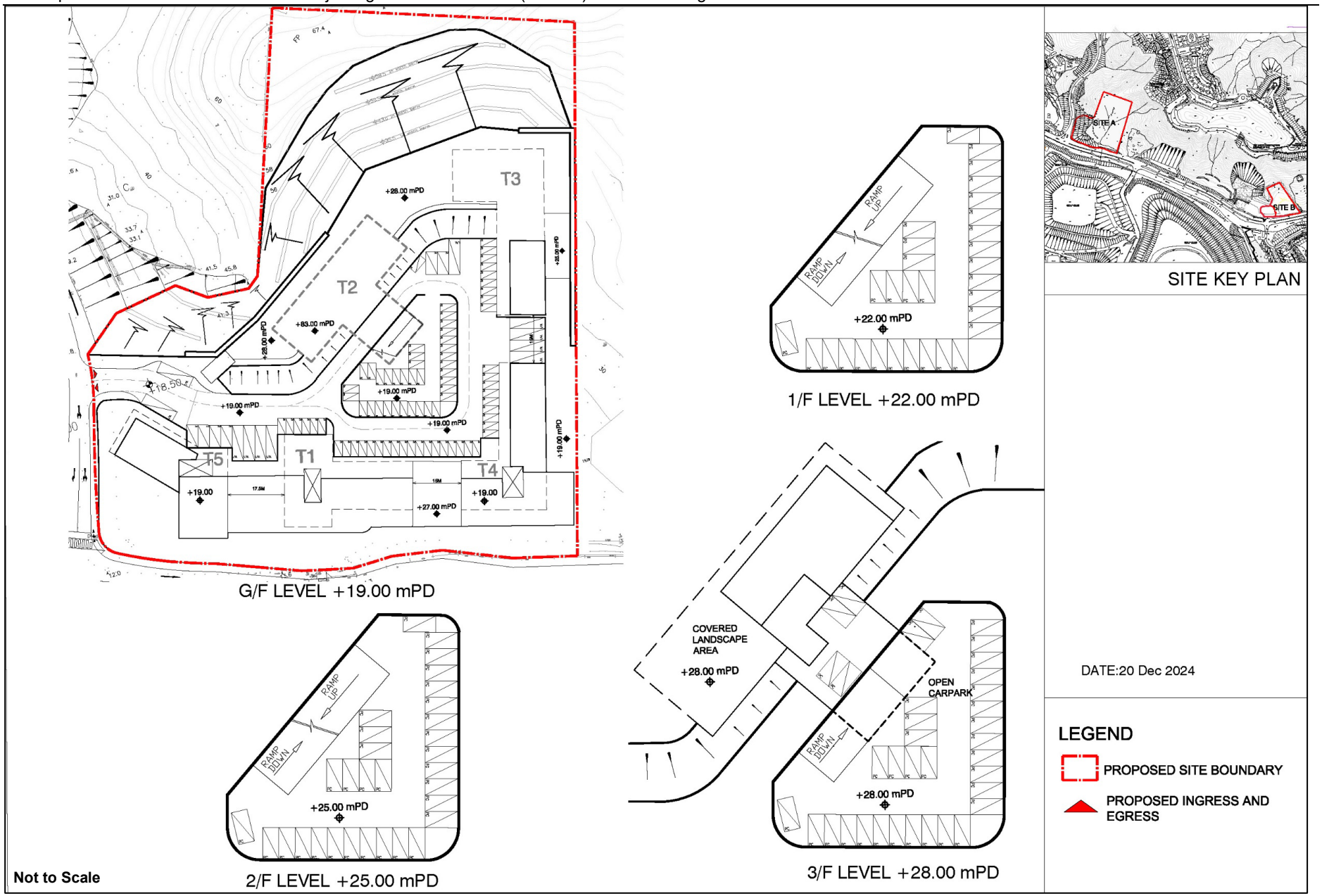


Figure 4.5: Schematic Plan for Podium Car Park at Site A

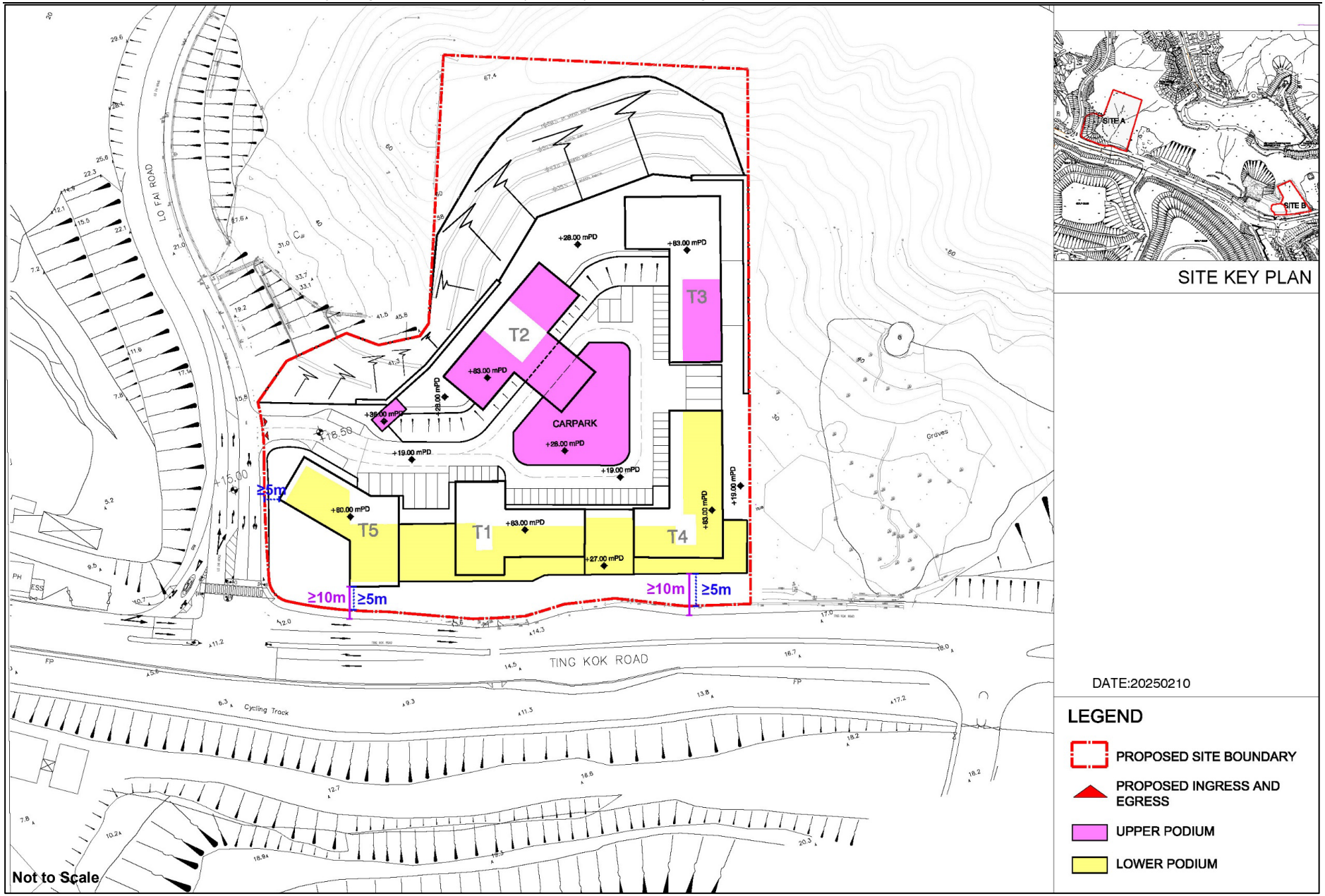


Figure 4.6: Schematic Plan for Podium in Different Levels at Site A

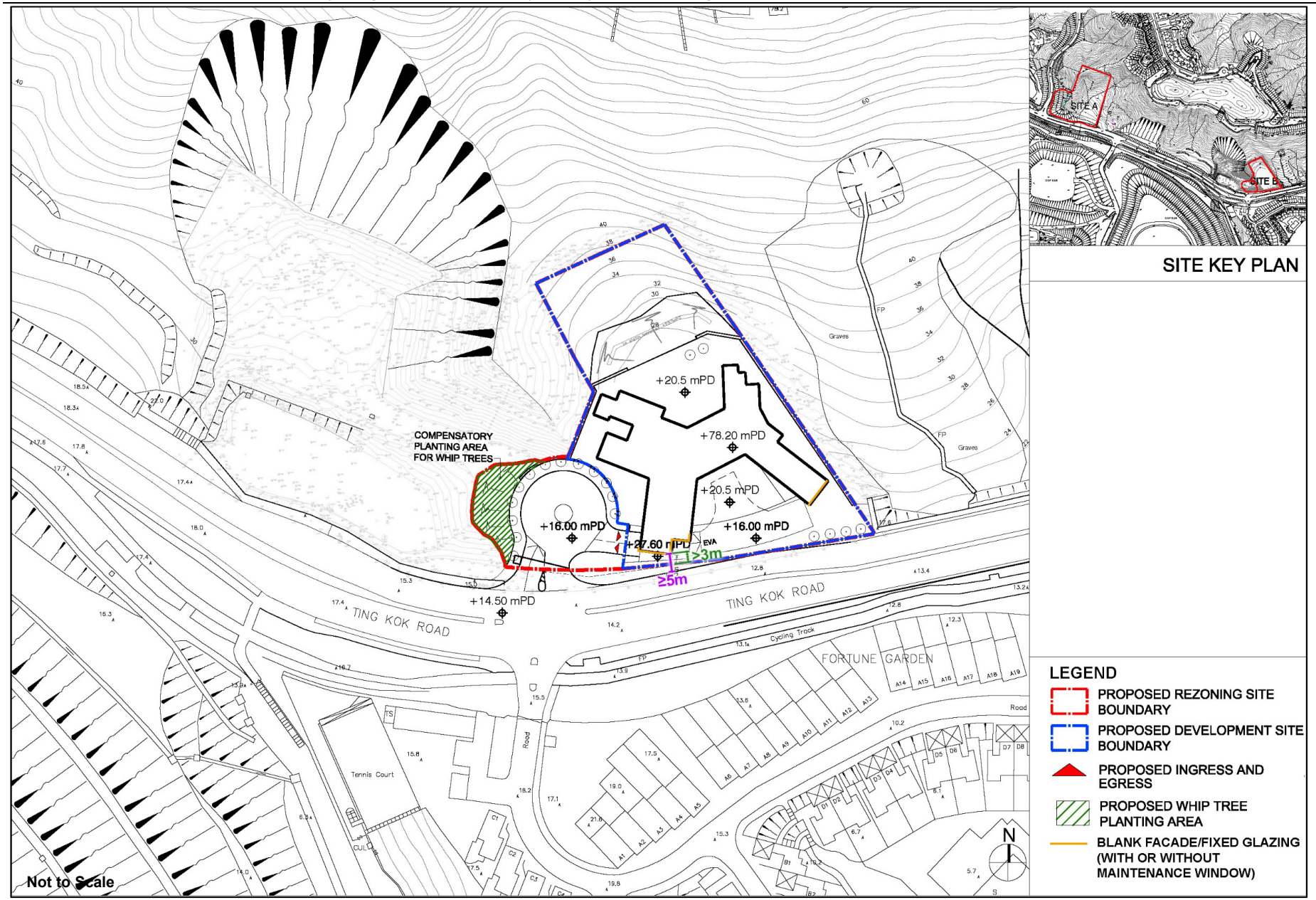
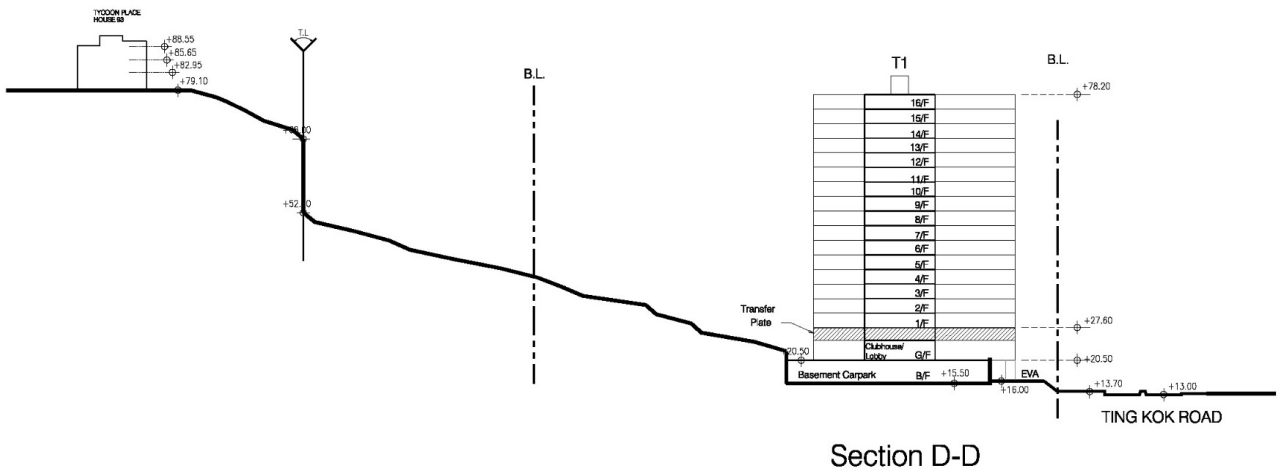
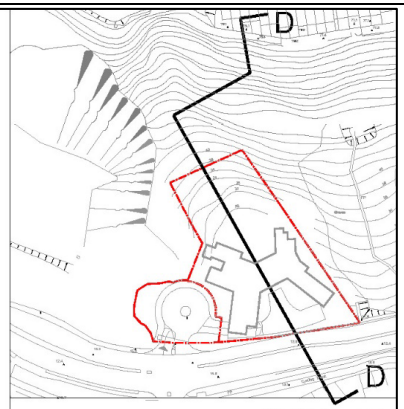


Figure 4.7: Schematic Master Layout Plan for Site B



Section D-D



KEY PLAN

DATE:20250210

Not to Scale

Figure 4.8: Schematic Section Plan for Site B (Section D-D)

4.2 Sensitive Design Measures

4.2.1 The proposed public residential housing / SH development at Site A has adopted a series of sensitive design measures as follows:

- The proposed max. BH (+83mPD) has made reference to the development platform level of the surrounding developments to the north/northeast of the Site. The development platform level of existing developments at the north of Site A is ranging from +83.5mPD to +93.5mPD (Casa Marina I) and the existing building height of +107mPD (Casa Marina I). This helps creating a descending height profile for the area.

- The proposed building tower set back of not less than 5 meters from the site boundary, not less than 5m along Lo Fai Road, and at least 10m setback from the kerbline of Ting Kok Road to minimise the adverse air quality impact onto the future residents.

- Adequate building separations of at least 15m between the residential towers are proposed to break down the visual mass of the proposed development and allow wind penetration.

- The podium bulk of the proposed development have been minimized for the provision of the proposed social welfare facilities and retail facilities.

- Landscape Area is proposed at the proposed setback area along Ting Kok Road to further retain the openness of the area. Detail design of the landscape area will be further determined in the planning and design stage to alleviate the anticipated impact by the proposed housing / SH development.

- No erection of building structures at southwestern corner of the Site to retain openness of the area.

- The Proposed Development in the Site is in compliance with Sustainable Building Design Guideline (APP-152).

- Open areas without building structures are proposed at the northern portion.

4.2.2 The proposed private residential development at Site B has adopted a series of sensitive design measures as follows:

- The proposed max. BH (+78.2mPD) has made reference to the development platform level of the surrounding developments to the north of the Site. The development platform level of existing developments in the north of Site B is at about +96.0mPD (Villa Lucca) and +83.4mPD (Tycoon Place) and the existing building height of +113.2mPD (Villa Lucca

and +91.8mPD (Tycoon Place). This helps creating a descending height profile for the area.

- The proposed building tower set back of not less than 3 meters from southern site boundary, and at least 5m setback from the kerbline of Ting Kok Road to minimise the adverse air quality impact onto the future residents.

- Car parking spaces at basement level are provided to reduce the overall building height as well as the podium bulk of the proposed development;

- Replanting of trees at the roadside will be proposed to alleviate the impact of tree removal under the proposed private residential housing.

- Retaining a portion of trees within Site B will be implemented to ensure certain visual access to greenery and alleviate the impact on tree removal under the proposed private residential development.

- The Proposed Development in the Site is in compliance with Sustainable Building Design Guideline (APP-152).

- The adoption of aesthetically pleasing building design in the Proposed Development will be further explored in detailed design stage.

- Open areas without building structures are proposed at the northern portion.

5. IDENTIFICATION OF VISUAL ELEMENTS AND PRELIMINARY ANALYSIS

5.1 Identification of Visual Envelope and Visual Sensitive Receivers

5.1.1 The Sites are located at a foothill of the low-to-medium development clusters served by Lo Fai Road. The Visual Envelope ("VE") or the zone of visual influence of the proposed residential developments is determined by the existing topography in the vicinity of the Site. As prescribed in the Town Planning Board Guidelines No. 41, size of proposed developments, the distance of the development and its potential visibility from selected viewing points, and the actual site and surrounding topographical conditions are considered as key factors on selecting VE. In a local context, most of the views to the proposed developments are substantially blocked by vegetation or topography. The users of the cycle track along Ting Kok Road are considered as the key Visual Sensitive Receivers (refer to **Figure 5.1**). In a wider context under the topographical character of the Sites, the assessment area covers the areas visible from the Sites in the east and south including Tolo Harbour, Sam Mun Tsai and promenades beyond Tolo Harbour. The existing topography at the north and northwest of the Sites obstructed the view to the Sites.

5.1.2 The VE covers the area where direct sight towards the proposed developments is available and the identified VSRs within the assessment area is presented in **Figure 5.1 and 5.2**. Since protecting private view is not the duty of the TPB, this VIA focuses primarily on public VSR only and no private VSR, such as residents of private development and users of developments with restricted/exclusive accesses (e.g. school and office, etc.) will not be identified

5.2 Selection of Visual Sensitive Viewpoints

5.2.1 Representative VPs within the VE were selected for assessing the visual impact to the VSRs. Selected VPs shall cover public views from easily accessible and popular area from different directions. When selecting VPs, priority shall be given to major public open space, public focal points, open spaces, existing/future pedestrian node, key pedestrian/vehicular corridor, and existing major vistas will be considered as major visual sensitive viewpoints. In this VIA, a total of twelve VPs are selected for further assessment on the visual impact of the proposed developments, which are summarized in **Table 5.1** and shown in **Figures 5.1 and 5.2**. While VP1 to VP4 are selected along Ting Kok Road with close-up views to the Sites, VP5 to VP12 are selected to cover views from different directions.

Table 5.1 Selected Visually Sensitive Viewpoints

Viewpoint ID	Description
VP1	Cycle Track near Tai Po East Fire Station
VP2	Cycle Track near the Entrance of Golf Course
VP3	Cycle Track near Tai Po Fortune Garden Bus Stop
VP4	Cycle Track near Fortune Garden
VP5	Pak Shek Kok Promenade
VP6	Shuen Wan Typhoon Shelter Breakwater
VP7	Ha Hang Village Sitting-out Area
VP8	Bus Terminus near The Education University of Hong Kong
VP9	Pedestrian Trail at the Knoll to the East of Site A
VP10	Pedestrian Trail at the Knoll to the Northwest of Site B
VP11	Tai Po Waterfront Promenade near the Public Pier
VP12	Tai Po Country Trail

VP1 – Cycle Track near Tai Po East Fire Station

5.2.2 The cycle track along Ting Kok Road is part of the New Territories Cycle Track Network. Connecting Tai Po New Town to Tai Mei Tuk with the length of about 7.15 km, this route is popular for families and cyclists due to lower difficulty and numerous recreational facilities in Tai Mei Tuk. This VP is taken at 190m away from the western boundary of Site A at the level of +7.5mPD near the entrance of Tai Po East Fire Station. It captures views of Tai Po East Fire Station and cycle track in the foreground and the western elevation of proposed development at Site A at the background. It also represents the view of proposed public residential housing / SH development at Site A from the west. The VSRs will mainly be cyclists and pedestrians along Ting Kok Road.

VP2 – Cycle Track near the Entrance of Golf Course

5.2.3 VP2 is taken at about 390m on the east of VP1. It is located near the entrance of the former Nine Eagle Golf Club just about 60m away to the southeast of Site A across Ting Kok Road. The golf courses and driving ranges is temporary closed

and anticipated to be reopened in the near future. The cycle track near the entrance of Golf Club is a vital access to Tai Mei Tuk, where the VP is taken at the level of approximately +18.7mPD. Southeast elevation of proposed public residential housing / SH development at Site A and Ting Kok Road are captured at the foreground. The VSRs of this VP will be the cyclists and pedestrians on Ting Kok Road, and the visitor of the golf course in the future.

VP3 – Cycle Track near Tai Po Fortune Garden Bus Stop

5.2.4 VP3 is taken at the pavement of about 140m to the west of Site B near a bus stop, for the buses and green minibuses from Tai Mei Tuk and Tai Po. Situated at the southwestern tip of Site B aligning Ting Kok Road with the level of approximately +19.3mPD, the cycle track is popular especially in weekends and public holidays. This VP captures views of Ting Kok Road, southwestern elevation of proposed development at Site B and vegetated greens. The VSRs of this VP will mainly be pedestrian and cyclists, and passengers waiting for public transport services at the bus stop.

VP4 – Cycle Track near Fortune Garden

5.2.5 This VP is taken at the cycle track of about 40m to the east of Site B, and about 250m on the east of VP3. The cycle track is located at the southeastern boundary of Site B aligning Ting Kok Road at approximately +14.7mPD. Fortune Garden is a low-rise development located near the southbound of Ting Kok Road. This VP captures views of eastern elevation of the proposed development in Site B and retaining wall adjoining Site B. It is selected to assess the potential visual impact of the VSRs – cyclists and pedestrians on Ting Kok Road.

VP5 – Pak Shek Kok Promenade

5.2.6 Pak Shek Kok Promenade is situated along the coastline of Pak Shek Kok with a length of about 2km. It is not only served as a regional passive open space for nearby residents and workers at HKSTP, but also a popular location for refreshments and resting for cyclists with a fascinating view of Tolo Harbour. This VP is taken at the Pak Shek Kok Promenade near Harbour View 1 of HKSTP at approximately +7.7mPD, which is about 4.2km away from to Site A and 3.8km away from Site B. It captures views of Tolo Harbour, ridgeline of Cloudy Hill, Ping Fung Shan and Wong Leng which are the natural visual resources. The Beverley Hills, Fortune Garden, Cement Works at Yu On Road and proposed developments at the Sites are captured in the foreground, while Tycoon Place, Villa Lucca, Mont Vert, Fu Tip Estate and Tai Po Industrial Estate are situated behind the foreground. The VP is selected to demonstrate the visual experience of the VSRs, the visitors of the Promenade from a distance.

VP6 – Shuen Wan Typhoon Shelter Breakwater

5.2.7 Sheun Wan Typhoon Shelter Breakwater is located at about 300m outside Sam Mun Tsai New Village, a local fishing village which is popular sail out spot for fishing activities. With the distance of 2.1 km from Site A and 1.6 km from Site B, this VP is taken at the edge of breakwater at the Typhoon Shelter, which captures view of the residential developments including The Beverley Hill, Cement Works in Yu On Road, Fortune Garden, proposed developments at the Sites in the foreground. Villa Lucca, with its development platform at level of +83.4mPD, and the ridgeline of Cloudy Hill are captured at the background. The VSRs of this VP will be the general public such as visitors of the village.

VP7 – Ha Hang Village Sitting-out Area

5.2.8 Ha Hang Village Sitting-out Area is situated at the Ha Hang Village along Ting Kok Road with the distance of about 620m to the west of Site A. It is a local public open space with the provision of play equipment, sitting facilities and amenity planting for the enjoyment of the public. With the level of about +4.9mPD, this VP captures the view of the ample greenery at the Sitting-out Area, Ting Kok Road and the industrial building at Tai Po Industrial Estate. The VSRs of this VP will be the general public such as the visitor of the Sitting-out Area.

VP8 – Bus Terminus near The Education University of Hong Kong

5.2.9 This VP is taken at the bus terminus near the entrance of The Education University of Hong Kong with the distance of about 390m to the north of Site A and 845m to the northwest of Site B. With the level of about +59.7mPD, the bus terminus is the only public transport facility in the neighbourhood with the provision of bus and GMB services to Tai Po. This VP captures the view of the bus terminus with amenity planting, and the low-rise residential development namely Forest Hill. It is selected to assess the potential visual impact of the VSRs – passengers waiting for public transport services at the bus terminus.

VP9 – Pedestrian Trail at the Knoll to the East of Site A

5.2.10 It is noted that a pedestrian trail is situated above the vegetated knoll to the immediate south of Villa Lucca. Due to the close distance from the Sites to the pedestrian trail, VP11 and VP12 have been taken to assess the visual impact of the Site from the trail. This VP is taken at a spot between the Villa Lucca and Casa Marina I to the east of Site A with the distance of about 130m. With the level of about +94.4mPD, This VP captured the view of lush greenery at the knoll and houses of Casa Marina I. The VP is selected to demonstrate the visual experience of the VSRs – the pedestrian at the trail.

VP10 – Pedestrian Trail at the Knoll to the Northwest of Site B

5.2.11 Similar with VP9, this VP is taken at a spot on the pedestrian trail to the northwest of Site B with the distance of about 230m. As the eastern portion of the trail is not opened to the public, the location of this VP is considered nearest to the Site B. With the level of about +89.6mPD, this VP captured the view of greenery at the knoll and the open sky view. The potential VSRs of this VP will be pedestrian at the trail.

VP11 – Tai Po Waterfront Promenade near the Public Pier

5.2.12 Tai Po Waterfront Park is a regional open space at the Tai Po New Town along the coastline of Tolo Harbour. This VP is taken at the Tai Po Waterfront Promenade near the Public Pier to the immediate east of Tai Po Waterfront Park with the distance of about 1.1km to Site A and Site B. With the level of about +5.0mPD, the VP captured view of lush greenery and the sea wall at the golf course, and the open sky view. The promenade is popular to the public for both active and passive recreational activities including jogging, fishing and cycling. The potential VSRs of this VP will be the visitors at the promenade.

VP12 – Tai Po Country Trail

5.2.13 Tai Po Country Trail is a local hiking trail connects Sha Lo Tung to Cloudy Hill, which the latter is one of the major hills in the New Territories North East Region with the top level of about +439.7mPD. This VP is taken at a spot along the hiking trail with the height level of about +292.3mPD. Situated to the northwest of the Sites with the distance of about 2.4km to Site A and 3.0km to Site B respectively, the VP captured an opened view to the greenery at Sha Lo Tung, Tolo Harbour, Tai Po Industry Estate at the foreground, and Ma On Shan New Town, the ridgeline at Ma On Shan and the ridgeline of Luk Shan at Tai Po Kau in the backdrop. It is selected to assess the potential visual impact of the VSRs – hikers at the hiking trail.

5.3 Section Summary

5.3.1 The VIA evaluates the degree of visual impact of the proposed developments at the Sites that will be created to its surroundings and VSRs, especially at the VPs identified. **Table 5.2** outlines the details of the VPs and provides with preliminary analysis including the nature of the VSRs, the quality of existing view, the frequency of use and popularity of the spot.

5.3.2 The visual impacts of the public VSRs from the selected twelve VPs will be assessed in detail in **Section 6**.

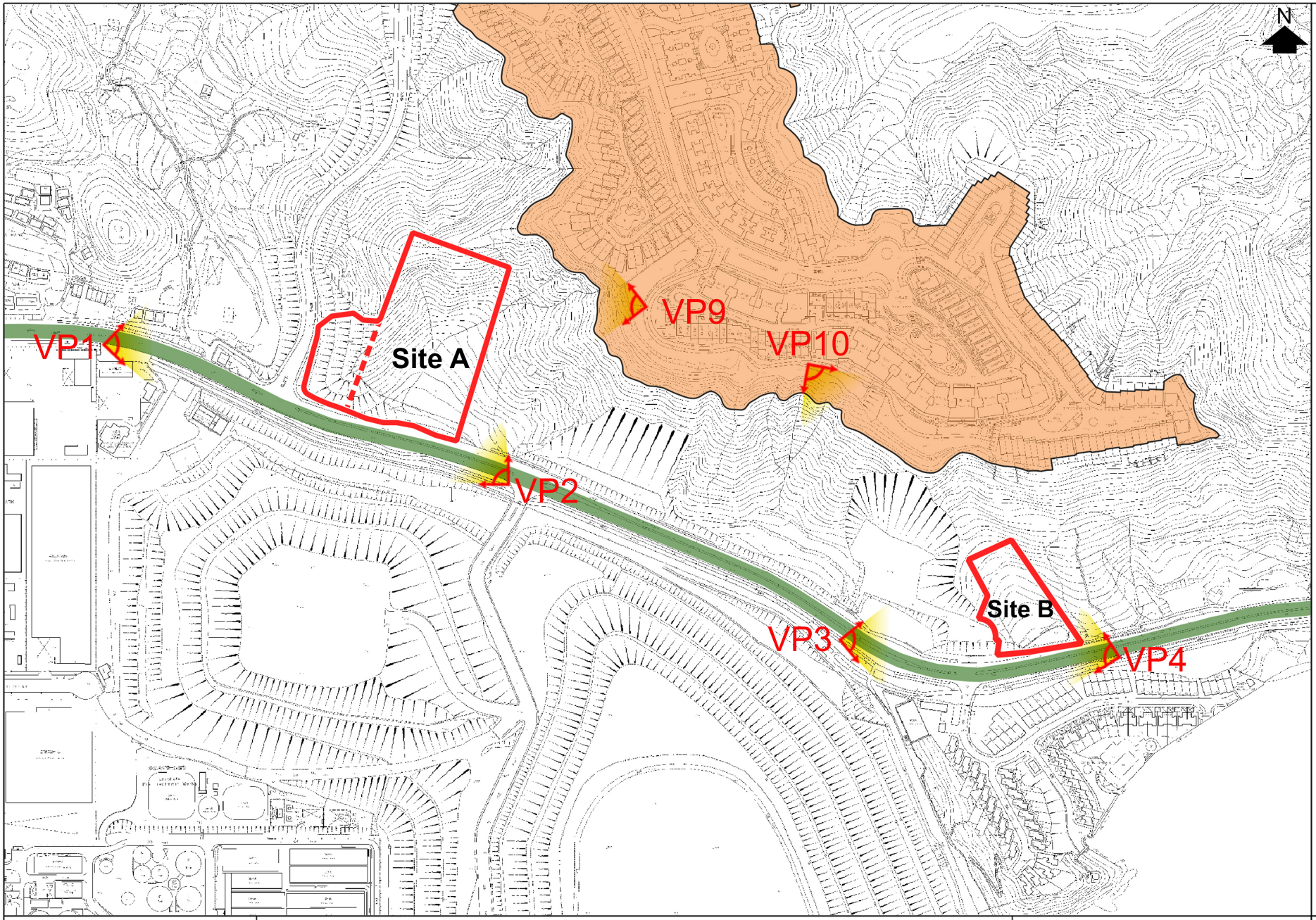
Table 5.2 Summary of Identified Visually Sensitive Viewpoints

Viewpoints (VPs)	Distance/ Direction	Height in mPD (Approx.)	Visually Sensitive Receivers	Popularity by Public	Nature of VP	Visual Sensitivity [13]	Visual Quality [14]
VP1: Cycle Track near Tai Po East Fire Station	Approx. 190m to the West of Site A	+7.5	Cyclists/ General public	Frequent in Holidays	Transient and active recreation	Medium	Fair
VP2: Cycle Track near the Entrance of Golf Course	Approx. 60m to the Southeast of Site A	+18.7	Cyclists/ General public/ visitor of the golf course	Frequent in Holidays	Transient and active recreation	Medium	Fair
VP3: Cycle Track near Tai Po Fortune Garden Bus Stop	Approx. 140m to the Southwest of Site B	+19.3	Bus passenger/ Cyclist/ General public	Frequent in Holidays	Transient and active recreation	Medium	Fair
VP4: Cycle Track near Fortune Garden	Approx. 40m to East of Site B	+14.7	Cyclists/ General public	Frequent in Holidays	Transient and active recreation	Medium	Fair
VP5: Pak Shek Kok Promenade	Approx. 3.8km from Site B and 4.2km from Site A to the Southeast	+7.7	Cyclists/ General public	Frequent	Passive and active recreation	Medium to High	Good
VP6: Shuen Wan Typhoon Shelter Breakwater	Approx. 1.6km from Site B and 2.1km from Site A to the Southeast	+6.5	General public	Occasional	Pedestrian	Medium to High	Fair
VP7: Ha Hang Village Sitting-out Area	Approx. 620m to the West of Site A	+4.9	Visitor of the Sitting-out Area	Occasional	Passive and leisure activities	Medium to High	Fair
VP8: Bus Terminus near The Education University of Hong Kong	Approx. 390m to the North of Site A and 845m to the Northwest of Site B	+59.7	Bus and GMB Passengers	Frequent	Transient	Medium	Fair

[13] Visual sensitivity is determined by the types of activities the VSRs are engaging in and the duration and distance over which the proposed development would remain visible. For example, people engaging in active recreational activities such as playing basketball or football at the VP are less sensitive to visual change than passive recreational activities.

[14] Visual quality is assessed based on the openness and permeability of the view as well as the visibility of visual resources including prominent ridgelines, the harbour, natural coastlines, open sea horizon, skyline, scenic areas, valued landscape, special landmark, heritage features to be preserved.

Viewpoints (VPs)	Distance/ Direction	Height in mPD (Approx.)	Visually Sensitive Receivers	Popularity by Public	Nature of VP	Visual Sensitivity [13]	Visual Quality [14]
VP9: Pedestrian Trail at the Knoll to the East of Site A	Approx. 130m to the East of Site A	+94.4	Pedestrian	Occasional	Transient and passive recreation	Medium to High	Fair
VP10: Pedestrian Trail at the Knoll to the Northwest of Site B	Approx. 230m to the Northwest of Site B	+89.6	Pedestrian	Occasional	Transient and passive recreation	Medium to High	Good
VP11: Tai Po Waterfront Promenade near the Public Pier	Approx. 1.1km to the South and Southwest of Site A and Site B respectively	+5.0	Visitor of the Pier and Tai Po Waterfront Park	Frequent	Active and passive activities	Medium to High	Good
VP12: Tai Po Country Trail	Approx. 2.4km to the northwest of Site A and Approx. 3.0km to the northwest of Site B	+292.3	Hikers	Occasional	Active and passive activities	Medium to High	Good



Legend

- Site Boundary
- Level above +78mPD
- Cycle Track

VP1 - Cycle Track near Tai Po East Fire Station

VP2 - Cycle Track near the Entrance of golf course

VP3 - Cycle Track near Tai Po Fortune Garden Bus Stop

VP4 - Cycle Track near Fortune Garden

VP9 - Pedestrian Trail at the Knoll to the East of Site A

VP10 - Pedestrian Trail at the Knoll to the Northwest of Site B

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Location of Close-up Viewpoints

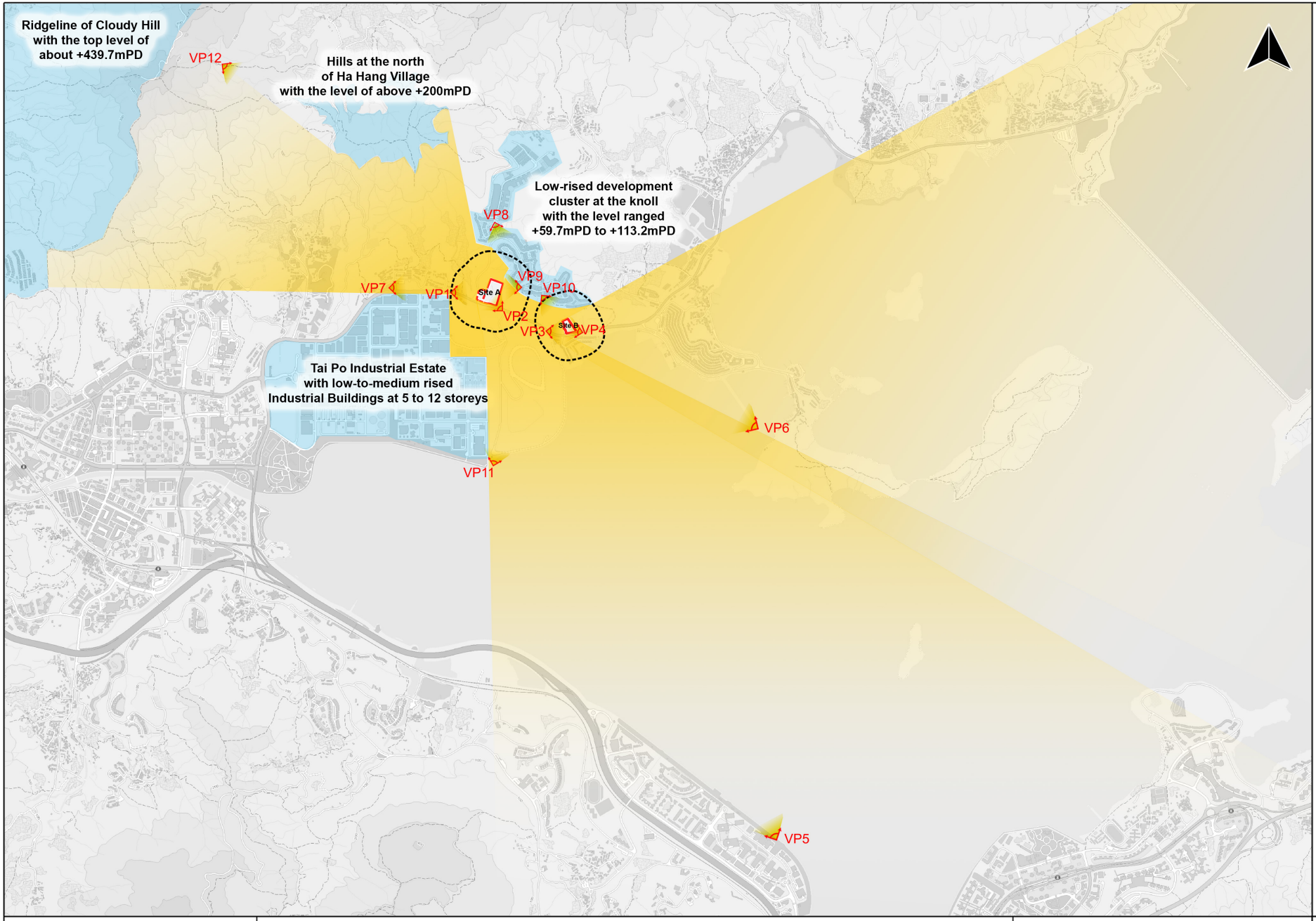
Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Visual Impact Assessment

Figure 5.1

Scale: 1:1,000 (A3)

Date: 2 January 2025



Legend

- The Site
- Assessment Area
- 3H Area

VP1 - Cycle Track near Tai Po East Fire Station

VP2 - Cycle Track near the entrance of golf course

VP3 - Cycle Track near Tai Po Fortune Garden Bus Stop

VP4 - Cycle Track near Fortune Garden

VP5 - Pak Shek Kok Promenade

VP6 - Shuen Wan Typhoon Shelter Breakwater

VP7 - Ha Hang Village Sitting-out Area

VP8 - Bus Terminus near The Education University of Hong Kong

VP9 - Pedestrian Trail at the Knoll to the East of Site A

VP10 - Pedestrian Trail at the Knoll to the Northwest of Site B

VP11 - Tai Po Waterfront Promenade near the Public Pier

VP12 - Tai Po Country Trail

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Visual Envelope in the Surrounding Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Visual Impact Assessment

Figure 5.2

Scale: 1:25,000 (A3)

Date: 2 January 2025

6 ASSESSMENT OF VISUAL IMPACTS

6.1 General

6.1.1 The primary objective of this VIA is for evaluating the visual impact of the proposed development in the Sites. The assessment will focus on the visual composition, visual openness, effects of the proposed developments to the VSRs and visual resources in the selected VPs.

6.2 VP1 – Cycle Track near Tai Po East Fire Station (Figure 6.1 refers)

Visual Composition

6.2.1 When viewing from this close-up VP at the cycle track near the entrance of the Tai Po East Fire Station to the west of Site A, the view comprises the Tai Po East Fire Station, Ting Kok Road with cycle track and the pumping house in the foreground. Western elevation of the proposed public residential housing / SH development at Site A will become a new visual element to this VP at the background. It is observed that the proposed development in Site A will change the visual composition of this VP by adding new building structure at some distance. The existing tree canopy on the west bound of Lo Fai Road would screen off the lower part of proposed development at Site A.

Visual Obstruction

6.2.2 As illustrated in **Figure 6.1**, the higher level of the proposed public residential housing / SH development at Site A are visible above the existing tree canopy. While the visual access to the sky over Ting Kok Road will be largely retained, it is inevitably that part of the open sky view will be visually obstructed by the proposed building mass. With the height of +83mPD, the proposed development in Site A will therefore partially affect the visual openness of the area.

Effect on Public Viewers

6.2.3 This VP situated along the cycle track connecting Tai Po New Town to Tai Mei Tuk. The VSRs i.e. cyclists will only have a glimpse on the western elevation of proposed development at Site A when heading down to cycle track. Visual sensitivity of VSR at this VP is therefore considered to be medium. Upon the completion of the proposed development in Site A, it is inevitably that the effects of visual changes on public viewers from this viewpoint is considered as moderately adverse. In order to further alleviate the visual effect on the VSRs, the proposed development at Site A adopts sensitive design measures on enhancing building permeability such as proposed building façade length of not exceeding 60m and proposed building separation of not less than 15m between towers[15].

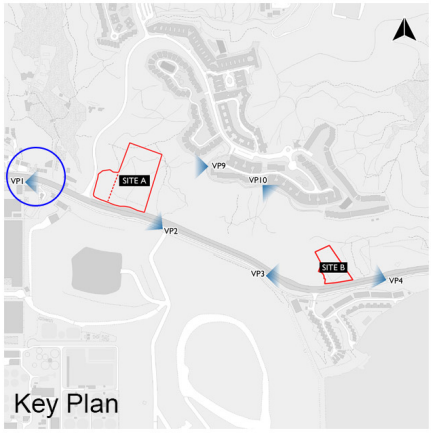
[15] Please refer to Sustainable Building Design Guidelines (ref. APP-152) by Buildings Department, paragraph 3(b)

Effect of Visual Resources

6.2.4 The existing trees at the foreground and the sky are major visual resources at this VP. It is anticipated that certain level of degradation on visual resources will be foreseen from the proposed public residential housing / SH development due to the obstruction of the sky.

Existing Condition

Photomontage of Proposed Public Residential Housing / SH Development



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Viewpoint 1 – Cycle Track near Tai Po East Fire Station

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.1

Visual Impact Assessment

Date: 2 January 2025

6.3 VP2 – Cycle Track near the Entrance of golf course (Figure 6.2 refers)

Visual Composition

6.3.1 Refer to **Figure 6.2**, this is another close-up VP taken at the carriageway and cycle track on Ting Kok Road towards Site A. It has an open view towards the existing vegetated slope in Site A in the foreground, and ridgeline of Cloudy Hill at the background. The proposed public residential housing / SH development will dominate most of the view at the foreground. Proposed landscape area along site boundary at Ting Kok Road would help contribute the existing greenery along the carriageway. Hence, to maintain the existing visual character of Ting Kok Road.

Visual Obstruction

6.3.2 It is inevitable that open sky view is intercepted by the proposed public residential housing / SH development at Site A and will lead to a certain loss of greenery. Proposed development at Site A will also block the view towards the greenery along Lo Fai Road. Yet, the openness of Ting Kok Road could be partially retained due to the proposed building block setback of not less than 5m from the southern site boundary along Ting Kok Road, and minimum 10m of building setback from the kerbside of Ting Kok Road. The views towards the ridgeline of Cloudy Hill will be largely remained due to the proposed building setback from the Ting Kok Road. Both greenery at the foreground and at the backdrop will be maintained. The visual openness at this VP will be obstructed by proposed development at Site A to large extent.

Effect on Public Viewers

6.3.3 VP2 only represents a section of view along the entire cycle track along Ting Kok Road connecting Tai Po New Town and Tai Mei Tuk, where the major VSRs i.e. cyclists would only have a glimpse on the proposed development at Site A before heading down to the cycle track. The potential VSRs of this VP are cyclists and the visitor of the golf course. Therefore, the visual sensitivity of this VP is considered as medium. Nevertheless, the proposed development at Site A is anticipated to be a new major visual element when viewing from the VP and it is inevitable that there will be significant visual change to this VP. Though the setback from Ting Kok Road and the proposed landscape area could help to reduce the visual impact to close-up VSRs to some extent, sensitive building façade design and design of landscape area could be considered in the detail design stage to reduce the visual bulk of the development.

Effect of Visual Resources

6.3.4 The ridgeline of Cloudy Hill, the sky view and existing greenery at the foreground and the backdrop are the visual resources of this VP. Visual access towards the ridgeline of Cloudy Hill is maintained under the proposed minimum 10m building

setback from curbside of Ting Kok Road. Although some greenery at the foreground will be retained, the proposed public residential housing / SH development at Site A will indeed lead to loss of access to greenery at the northbound of Ting Kok Road. Sensitive design measure and detail design on the landscape area will be explored in the detail planning and design stage to compensate the loss of greenery along Ting Kok Road.

Existing Condition

Photomontage of Proposed Public Residential Housing / SH Development

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Viewpoint 2 – Cycle Track near Entrance of Golf Course

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.2

Visual Impact Assessment

Date: 6 February 2025

6.4 VP3 – Cycle Track near Tai Po Fortune Garden Bus Stop (Figure 6.3 refers)

Visual Composition

6.4.1 VP3 is considered as a close-up viewpoint to the southwest of Site B taken at a spot on the cycle track along Ting Kok Road near Tai Po Fortune Garden Bus Stop. It captures views of Ting Kok Road with existing trees / greenery at the foreground, while the upper floors of the proposed development at Site B would be viewed over the tree crowns (**Figure 6.3** refers). Despite the lower portion of the proposed building mass will be screened off by existing greenery, the proposed development at Site B will still be a new visual component on Ting Kok Road.

Visual Obstruction

6.4.2 According to the **Figure 6.3**, the proposed private residential development at Site B could be viewed above the existing tree canopy. It is inevitable that the open view to the sky will be partially blocked by the proposed building mass. Hence, the visual openness from this VP will be affected. Nevertheless, the visual access to the sky over the tree canopies along other sections of Ting Kok Road will not be affected. With the proposed building tower setback of not less than 5m from the southern site boundary fronting Ting Kok Road, this will help maintain the visual openness to the sky to some extent.

Effect on Public Viewers

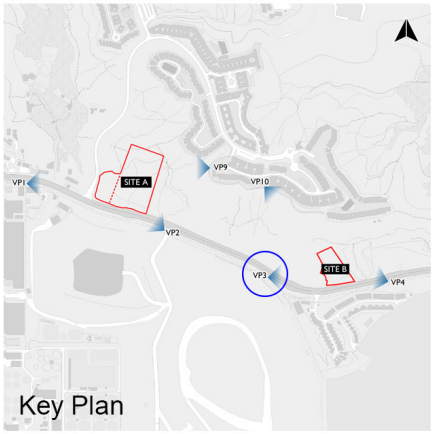
6.4.3 This VP represents VSRs, including cyclists on Ting Kok Road and passengers waiting bus services at the bus stop. VSRs will only have a transient view on the proposed development while the proposed building mass are largely covered by the existing lush greenery along Ting Kok Road. The proposed development at Site B will deliver moderate changes to the VSRs in visual terms.

Effect of Visual Resources

6.4.4 **Figure 6.3** illustrates that the rich greenery along Ting Kok Road and the open view to the sky are considered as key visual resources at this VP. The existing trees and greenery will not be affected by the proposed private residential development at Site B. With the slight obstruction to the sky view, the proposed development at Site B will only lead to some degradation on the visual resources i.e. open view to the sky.

Existing Condition

Photomontage of Proposed Private Residential Development



KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 3 – Cycle Track near Tai Po Fortune Garden Bus Stop	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 6.3
		Visual Impact Assessment	Date: 2 January 2025

6.5 VP4 – Cycle Track near Fortune Garden (Figure 6.4 refers)

Visual Composition

6.5.1 VP4 is considered as a close-up viewpoint to the southeast of Site B taken at a spot on the cycle track near Fortune Garden along Ting Kok Road. It captured views of cycle track, Ting Kok Road and existing greenery in Site B at the foreground. The eastern elevation of proposed private residential development in Site B will become new visual elements dominating the views of this VP in the foreground. Trees will be planted along the site boundary facing Ting Kok Road to maintain the green character of Ting Kok Road.

Visual Obstruction

6.5.2 The proposed private residential development at Site B will lead to loss of visual openness by obstruction of the sky, and loss of visual access to existing vegetation. The proposed building setback of not less than 3m from the southern site boundary along Ting Kok Road and not less than 5m from the kerbline of Ting Kok Road will allow some open-air space to maintain the permeability of Ting Kok Road.

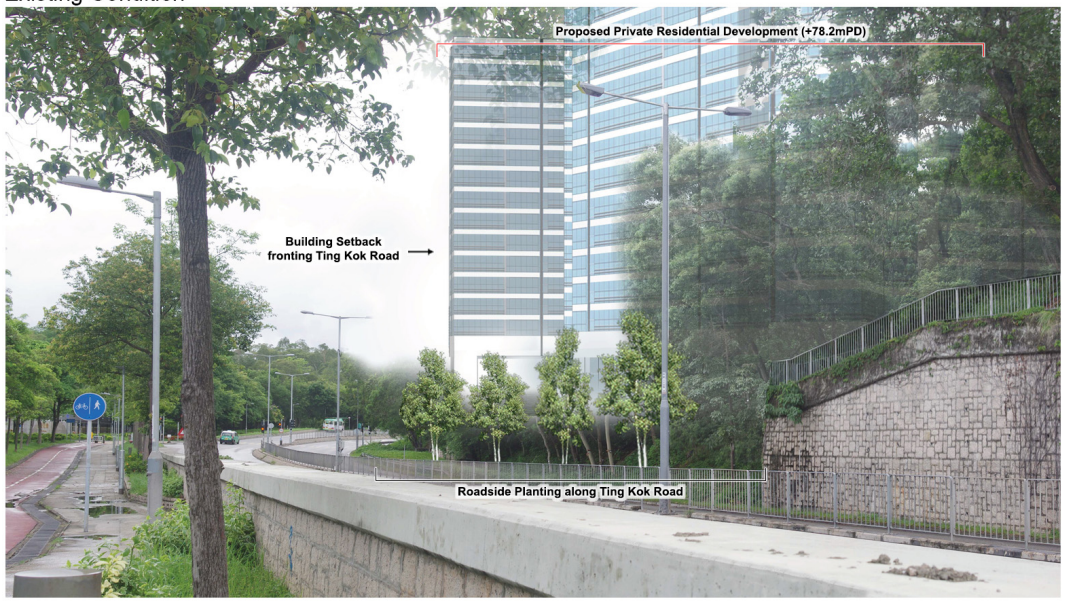
Effect on Public Viewers

6.5.3 This VP represents view of cyclists on Ting Kok Road towards Site B. It is only one of the snapshot views cyclists could see along cycling track. Given the cyclists, whom are the major VSRs of this VP, will only have a glance on the proposed development at Site B. Due to the nature of their activity, the visual sensitivity would be medium. Proposed development at Site B will bring visual changes to VSRs at this VP moderately. Nevertheless, the provision of tree plantings along the boundary will maintain visible greenery along Ting Kok Road and alleviate the effect of changes to VSRs.

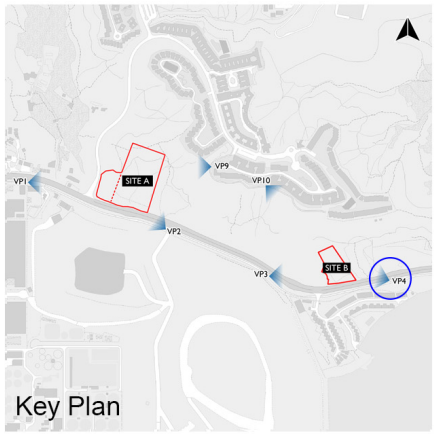
Effect of Visual Resources

6.5.4 The existing greenery along Ting Kok Road can be seen as the key visual resources of this VP. The proposed private residential development will replace most of the existing vegetation at Site B. Replanting of trees along the site boundary along Ting Kok Road would help mitigate the loss of greenery.

Existing Condition



Photomontage of Proposed Private Residential Development



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Viewpoint 4 – Cycle Track near Fortune Garden

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.4

Visual Impact Assessment

Date: 2 January 2025

6.6 VP5 – Pak Shek Kok Promenade (Figure 6.5 refers)

Visual Composition

6.6.1 This VP is a distant viewpoint taken at the Pak Shek Kok Promenade capturing the scenic view of Tolo Harbour. It also captured the distant view of Tai Po New Town and the transition to the fringe area and the rural area near Tai Mei Tuk. The continuous ridgeline of Cloudy Hill, Ping Fung Shan and Wong Leng are captured at the background. Despite the proposed developments at Site A & Site B will become new visual features to this VP and replace part of the greenery at the backdrop, they will replace part of the greenery at the Sites. The building height of the proposed developments is limited to 78.2mPD to 83mPD and will make up a stepped building form together with existing developments on Lo Fai Road in the fringe area of Tai Po New Town including Villa Lucca, Tycoon Place, Fortune Garden etc.. The visual composition of VP5 will be largely unchanged.

Visual Obstruction

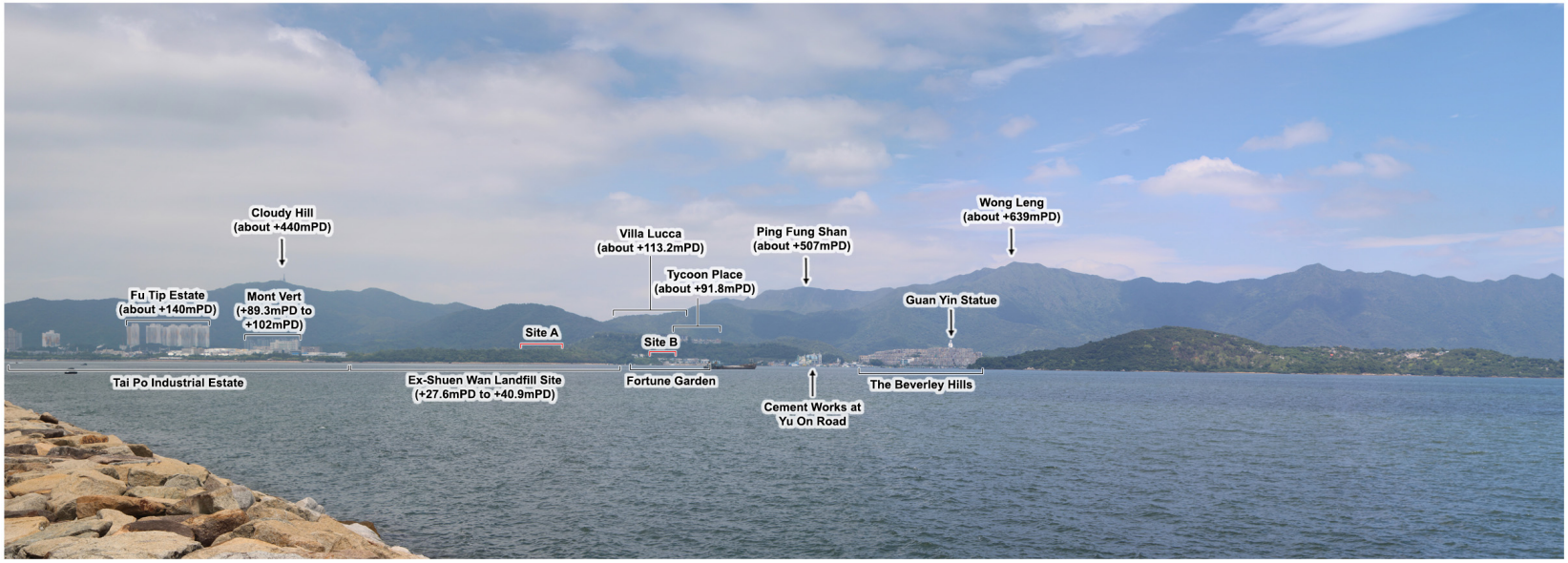
6.6.2 As illustrated in **Figure 6.5**, the proposed developments neither cause any obstruction to the ridgelines nor the view to the open sky at the background. Only a minor portion of existing greenery at the north of the Sites will be intercepted.

Effect on Public Viewers

6.6.3 The distance of the Sites from this VP is identified (i.e. about 4.2km to Site A, about 3.8km to Site B). VSRs are mostly the general public who engage in passive recreational activities at the promenade with a nice scenic view. Hence, their visual sensitivity will be medium to high. The promenade also forms part of the New Territories Cycle Track Network by connecting Tai Po to Sha Tin. The proposed BH of the Sites (i.e. +83mPD for Site A, +78.2mPD for Site B) were sensitively devised with reference made to adjoining developments uphill including Villa Lucca (i.e. +113.2mPD) and Tycoon Place (i.e. +91.8mPD). Such BH will be coherent with the development profile in the fringe area of Tai Po New Town. Proposed developments are considered not incongruous to the surroundings context. Therefore, the effect of visual changes from this VP is minimal.

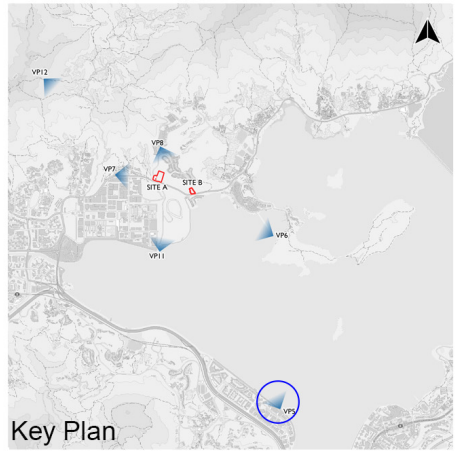
Effect of Visual Resources

6.6.4 Tolo Harbour, ridgelines at the background and the coastline are the major visual resources at this VP. The proposed developments at the Sites are not incongruous to the visual character of urban fringe setting of Tai Po New Town without creating blockage to key visual resources. Therefore, proposed developments at the Sites will not degrade the visual resources, condition and quality of this VP.



Existing Condition

Photomontage of Proposed Developments



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Viewpoint 5 – Pak Shek Kok Promenade

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Visual Impact Assessment

Figure 6.5

Date: 2 January 2025

6.7 VP6 – Shuen Wan Typhoon Shelter Breakwater (Figure 6.6 refers)

Visual Composition

6.7.1 This VP is taken at about 1.6km to 2.1km to the southeast of the Sites which capturing the view of Shuen Wan Typhoon Shelter. The Beverley Hill, cement works in Yu On Road and Fortune Garden are captured at the foreground while the ridgelines of Tai To Yan, Pak Tai To Yan and Cloudy Hill, and Tai Po New Town are captured as the backdrop. Proposed development at Site B would stand in front of proposed development at Site A, and they will become new building features when viewing from this VP. Proposed developments at Site A & Site B visually extend the development cluster at Lo Fai Road to the foothill and a clear stepped building height profile will be formed. They will mix into surroundings as one of the scattered developments in the fringe of the Tai Po New Town.

Visual Obstruction

6.7.2 As refer to **Figure 6.6**, the proposed development at the Sites will only create minor obstruction to the greenery behind the Sites. Nevertheless, no visual obstruction to the ridgelines, coastlines and sky view by the proposed development at the Sites are observed.

Effect on Public Viewers

6.7.3 The VP is located at the breakwater which will only be accessed by the public occasionally. VSRs will mostly be joggers and anglers on the breakwater. It also represents the view of general public and users of Shuen Wan Typhoon Shelter sailing away from the Sam Mun Tsai. By observation, only minor changes to visual composition with minimal impacts will be made by the proposed development. Proposed developments with maximum building height of +83mPD and +78.2mPD at Site A & Site B will complete a descending height profile from Villa Lucca at 113.2mPD to about 40mPD at the Shuen Wan Landfill Site and the Fortune Garden at the shoreline of Tolo Harbour. Hence, the proposed developments will not be incompatible with the surrounding contexts and a slight impact on the visual changes to public viewers will be resulted.

Effect of Visual Resources

6.7.4 The proposed developments at the Sites will not affect visual access to key visual resources such as ridgelines and tranquil view of the Typhoon Shelter. Furthermore, the proposed development will not create significant impact to the overall visual quality. The proposed developments at the Sites will neither affect visual resources nor degrade the visual condition of this VP.

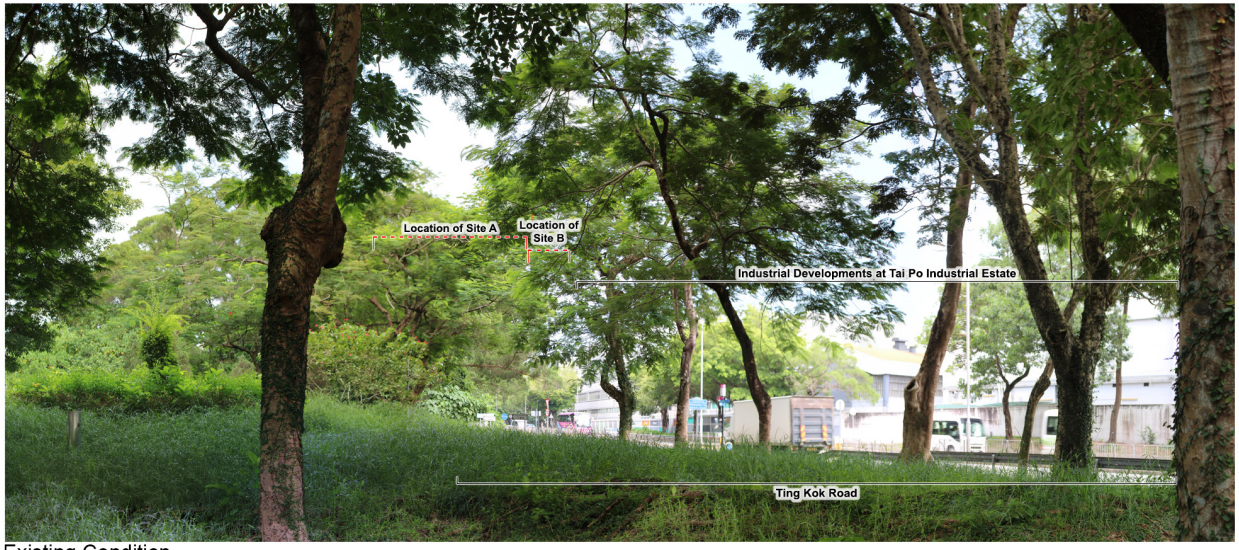
Existing Condition

Photomontage of Proposed Developments

KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 6 – Shuen Wan Typhoon Shelter Breakwater	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 6.6
		Visual Impact Assessment	Date: 2 January 2025

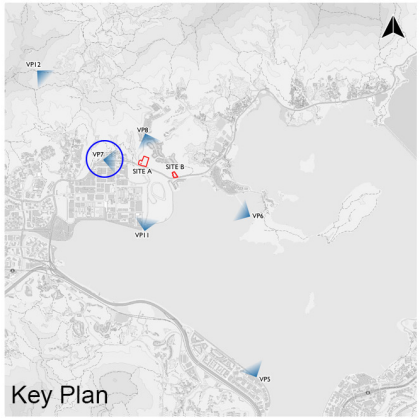
6.8 VP7 – Ha Hang Village Sitting-out Area (Figure 6.7 refers)

6.8.1 This VP is taken at Ha Hang Village Sitting-out Area to the west of Site A with the distance of about 620m. As shown in the photomontages in **Figure 6.7**, the view of ample greenery of the sitting-out area is dominated at the foreground while Ting Kok Road and industrial developments at Tai Po Industrial Estate are situated behind the greenery. The view towards both Site A and Site B are totally screened off by the trees and greenery in the sitting-out area. The proposed developments at Site A and Site B are +83mPD and +78.2mPD respectively would not be visible at this viewpoint. Hence, there will be no impact on visual composition, visual obstruction, effect on public viewers and effects visual resources aspects.



Existing Condition

Photomontage of Proposed Developments



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Viewpoint 7 – Ha Hang Village Sitting-out Area

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.7

Visual Impact Assessment

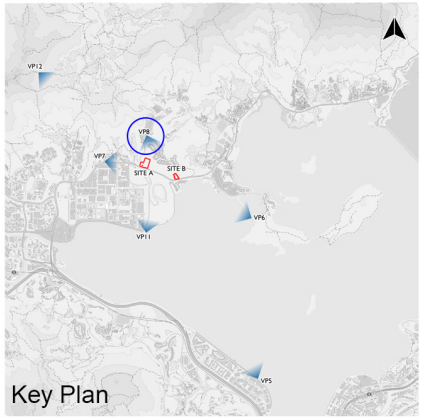
Date: 2 January 2025

6.9 VP8 – Bus Terminus near The Education University of Hong Kong (Figure 6.8 refers)

6.9.1 In the photomontage shown in **Figure 6.8**, this VP captures the view of bus terminus and amenity plantings at the foreground. The trees at the roadside and the upper portion of low-rise residential developments at Forest Hill and the open sky view are at the background. Since the proposed developments at the Sites are not visible from this VP, there will be no impact on visual composition, visual obstruction, effect on public viewers and effects visual resources aspects.

Existing Condition

Photomontage of Proposed Developments



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Viewpoint 8 – Bus Terminus near The Education University of Hong Kong

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.8

Visual Impact Assessment

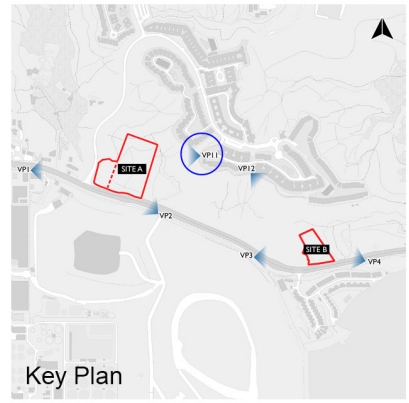
Date: 2 January 2025

6.10 VP9 – Pedestrian Trail at the Knoll to the East of Site A (Figure 6.9 refers)

6.10.1 This VP is taken at the pedestrian trail at the knoll to the east of Site A with the distance of about 130m. With the level of about +94.4mPD, it is selected as a close-up VP to access the visual impact of the Site A from the pedestrian trail. The photomontage in **Figure 6.9** illustrated the dominated view of trees and lush greenery at the knoll to the east of Site A. Low-rise residential development at Casa Marina I are also shown in the photomontage. The proposed development at Site A with maximum building height of 83mPD will be at a lower level than the trail and will be completely screened off by the tree plantings in the foreground. Therefore, there will be no impact on visual composition, visual obstruction, effect on public viewers and effects visual resources aspects.

Existing Condition

Photomontage of Proposed Private Residential Development



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Viewpoint 9 – Pedestrian Trail at the Knoll to the East of Site A

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.9

Visual Impact Assessment

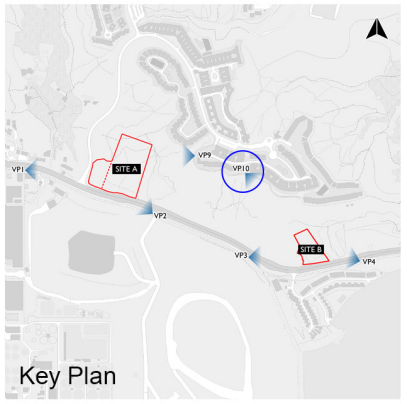
Date: 2 January 2025

6.11 VP10 – Pedestrian Trail at the Knoll to the Northwest of Site B (Figure 6.10 refers)

6.11.1 This VP is taken at the pedestrian trail to the northwest of Site B with the distance of about 230m. Similar with VP11, this VP is selected as a close-up VP to access the visual impact of the Site B from the pedestrian trail. The photomontage at **Figure 6.10** has illustrated the view the trees and vegetation along the pedestrian trail in the foreground, and the open sky view at the backdrop. With the level of about +89.6mPD, the proposed development with maximum building height of 78.2mPD at Site B is at a lower level behind the greenery at the foreground when viewing from this VP. Therefore, it is anticipated that there will be no impact on visual composition, visual obstruction, effect on public viewers and effects visual resources aspects.

Existing Condition

Photomontage of Proposed Private Residential Development



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Viewpoint 10 – Pedestrian Trail at the Knoll to the Northwest of Site B

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Visual Impact Assessment

Figure 6.10

Date: 2 January 2025

6.12 VP11 – Tai Po Waterfront Promenade near the Public Pier (Figure 6.11 refers)

Visual Composition

6.12.1 This VP is taken at Tai Po Waterfront Promenade near the Public Pier to the south of Site A and to the southwest of Site B with the distance of about 1.1km respectively. With the level of about +5.0mPD, this VP captured the view of tree and lush greenery at the golf course, and the shoreline of Tolo Harbour at the foreground. The proposed developments will be completely screened off by existing vegetation.

Visual Obstruction

6.12.2 According to **Figure 6.11**, the proposed developments at the Sites are not visible from this viewpoint. Therefore, no disruption to the visual openness towards the open sky view to be caused by the proposed development.

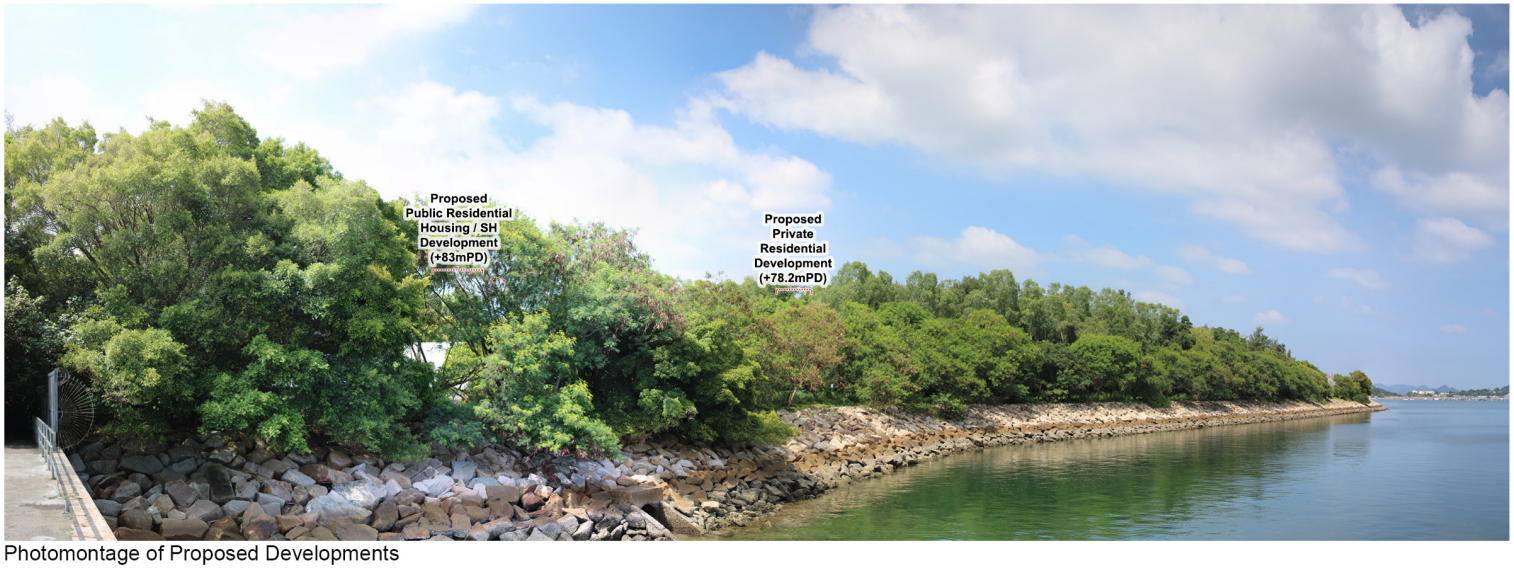
Effect on Public Viewers

6.12.3 The Pier and Tai Po Waterfront Park are part of the waterfront promenade. The VSRs of this viewpoint would mainly be the cyclists, anglers and the visitors of the Waterfront Park who stop by the pier and enjoy the view. Therefore, their visual sensitivity on this VP is medium to high. As the proposed developments will be completely shielded off by vegetations, the visual change to be experienced by the sensitive receivers will be insignificant.

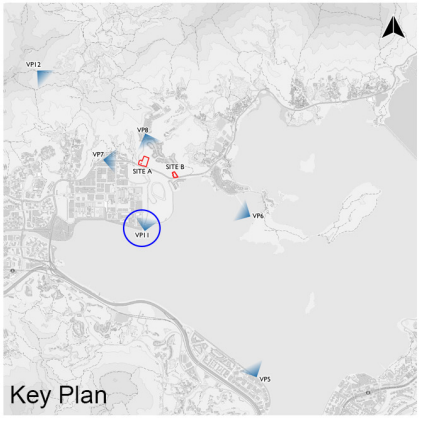
Effect of Visual Resources

6.12.4 The vegetation at the golf course, the shoreline of Tolo Harbour and the open sky view are the most prominent visual resource at this VP. Proposed developments will not cause disruption to the open sky view and vegetation, and hence there will be no substantial changes to the visual resources.

Existing Condition



Photomontage of Proposed Developments



KTA PLANNING LIMITED 規劃顧問有限公司	Viewpoint 11 – Tai Po Waterfront Promenade near the Public Pier	Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL	Figure 6.11
		Visual Impact Assessment	Date: 2 January 2025

6.13 VP12 – Tai Po Country Trail (Figure 6.12 refers)

Visual Composition

6.13.1 VP12 is taken at the Tai Po Country Trail to the further northwest of both Sites with the open view towards the east and south with the hilly topography and plateau near Sha Lo Tung in the foreground and the fringe area of Tai Po New Town including Ex-Shuen Wan Landfill Site, Tai Po Industrial Estate at some distance. Tolo Harbour, ridgeline at Luk Shan near Tai Po Kau, Ma On Shan New Town, and the continuous ridgeline of New Territories East region including The Hunch Back, Ma On Shan, Buffalo Hill and Tate's Cairn are captured as the backdrop. As shown in **Figure 6.12**, some developments in the fringe area of Tai Po New Town including the Mont Vert and the developments along Lo Fai Road are screened-off by the natural topography when viewing from this VP. While the proposed developments at Site A and Site B will become new visual elements in the fringe area of Tai Po New Town and replace the view towards greenery at some distance, only a small upper portion of the proposed developments will be visible and the change to the visual composition at this VP is minimal. The proposed developments are considered not incongruous with the visual context characterized by a suburban townscape view.

Visual Obstruction

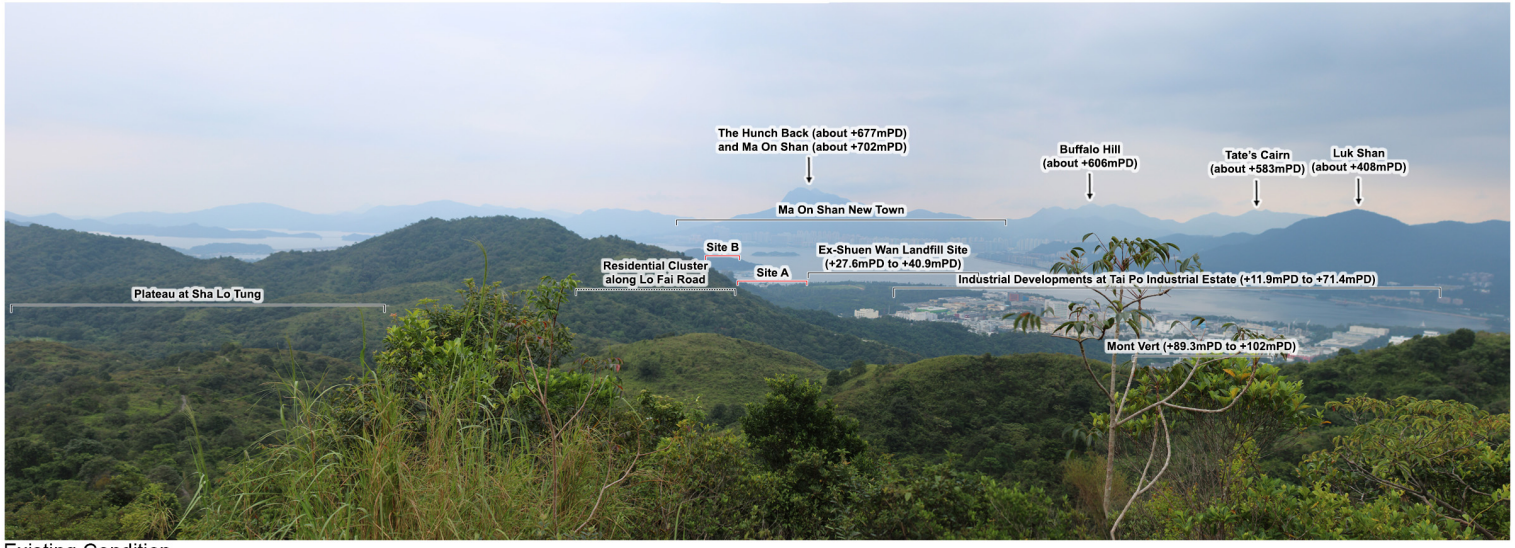
6.13.2 The photomontage in **Figure 6.12** illustrates that only the upper portion of residential tower at Site A will be visible and there will only be a slight loss in visual access to the existing greenery due to the proposed development at Site A. The visual openness will not be affected and no obstruction to the visual elements in both foreground and background will be resulted.

Effect on Public Viewers

6.13.3 The VSRs at this VP are mainly hikers who will be engaging in active and passive recreational activities along Tai Po Country Trail. They enjoy an open view towards plateau of Sha Lo Tung, Tolo Harbour, and the ridgeline at the backdrop. VSRs might stop during their hiking activities to seek for high quality views and their visual sensitivity will be medium to high. Since the proposed developments will be largely compatible to the sub-urban context, the visual change to be experience by the VSRs is considered slight.

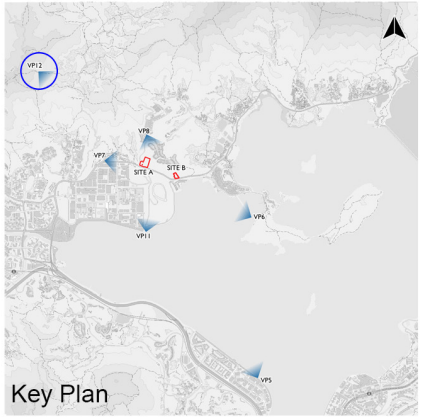
Effect of Visual Resources

6.13.4 The hills and greenery at the plateau of Sha Lo Tung, the view towards Tolo Harbour, and continuous ridgelines at New Territories East region as well as the open sky view are the major visual resources at this VP. The proposed development at Site A will only result in very slight blockage to the existing greenery. The degradation on the visual condition, quality and character by the proposed developments at both Sites will be minor.



Existing Condition

Photomontage of Proposed Developments



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Viewpoint 12 – Tai Po Country Trail

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Figure 6.12

Visual Impact Assessment

Date: 2 January 2025

7 CONCLUSION

7.1 Based on the appraisal on visual impact relating to visual composition, visual obstruction, effect on public viewers and effect on visual resources, **Table 7.1** below presents the overall visual impact associated with the proposed development at the Sites to the identified VSRs represented in each VP.

Table 7.1 Summary of Assessment of Visual Impact at the Viewpoints

Viewpoint	Location	Proposed Development
VP1	Cycle Track near Tai Po East Fire Station	Moderately Adverse
VP2	Cycle Track near Entrance of Golf Course	Significantly Adverse
VP3	Cycle Track near Tai Po Fortune Garden Bus Stop	Moderately Adverse
VP4	Cycle Track near Fortune Garden	Moderately Adverse
VP5	Pak Shek Kok Promenade	Slightly Adverse
VP6	Shuen Wan Typhoon Shelter Breakwater	Slightly Adverse
VP7	Ha Hang Village Sitting-out Area	Insignificant
VP8	Bus Terminus near the Education University of Hong Kong	Insignificant
VP9	Pedestrian Trail at the Knoll to the East of Site A	Insignificant
VP10	Pedestrian Trail at the Knoll to the Northwest of Site B	Insignificant
VP11	Tai Po Waterfront Promenade near the Public Pier	Insignificant
VP12	Tai Po Country Trail	Slightly Adverse

7.2 VP1 to VP4 offered a close-up view to the proposed developments of the Sites from the cycle track along Ting Kok Road. Visual experiences from the abovementioned VPs represent the snapshots from cyclist, where is considered as the major VSRs, on the cycling journey along Ting Kok Road. The VSRs will experience a loss of visual access of greenery along Ting Kok Road and sky view and openness after commencement of the proposed developments. The replanting of trees along the site boundary facing Ting Kok Road will mitigate part of the loss of greenery by the proposed developments while maintaining the green character along Ting Kok Road. Proposed building setback at both Site A and Site B will help retain the visual openness along Ting Kok Road. Furthermore, the proposed development at Site A will abide SBD Guidelines recommendations by minimising building mass through limiting the façade length to not more than 60m and allow minimum 15m-wide gaps between residential towers.

7.3 VP5 to VP6 illustrated distant views to fringe area of Tai Po New Town from several popular locations along the shoreline of Tolo Harbour. These viewpoints also captured the distant view of the Tai Po New Town and the transition to the fringe area of Tai Po New Town and the rural area in Tai Mei Tuk. Developments in the fringe area of Tai Po New Town are separated into clusters by the topographic and greenery and the proposed developments will add two new development clusters to the area. With a sensitively designed maximum building height, the photomontages from the VPs demonstrated a stepped building height profile descending from the residential cluster along Lo Fai Road (maximum +113.2mPD) uphill, to about 78.2mPD to 83mPD at the Sites, and then to the Fortune Garden at the shoreline of Tolo Harbour. Therefore, the visual impacts from the proposed development at the Sites to these distant VPs will be slight.

7.4 VP7 to VP8 were selected to illustrate the visual impact from the popular locations to the north and west of the Sites within the fringe area of Tai Po New Town. VP9 and VP10 were selected to assess the visual impact from the pedestrian trail at the knoll, which is considered as close-up VPs to the Sites. VP11 was selected to assess the potential visual impact to the waterfront promenade of Tai Po Waterfront Park where it has an existing open view to the greenery at golf course and the coastline of Tolo Harbour. As the proposed developments are completely screened off by the greenery or trees, the visual impact for these VPs will be insignificant.

7.5 For VP12, the proposed development at Site A will incur slightly adverse visual impact due to the visual obstruction to the existing greenery. Yet, most of the identified key visual resources at VP12 including the sky view and Tolo Harbour will not be affected by the proposed developments at both Sites.

7.6 The proposed mitigation measures including proposed landscape area along the boundary facing Ting Kok Road and the proposed setback of proposed development at the Sites would help to contain the visual impact and retain visual character of Ting Kok Road. With a sensitively designed building height, the public residential housing / SH development at Site A and proposed private residential development at Site B will not be incompatible with the development context of the fringe area of Tai Po New Town with scattered low- to medium- rise development clusters.

Prepared for

Kam Luk Investment Company Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED PUBLIC RESIDENTIAL HOUSING / STARTER HOMES DEVELOPMENT AT UDWYT LOT 14RP AND ADJOINING GOVERNMENT LAND (SITE A) & PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT UDWYT LOT 11 RP AND ADJOINING GOVERNMENT LAND (SITE B), WONG YUE TAN, TAI PO

AIR VENTILATION ASSESSMENT (EXPERT EVALUATION)

Date	**February 2025**
Prepared by	**Mike Kwan** **Assistant Environmental Consultant**
Signed	
Approved by	**Calvin Chiu** **Senior Manager**
Signed	
Project Reference	**NFDUDWYTEI00**
Document No.	**R8994_V1.7**

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Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

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Figure 9 Summary of Annual Prevailing Wind Directions and Mitigation Measures for Site A & Site B

Figure 10 Summary of Summer Prevailing Wind Directions and Mitigation Measures for Site A & Site B

1. INTRODUCTION

1.1 Background

1.1.1 Referring to the Lands Sharing Pilot Scheme ("LSPS") application at Lo Fai Road/ Ting Kok Road with application no. LSPS/001 on 19 July 2021, the applicant has revised the submission.

1.1.2 The application involves two private lots, namely Lot 14 RP and Lot 11 RP in Unsurveyed District at Wong Yue Tan ("UDWYT") and adjoining Government Lands ("GL"). Lot 14RP and adjoining Government Land (Site A) would be designated for public housing / Starter Homes Housing development, whereas Lot 11 RP and adjoining Government Land (Site B) would be designated for proposed private residential development.

1.1.3 Ramboll Hong Kong Limited has been commissioned by the applicant to prepare this Air Ventilation Assessment (Expert Evaluation) (AVA-EE) report for the Proposed Development (proposed public housing / Starter Homes Housing development and proposed private residential development) at Site A and Site B.

1.1.4 Architectural drawings and other technical information on the Proposed Development are provided by the Project Architect (DLN).

1.2 Objective

1.2.1 This AVA-EE report has been prepared to evaluate if the proposed development would have any impact on the overall air ventilation performance of the assessment area by comparing the Proposed Development with prevailing condition.

1.3 Site A and Site B and its Environs

1.3.1 The existing use of Site A and Site B is vacant and covered with dense vegetation.

1.3.2 Site A and Site B are located at Ting Kok Road in Tai Po with residential developments and Tai Po Industrial Estate nearby. The area on opposite side of Ting Kok Road to the south is the restored Shuen Wan Landfill for which afteruse consists of a golf driving range.

1.3.3 Site A is bounded by Ting Kok Road to the south, and Lo Fai Road to the west. The area to the north to east is vegetated slope area zoned Green Belt. In addition to the restored landfill (50m apart), other uses nearby within 300m from nearest site boundary include Casa Marina I (60m apart), Richwood Park (190m apart) and Forest Hill (220m apart) north of Ting Kok Road; Tai Po East Fire Station (140m apart), DSD Ting Kok Road Pumping Station No. 5 (155m apart), Kee Wah (180m apart), Meyer (200m apart) and Transtech (250m apart) south of Ting Kok Road.

1.3.4 Site B is bounded by Ting Kok Road to the south. The area to the south to east is vegetated slope area zoned Green Belt. In addition to the restored landfill (75m apart), other uses nearby within 300m from nearest site boundary include Fortune Garden (40m apart) to the south and Tycoon Place (100m apart) to the north.

1.3.5 Site A and Site B are separated by over 500m apart. The location and its environs are shown in **Figure 1**.

1.4 Baseline Scheme

1.4.1 The Baseline Scheme refers to the existing site condition. Site A and Site B are greenfield in nature without permanent building structure.

1.5 Proposed Scheme

1.5.1 Site A will consist of public residential housing / SH housing with 5 residential towers where T1 to T4 are elevated at 83mPD, T5 elevated at 80mPD. A 3-storey aboveground carpark is also provided in Site A to meet car parking requirement. While Site B will have 1 private residential tower that is elevated at 78.2mPD. In addition, GIC uses such as residential care home for elderly (RCHE) and retail facilities will be included in Site A as well.

1.5.2 The proposed development with a site area of over 2 hectares, and overall PR of below 5 as well as a total GFA not exceeding 100,000m^2 has not fallen under the criteria set out in the Joint HPLB and ETWB Technical Circular on AVA No. 1/06.

1.5.3 Block layout of the Proposed Development is shown in **Figure 5** to **Figure 8.**

2. SITE WIND AVAILABILITY DATA

2.1 Site Wind Availability Data From RAMS

2.1.1 According to the Planning Department's website, a meso-scale Regional Atmospheric Modeling System (RAMS) was used to produce a simulated 10-year wind climate at the horizontal resolution of 0.5 km x 0.5 km covering the whole territory of Hong Kong. The simulated wind data represents the annual, winter and summer wind condition at various levels, i.e. 200 m, 300 m, and 500 m above terrain.

2.1.2 The RAMS data of the grid (X: 084, Y: 074 representing Lot 14 RP; X: 085, Y: 074 and X: 085, Y: 073 representing Lot 11 RP) has been extracted from the Site Wind Availability Data of Planning Department's website.

2.1.3 Based on the wind roses with different heights (200, 300 or 500m) available, the 200m site wind availability data represents wind data that takes into account the topographical effect around Site A and Site B. Therefore, a lower level of wind roses at 200 m height is selected to study the prevailing wind condition as it represents the incoming wind to Site A and Site Band considers the influence on the prevailing winds by the surrounding topography.

2.1.4 According to the wind roses at 200 m altitude, three annual and three summer prevailing wind directions for Site A are respectively E, ESE & ENE wind; and E, SSE & SE wind. Three annual and four summer prevailing wind directions for Site B are respectively E, ENE & ESE wind; and E, SSE, SE & SSW wind. **Figure 2a** and **Figure 2b** show the relevant wind roses diagrams representing the frequency and wind speed distribution at 200m height in annual and summer conditions for Site A and Site B respectively. The wind frequency data is provided in **Table 2.1** and **Table 2.2** below.

Table 2.1 Summary of RAMS Data and Wind Direction at 200m for Site A

Site A		
Wind Direction	**Probability for Annual Condition (%)**	**Probability for Summer Condition (%)**
N	3.1%	0.9%
NNE	4.4%	1.0%
NE	5.9%	1.5%
ENE	**10.8%**	3.8%
E	**30.1%**	**14.8%**
ESE	**11.8%**	9.9%
SE	7.6%	**11.4%**
SSE	5.5%	**11.6%**
S	3.7%	8.0%
SSW	4.2%	10.6%
SW	3.0%	8.2%
WSW	2.2%	5.9%
W	2.8%	5.7%
WNW	1.9%	3.5%
NW	1.3%	1.5%
NNW	1.7%	0.8%

Table 2.2 Summary of RAMS Data and Wind Direction at 200m for Site B

Site B				
	X: 085 Y:074		X: 085 Y:073	
Wind Direction	**Probability for Annual Condition (%)**	**Probability for Summer Condition (%)**	**Probability for Annual Condition (%)**	**Probability for Summer Condition (%)**
N	2.9%	0.9%	2.8%	0.9%
NNE	4.7%	1.1%	4.6%	1.2%
NE	6.6%	1.6%	7.0%	1.5%
ENE	**11.7%**	4.1%	**12.4%**	4.3%
E	**29.6%**	**14.8%**	**28.6%**	**14.7%**
ESE	**10.7%**	9.4%	**9.7%**	8.1%
SE	6.9%	**10.5%**	6.8%	**10.3%**
SSE	5.7%	**11.8%**	5.6%	**11.8%**
S	3.8%	8.2%	4.0%	8.4%
SSW	4.2%	**10.3%**	4.3%	**10.4%**
SW	3.3%	9.0%	3.7%	9.8%
WSW	2.2%	5.6%	2.0%	5.2%
W	2.9%	6.8%	3.0%	6.9%
WNW	1.9%	3.5%	2.1%	3.9%
NW	1.4%	1.7%	1.6%	1.8%
NNW	1.5%	0.8%	1.7%	0.9%

Note: Bolded characters highlighted in grey represent the selected prevailing wind directions for evaluation.

2.2 Wind Data from HKO Station

2.2.1 According to the wind data of Tai Po Kau Station which is nearest to the sites, the annual prevailing winds are mainly from northeast quadrant (generally E to NE) and summer (Jun- August) prevailing wind are generally from W, NE and SW. **Figure 2c & 2d** show the wind roses for Tai Po Station. However, as Tai Po Station is elevated lower (6m above mean sea level) and over 2km apart, the wind data is less representative of the likely situation of the Site. Therefore, this study mainly refers to the RAMS data.

2.3 Topography

2.3.1 Site A and Site B are located in Tai Po area. Regarding the surrounding, the southern side is closet shore and topographically flat while hills are found on the north to northwest side so that the topography is sloping upward on these directions. Apparently, topography would not hinder annual and summer prevailing wind flow (from ENE to SSW) to the sites.

2.4 Building Morphology

2.4.1 Built areas in the surrounding include Tai Po Industrial Estate (not more than 20m above ground for building nearer to the sites) on southwest side of Site A and southwest to west side of Site B, and scattered low-rise residential developments (e.g. Casa Marina, Villa Lucca on north side; Fortune Garden on south side). It is confirmed that there are no major noise barriers, elevated structures, planned and committed developments identified within the surrounding area other than the existing building context.

2.4.2 Under the existing wind condition, the surrounding areas are low-rise buildings generally. Potential building blockage effect due to the surrounding existing are considered low.

2.5 Summary of Existing Site Wind Availability

2.5.1 According to the wind availability data, it is considered that the annual prevailing winds come from E, ESE & ENE directions and summer prevailing wind from E, SSE & SE directions for Site A. For Site B, the annual prevailing winds come from E, ENE & ESE directions and summer prevailing wind from E, SSE, SE & SSW directions.

2.5.2 From **Table 2.1** above, the wind probability from the E direction is around 30% and is considered to be the most dominant annual wind direction for the area. The ENE and ESE (10%~12%) wind are also dominant annual prevailing wind directions.

2.5.3 It is anticipated that the surrounding traffic network and open areas would be the main air corridors under the annual condition, especially Ting Kok Road aligned with most prevailing wind direction. As the building density of the surrounding is low, there are ample open areas for wind penetration as well.

2.5.4 During summer condition, prevailing winds from E, SSE, SE & SSW are the dominant wind directions. Similar to annual wind conditions, it is anticipated that the surrounding traffic network (Ting Kok Road and Lo Fai Road under E and SSW wind directions) and open areas.

2.5.5 **Figure 3** and **Figure 4** show the annual and summer prevailing wind directions under the Baseline Scheme.

3. EXPERT EVALUATION OF AIR VENTIALTION OF THE PROPOSED DEVELOPMENT

3.1 Important Areas

3.1.1 Important surrounding areas that the public would often access have been identified as the following:

- Roads surrounding the sites (Ting Kok Road and Lo Fai Road); and
- Nearby residential developments.

3.2 Evaluation of Merit/Demerit of Design Features of the Proposed Development

3.2.1 Under the Proposed Scheme, various good design feature beneficial to air ventilation such as separation of building from site boundary, optimal building disposition and building separation advantageous to prevailing wind penetration are incorporated.

Site A

- There is building tower setback of not less than 5m from ALL site boundaries to minimise obstruction to wind flow along Ting Kok Road, Lo Fai Road and north/east site boundary.
- Vacant area comprising proposed cut slopes at the northern portion (north of T2 and T3) and open area at southwestern corner (near T5) of the Subject Site to allow effective prevailing wind penetration.
- A 15m gap is provided between T3 & T4 oriented to east to southeast direction and allow annual and summer prevailing E, ESE and SE wind to penetrate through. Gap between T1 & T2 is to the west of the aforementioned gap with more than 15m width so that it can facilitate further penetration of E wind. It is noted that while building gaps are provided facing various different directions, the prevailing wind may not be able to penetrate through the development but would dissipate within the site. They can only benefit the circulation area with the Subject Site.
- Minimised podium bulk is incorporated so that less wind obstruction to the downwind area shall be expected.

Site B

- The northern portion of Site B contains slope area so that there is difficulty to deposit block on northern side. Effort has been made to provide about 3m building tower setback from southern site boundary and about 5m from the road kerb of Ting Kok Road to minimise obstruction of wind flow.
- Underground carpark is proposed with reduced building massing on the ground level to enable larger ground level wind penetration. Therefore, the prevailing wind would flow around the building tower at the ground level more easily.
- The proposed design is complied with Sustainable Building Design Guidelines for both Site A & Site B

3.2.2 Further discussion of the scheme based on the good design features above is included below. **Figure 5** to **Figure 8** highlight the design features of the proposed scheme.

Air corridors/ Air paths

3.2.3 **Figure 3** and **Figure 4** illustrate the prevailing wind from annual and summer wind directions for the Baseline Scheme. The prevailing wind from annual and summer wind directions are illustrated in **Figure 5** to **Figure 8** for the Proposed Scheme.

3.2.4 Major wind corridors nearby the sites is Ting Kok Road. With respect to this wind corridors, the Proposed Scheme is designed so that the buildings allow setback from boundary immediate to them. At Site A, for instance, there are building tower setback of T1/4/5 from southern boundary with at least 5m from the wind corridor, Ting Kok Road, which enable ventilation from the ESE prevailing wind (see Marker (2) in Figure 5c). Therefore, the impact due to the Proposed Scheme on air flow along wind corridors have been avoided/minimised.

3.2.5 Referring to Site A, the prevailing E to SE wind would flow through the building separation between T3 & T4 (about 15m) (see Marker (2) in Figure 5b and Marker (1) in Figure 7b). E wind would then facilitated towards the western site boundary by flow over the 3-storey carpark building and out of the building separation between T1 and T2 (about 15m) (see Marker (2) in Figure 5b). The prevailing SE and ESE wind after flowing through the building separation between T3 & T4 (about 15m) would dissipate after reaching T2 so that it can only benefit the circulation area within the Subject Site (see Mark (1) in Figure 7b and Marker (1) in Figure 5c). Referring to Site B, only one block is proposed and building separation is not applicable.

Building Disposition and Setback from Site Boundary

3.2.6 For Site A, there are building tower setback from east, south, and west of the site boundaries, and from southwest site corner. Building tower setbacks would facilitate all prevailing wind directions wind flow around the development.

3.2.7 For Site B, there is building tower setback from southern site boundary and can facilitate E wind flow around it. Potential blockage impact has been ameliorated.

Building Height

3.2.8 The proposed maximum building height at Site A is about 68.5m (+83mPD) and Site B is about 62.7m (+78.2mPD). The building height is higher than surrounding developments. It would likely cast larger wake area at immediate downwind area.

3.2.9 For Site A, building tower setback from east, south, and west site boundary can help to reduce impact under all prevailing wind.

3.2.10 For Site B, since only one block is proposed, wind flowing around the block on two sides can more easily spread to the immediate downwind area of the block so that the impact should be localised to nearer to the block. There is no important pedestrian area at immediate downwind location under all identified prevailing wind directions (generally densely vegetated so that the impact is not considered significant.

3.2.11 As building height of the proposed development is higher than the surrounding, building downwash effect would likely occur and some wind will be brought down from higher level and benefit nearby areas of the tower blocks.

3.3 Directional Analysis of the Proposed development

3.3.1 As discussed in Section 2.1 to 2.3, winds from E, ESE & ENE directions are prevailing annually for both Site A and Site B whereas winds from E, SSE & SE directions are dominant in summer for Site A and E, SSE, SE & SSW directions are dominant in summer for Site B. The baseline scheme refers to existing situation where no building is erected within the sites so that there is no wind diversion and any significant

increase/decrease of wind flow after passing through the sites. The following appraises the situation with respect to the proposed scheme.

ENE and E Winds

3.3.2 For Site A, some ENE and E wind can flow around and through the open area at the northern side of T2 & T3 (see Marker (1) in Figure 5a and Marker (1) in Figure 5b and Figure 7a). It is expected that the wake area along Lo Fai Road has been minimised. The building tower setback from the southeast corner would facilitate ENE wind flow towards the downwind area (e.g. Golf Park) (see Marker (2) in Figure 5a). Meanwhile, it would further widen the wind corridor at Ting Kok Road for E wind penetration towards the west of the surrounding area (see Marker (3) in Figure 5b and Figure 7a). With the provision of building separation between T3 & T4, E wind can penetrate through the building separation and improve wind ventilation within the Subject Site. E wind is then facilitated towards the western site boundary by flow over the 3-storey carpark building and out of the building separation between T1 and T2 (see Marker (2) in Figure 5b).

3.3.3 For Site B, the building tower setback from southern and northern site boundary allows ENE and E wind to reach and flow along Ting Kok Road easier and further flow towards the downwind area (e.g. Golf Park) (see Marker (1) & (2) in Figure 6a and Figure 6b). The single building block in the proposed development provide high permeability for the northern and eastern prevailing wind to circulate surrounding the building tower and reach the downwind side (e.g. Golf Park). Again, the wake area behind and along Ting Kok Road has been minimised.

3.3.4 Therefore, the unfavourable impact in terms of wind availability on the surrounding pedestrian areas is expected to be reduced.

ESE and SE Wind

3.3.5 For Site A, building tower setback from northern and southern site boundary allow ESE wind to reach and flow along Ting Kok Road easier (see Marker (2) & (3) in Figure 5c). The wake area behind and along Ting Kok Road and Lo Fai Road has been minimised. Besides, the building tower setback from southwest and northeast corner allows SE wind to reach and flow along Ting Kok Road, as well as to Lo Fai Road easier (see Marker (2) in Figure 7b). The wake area behind and along Lo Fai Road has been further minimised.

3.3.6 Moreover, SE and ESE wind can enter the site through the building separation between T3 and T4, they then hit the building frontage of T2 and downwash to provide wind ventilation within the Subject Site (see Marker (1) in Figure 7b and Figure 5c). Therefore, with the adequate building tower setback provided in the Proposed Development, the unfavourable impact in terms of wind availability on the surrounding pedestrian areas is expected to be reduced and offset in some degree.

3.3.7 For Site B, there is no important pedestrian area immediate downwind of the site. Nevertheless, the building tower setback from northern, southern, and eastern site boundary helps ESE and SE wind to flow along Ting Kok Road easier (see Marker (2) in Figure 6c). The development can also capture more wind to flow along Ting Kok Road (e.g. building downwash). Wind availability along Ting Kok Road should be benefited. Meanwhile, the single building design allows the SE prevailing wind to reach its downwind area easily (see Marker (1) & (2) in Figure 8b).

SSE and SSW Wind

3.3.8 For Site A, the building tower setback from southwest corner and northern site boundary allows more SSE wind to reach and flow along Lo Fai Road. The development can also capture more wind to flow along Ting Kok Road (e.g. building downwash). The

building tower setback from southwest corner and northern site boundary would be considered as the major merit to facilitate SSE wind flow to the surrounding area at Site A (see Marker (1) & (2) in Figure 7c).

3.3.9 For Site B, the development can capture more wind to flow along Ting Kok Road (e.g. building downwash). Wind availability along Ting Kok Road should be benefited. The SSE and SSW wind could flow along the building tower setback from northwest, southwest, and southeast corner towards the northern side of the surrounding area (see Marker (1) & (2) in Figure 8c and Figure 8d). The wind availability at the northern portion of the surrounding area shall not be reduced (e.g. Tycoon Place). As there is only one single block erected, the residential development downwind (over 100m apart) is not likely subject to significant wind blockage impact under both SSE and SSW prevailing wind.

3.4 Summary of Relative Air Ventilation Performance

3.4.1 The air ventilation performance of the Baseline Scheme and the Proposed Scheme has been appraised. Regarding the Proposed Scheme, the proposed building height (+83mPD for Site A and +78.2mPD for Site B) is relatively high in comparing with the other existing development in the surrounding. It is considered that it may alter wind flow and result in some wind blockage impact to its downwind area such as Golf Park and Tycoon Place under prevailing wind condition selected for this analysis, when compared to the Baseline Scheme. However, under southerly wind condition (SSE and SSW), the building frontage of the proposed development induced building downwash and provide wind availability on Ting Kok Road at the pedestrian level.

3.4.2 On the other hand, with optimal building disposition (building tower setback from site boundary and open area) and building separation proposed, the air ventilation performance could be enhanced and potential air ventilation impacts could be minimized. Therefore, the Proposed Scheme would unlikely impose significant impacts on the surrounding important pedestrian areas from air ventilation perspective.

3.4.3 Based on the directional analysis, it is expected that wind wake area could be induced by the proposed development. Moreover, the distance between Site A and B (about 450m) is sufficient for the impact of wake area to gradually dissipate over distance. There should have no cumulative wind impacts induced by both Site A and Site B to their downwind areas in considering the proposed building height and the distance between the two sites.

4. CONCLUSION

4.1.1 A qualitative assessment on the air ventilation performance of the Proposed Development has been carried out.

4.1.2 According to the findings of this AVA-EE, the annual prevailing winds come from E, ESE & ENE directions and summer prevailing wind from E, SSE & SE directions for Site A. For Site B, the annual prevailing winds come from E, ENE & ESE directions and summer prevailing wind from E, SSE, SE & SSW directions.

4.1.3 Good design features of the Proposed Development include building tower setback on various directions from the boundaries of Site A and Site B and open area will facilitate wind penetration while building separation with larger or equal to 15m in width at Site A oriented with different prevailing wind direction would improve wind ventilation within the Site.

4.1.4 After considering the potential air ventilation impacts of the sites, the layout of the Proposed Development has incorporated good design measures to enhance its air ventilation performance. The Proposed Scheme with the design measures incorporated is unlikely to impose significant impact on the surrounding sites from air ventilation perspective.

Figures

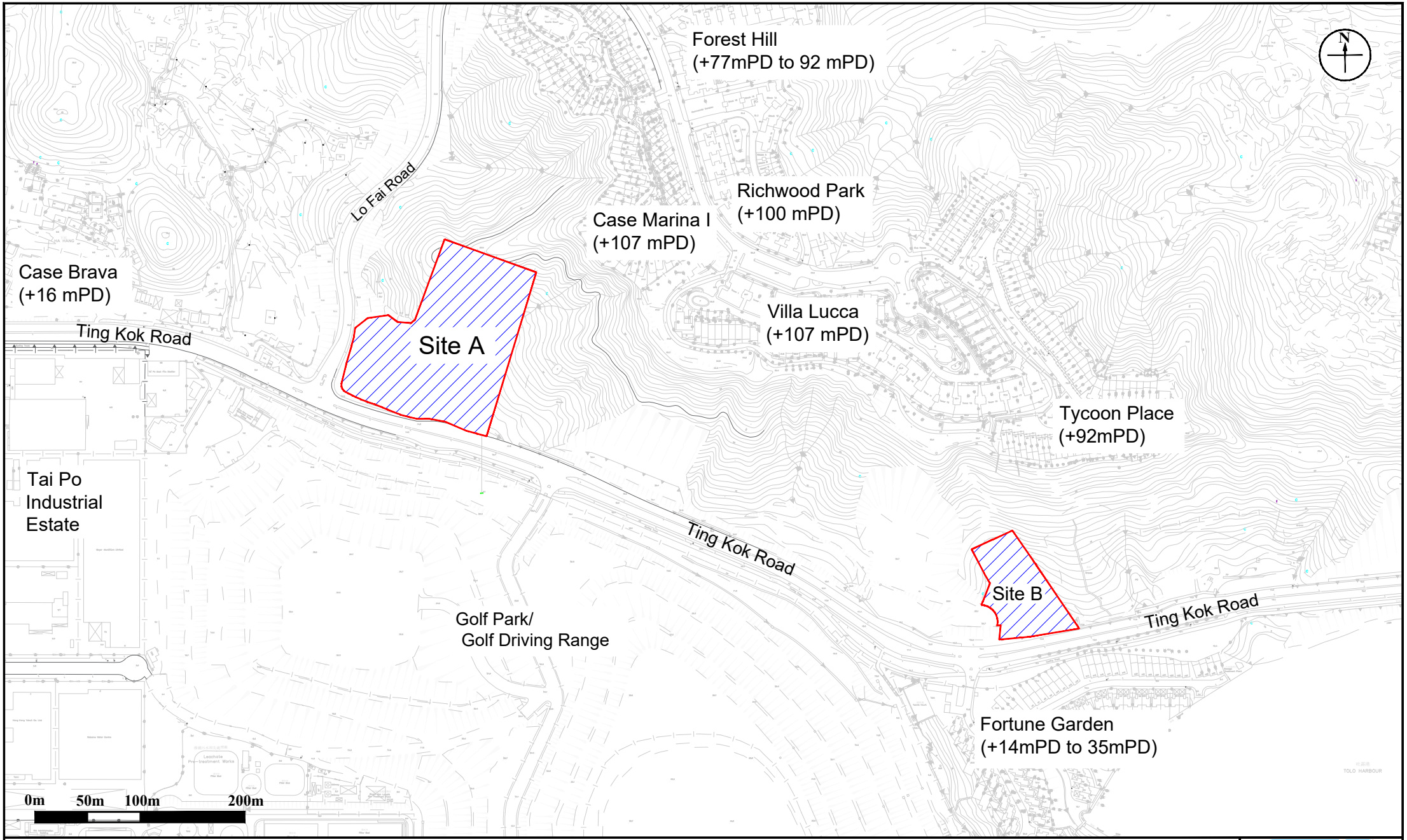

Figure: 1	RAMBOLL
Title: Location of the Application Site and Its Environs	Drawn by: MK
	Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5
	Date: Dec 2024

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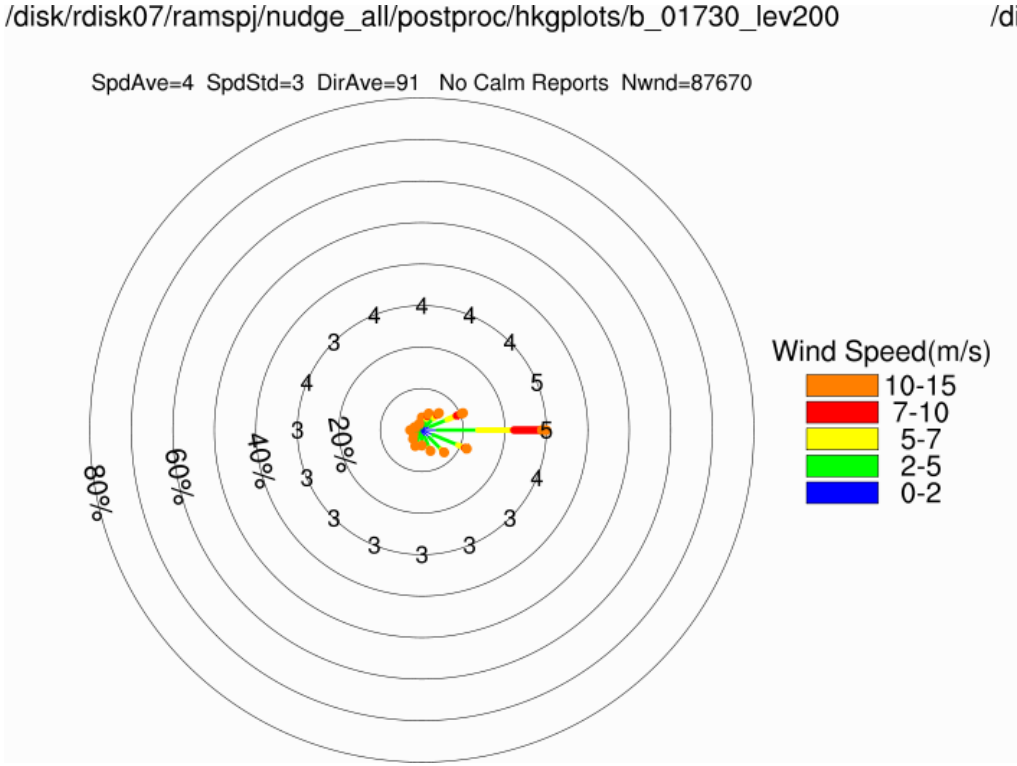
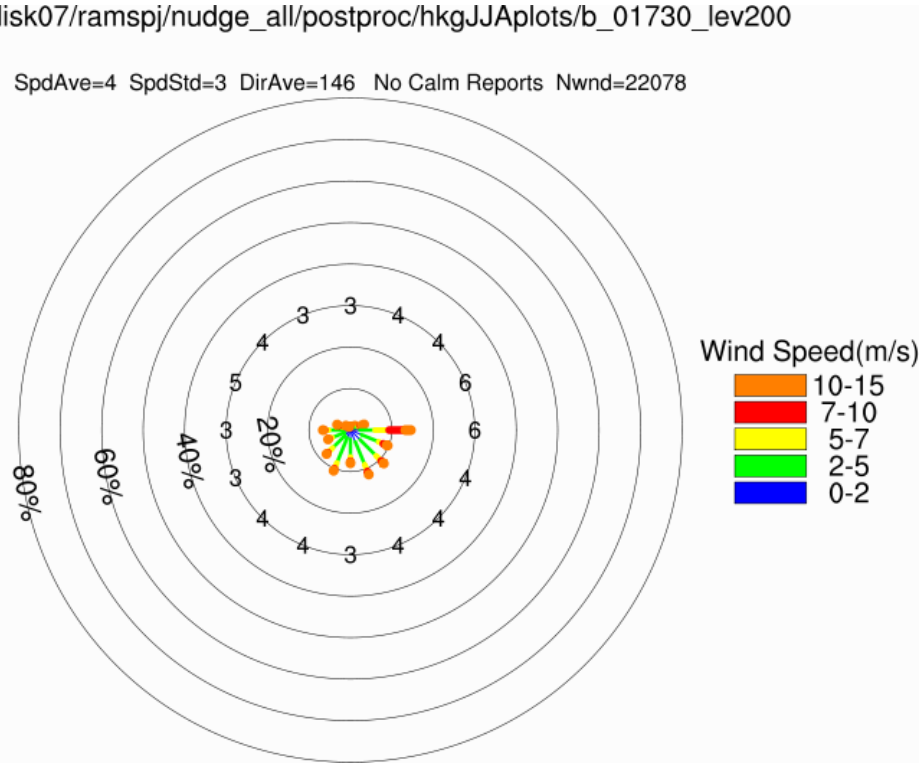
Site A



Annual Condition

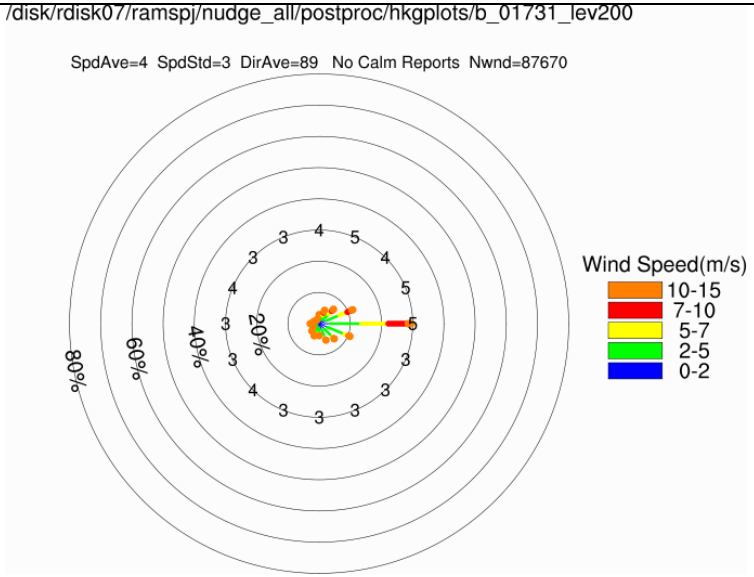


Summer Condition

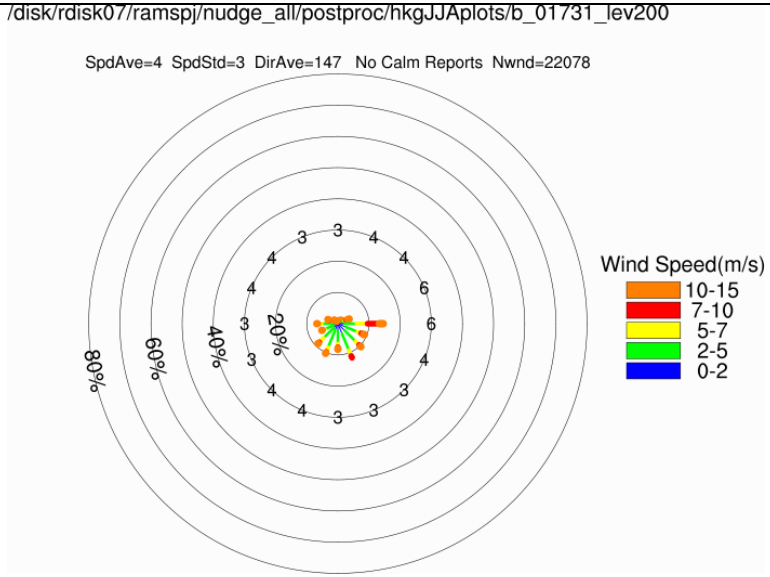
Figure: 2a	RAMBOLL
Title: Windrose Diagram representing V∞ of the Area under Concern at 200m above ground for Site A (X:084, Y:074)	Drawn by: AW Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po	Rev.: 1.2 Date: Aug 2023

Site B

(X: 085,
Y: 074)



Annual



Summer

(X: 085,
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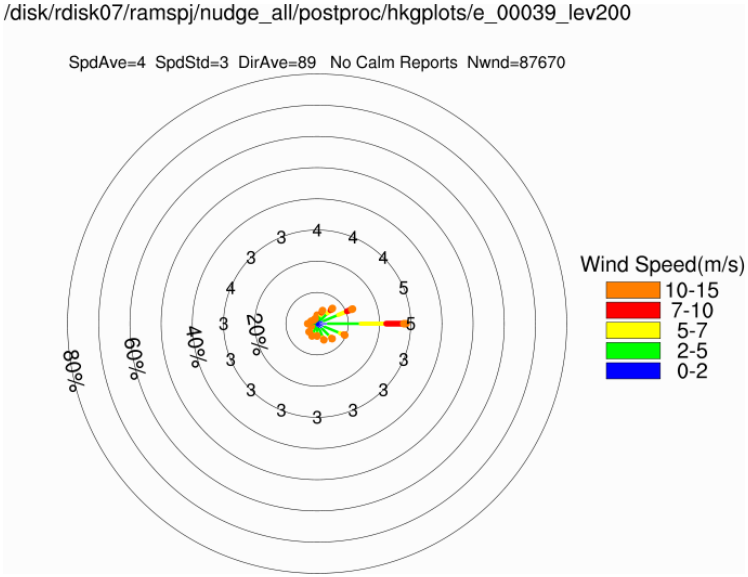

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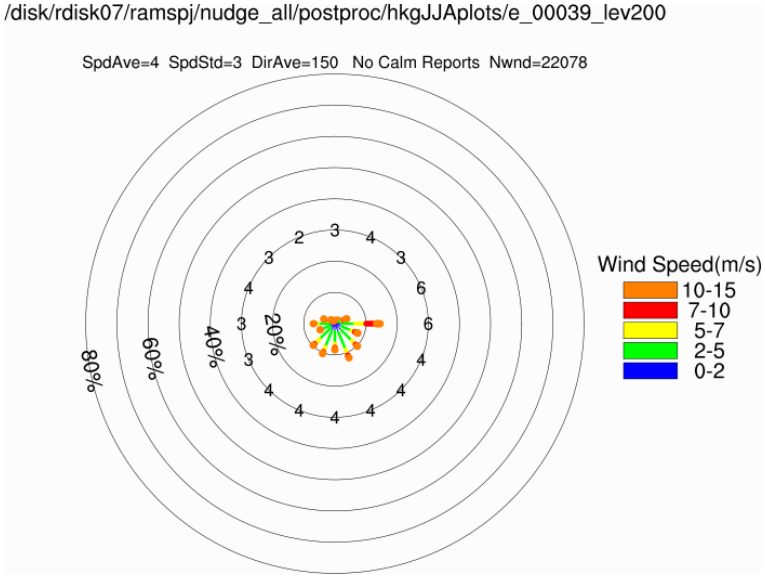

Summer

Figure:	2b	RAMBOLL
Title:	Windrose Diagram representing V∞ of the Area under Concern at 200m above ground for Site B (X:085, Y:074; X:085, Y:073)	Drawn by: AW Checked by: CC
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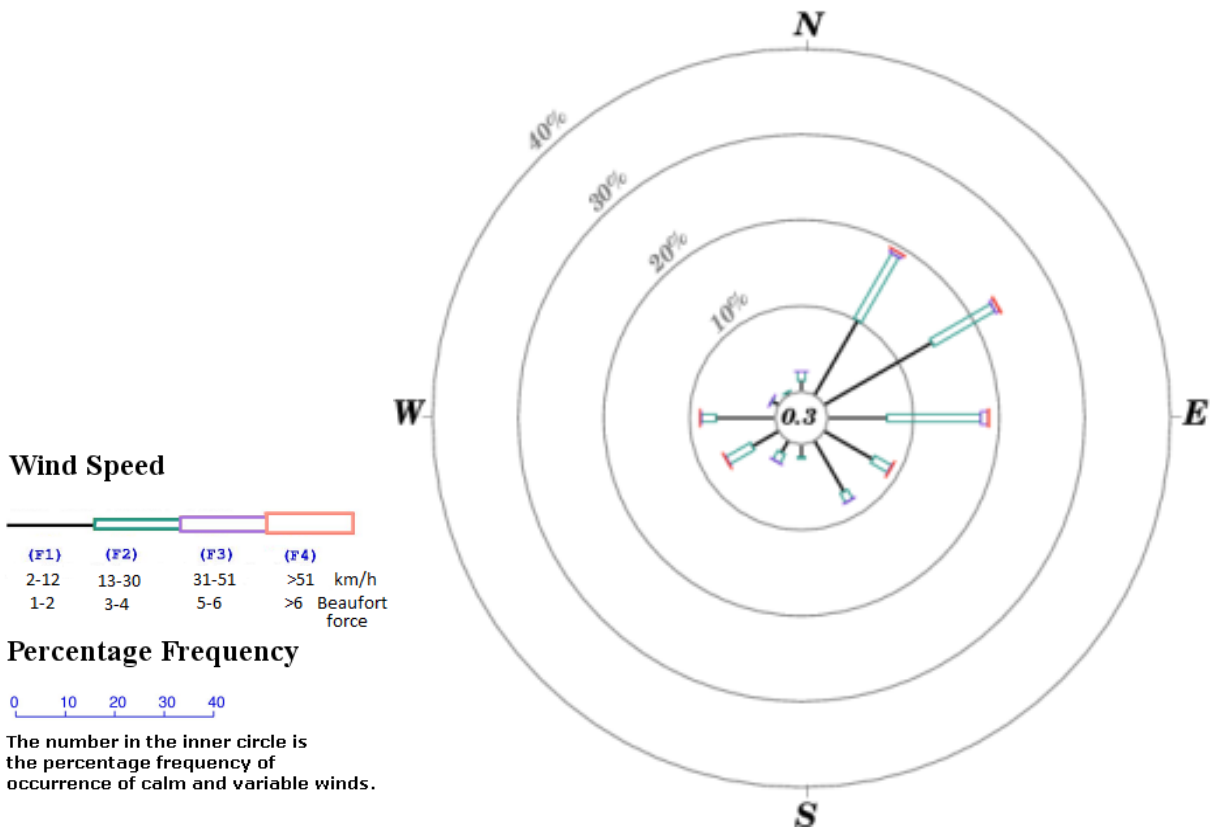

Legend **Annual**

Figure: 2c	RAMBOLL
Title: Annual Wind Rose Diagram of Tai Po Kau Hong Kong Observatory Wind Station (2000-2021)	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po	Rev.: 1.3 Date: Mar 2024

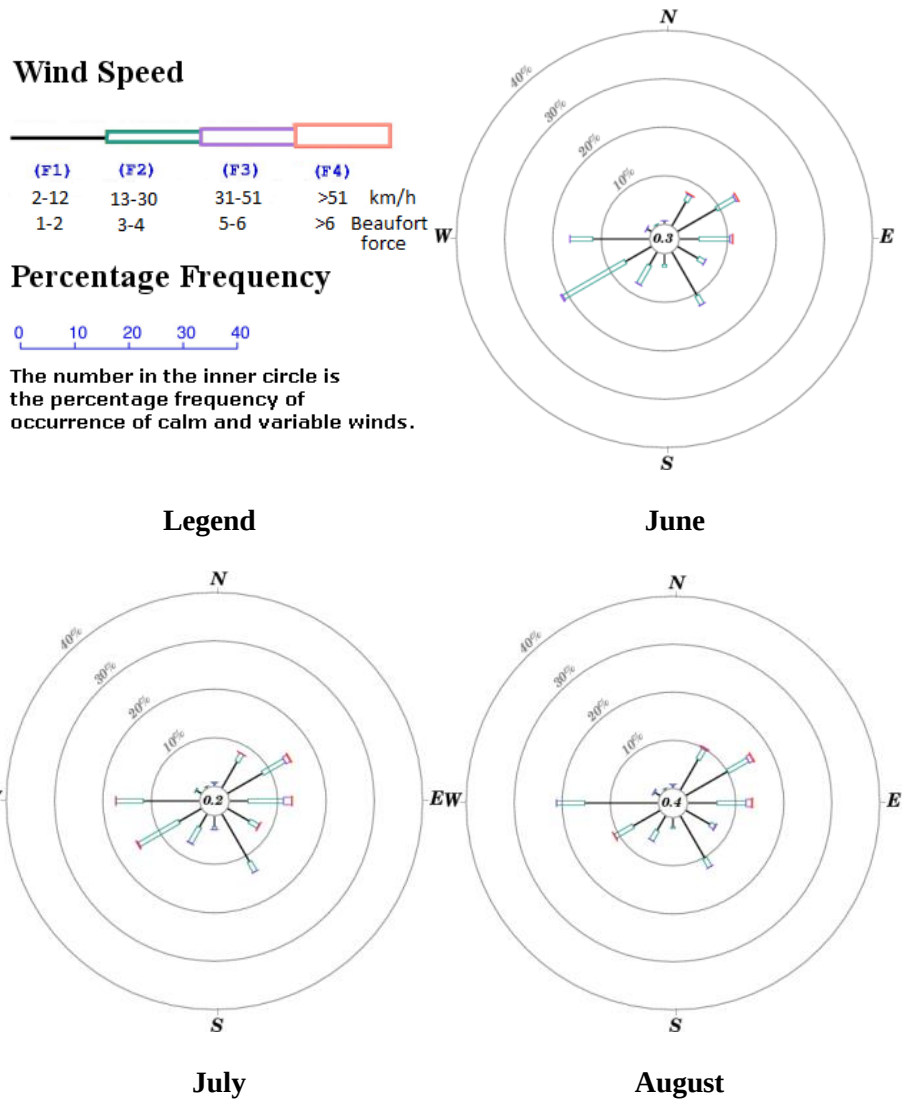

Figure:	2d	RAMBOLL
Title:	Summer Wind Rose Diagram of the Tai Po Kau Hong Kong Observatory Wind Station (2000-2021)	Drawn by: MK Checked by: CC
Project:	Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP and Adjoining Government Land (Site A) & Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining Government Land (Site B), Wong Yue Tan, Tai Po	Rev.: 1.3 Date: Mar 2024

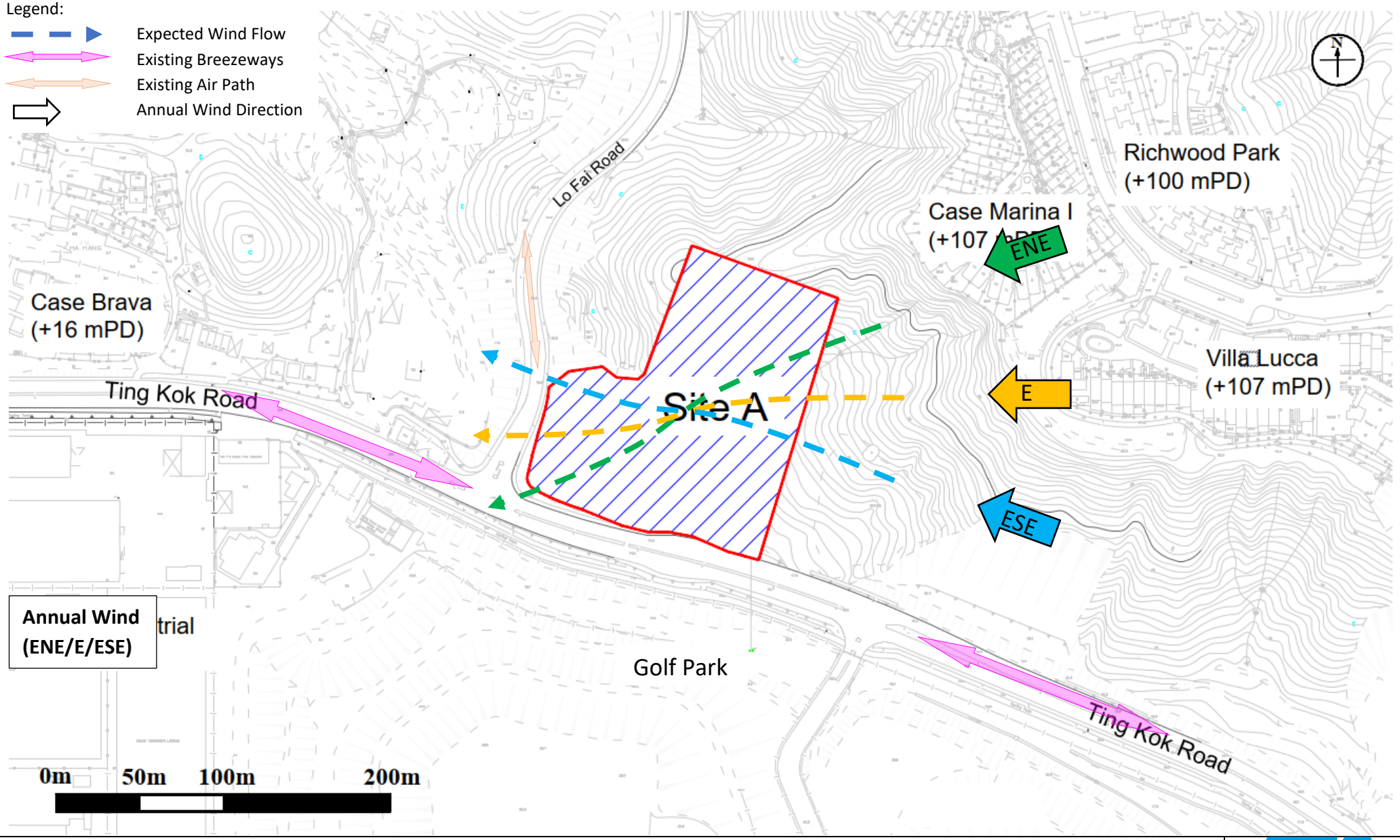

Figure: 3a	RAMBOLL
Title: Illustration of Wind Flow from Annual Wind Directions for Baseline Scheme at Site A	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

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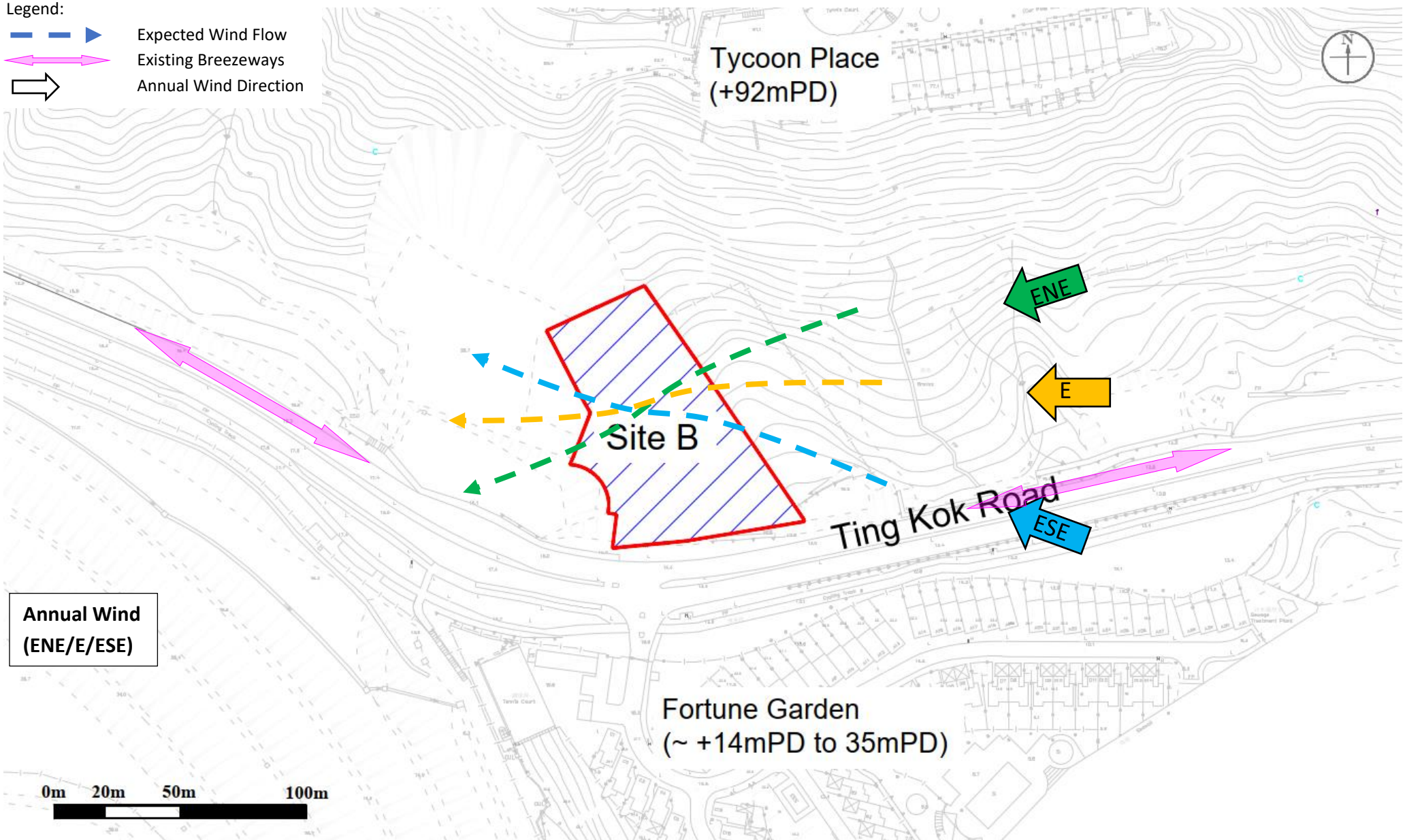

Figure: 3b	RAMBOLL
Title: Illustration of Wind Flow from Annual Wind Directions for Baseline Scheme at Site B	Drawn by: MK Checked by: CC
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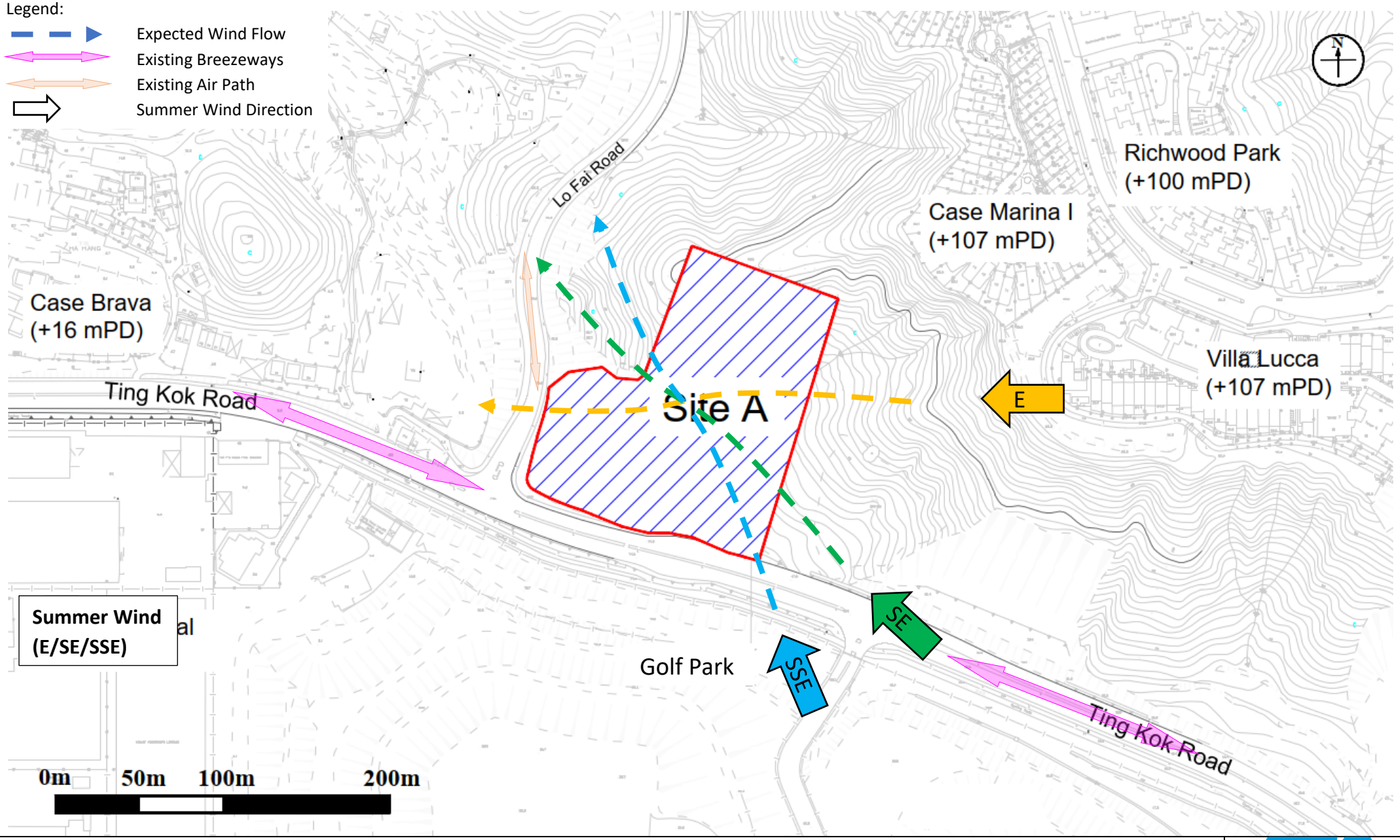

Figure: 4a	RAMBOLL
Title: Illustration of Wind Flow from Summer Wind Directions for Baseline Scheme at Site A	Drawn by: MK Checked by: CC
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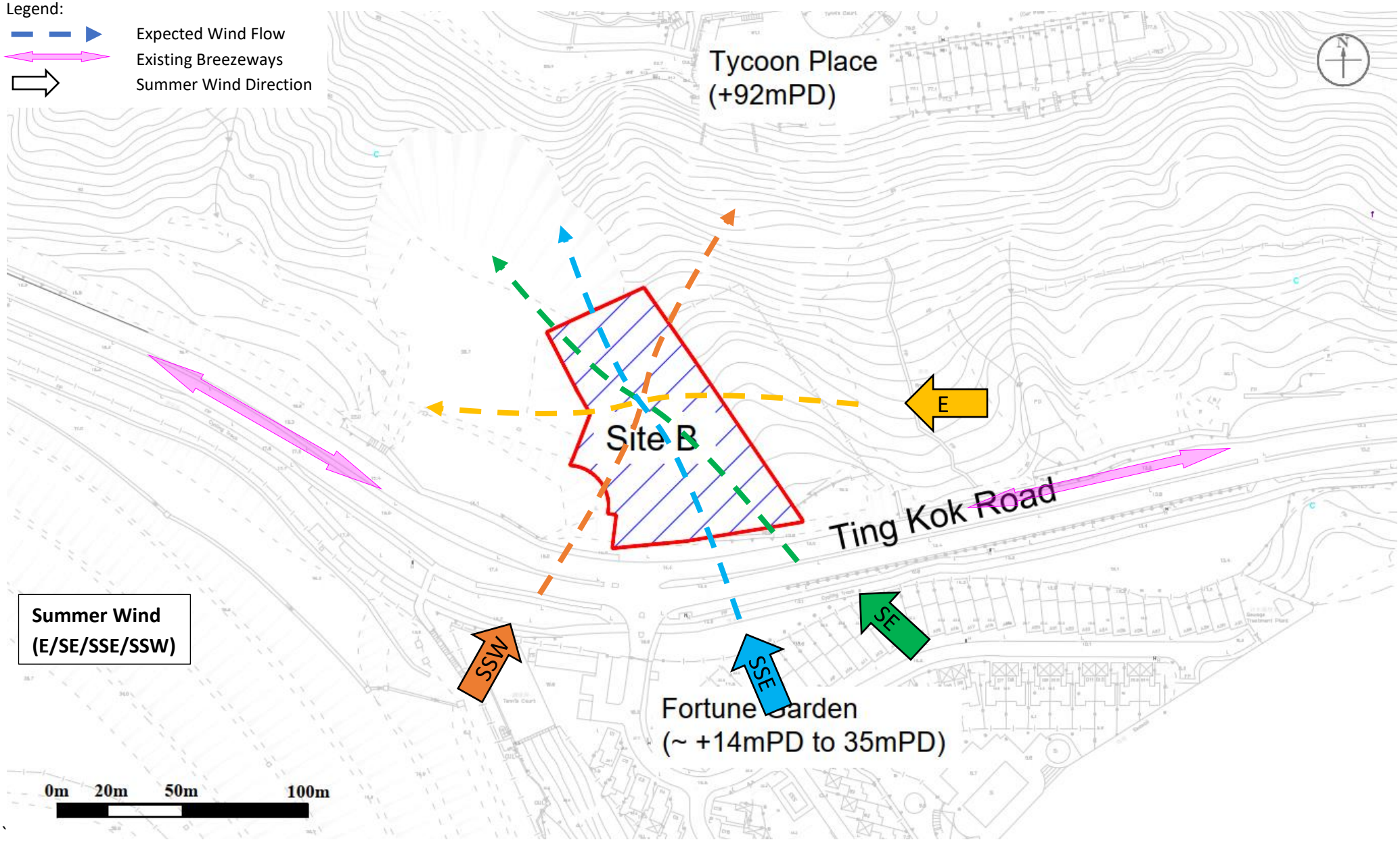

Figure: 4b	RAMBOLL
Title: Illustration of Wind Flow from Summer Wind Directions for Baseline Scheme at Site B	Drawn by: MK Checked by: CC
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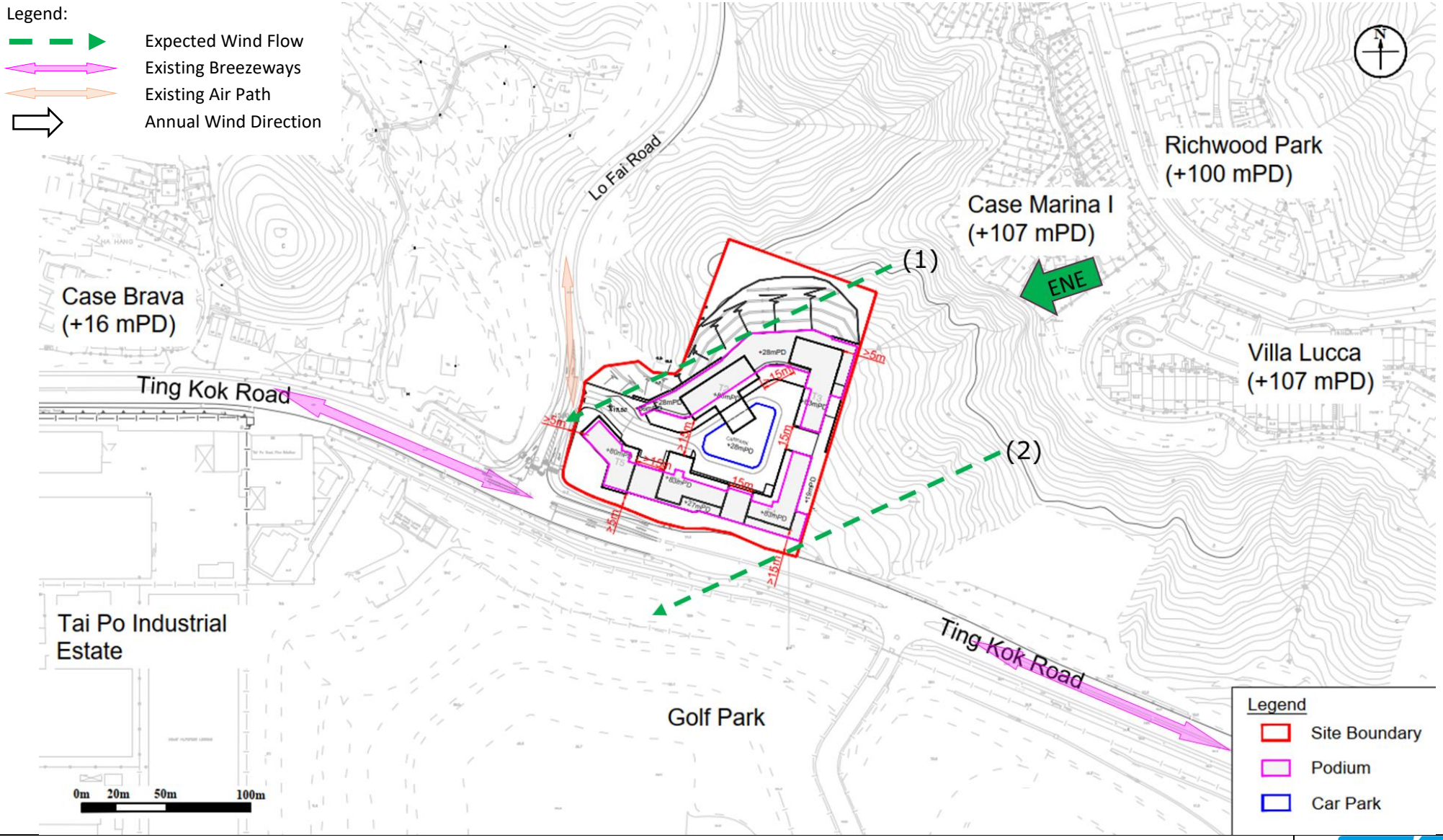

Figure: 5a	RAMBOLL
Title: Illustration of Wind Flow from Annual Wind Directions for Proposed Scheme at Site A (ENE Wind)	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

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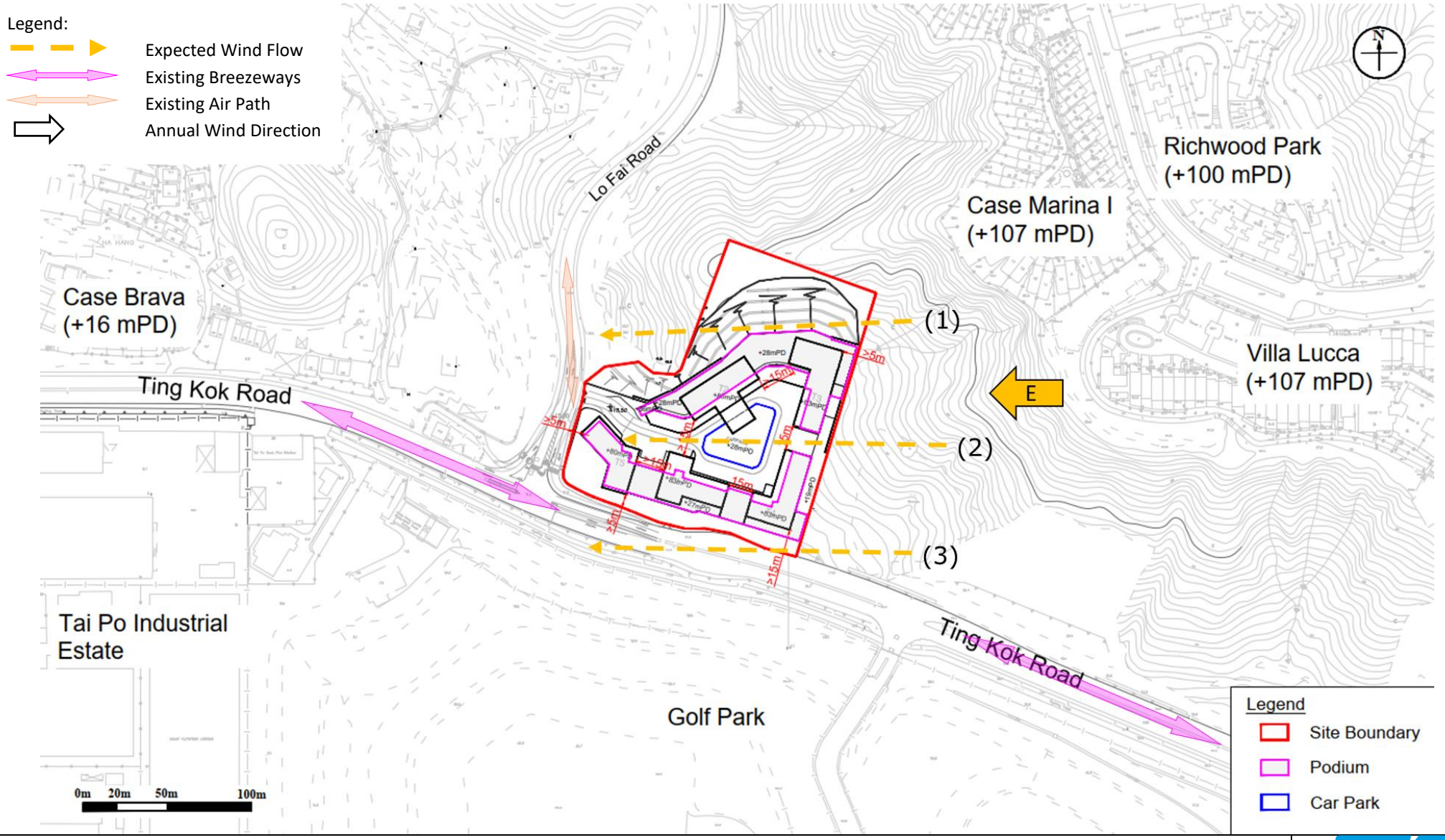

Figure: 5b	RAMBOLL
Title: Illustration of Wind Flow from Annual Wind Directions for Proposed Scheme at Site A (E Wind)	Drawn by: MK Checked by: CC
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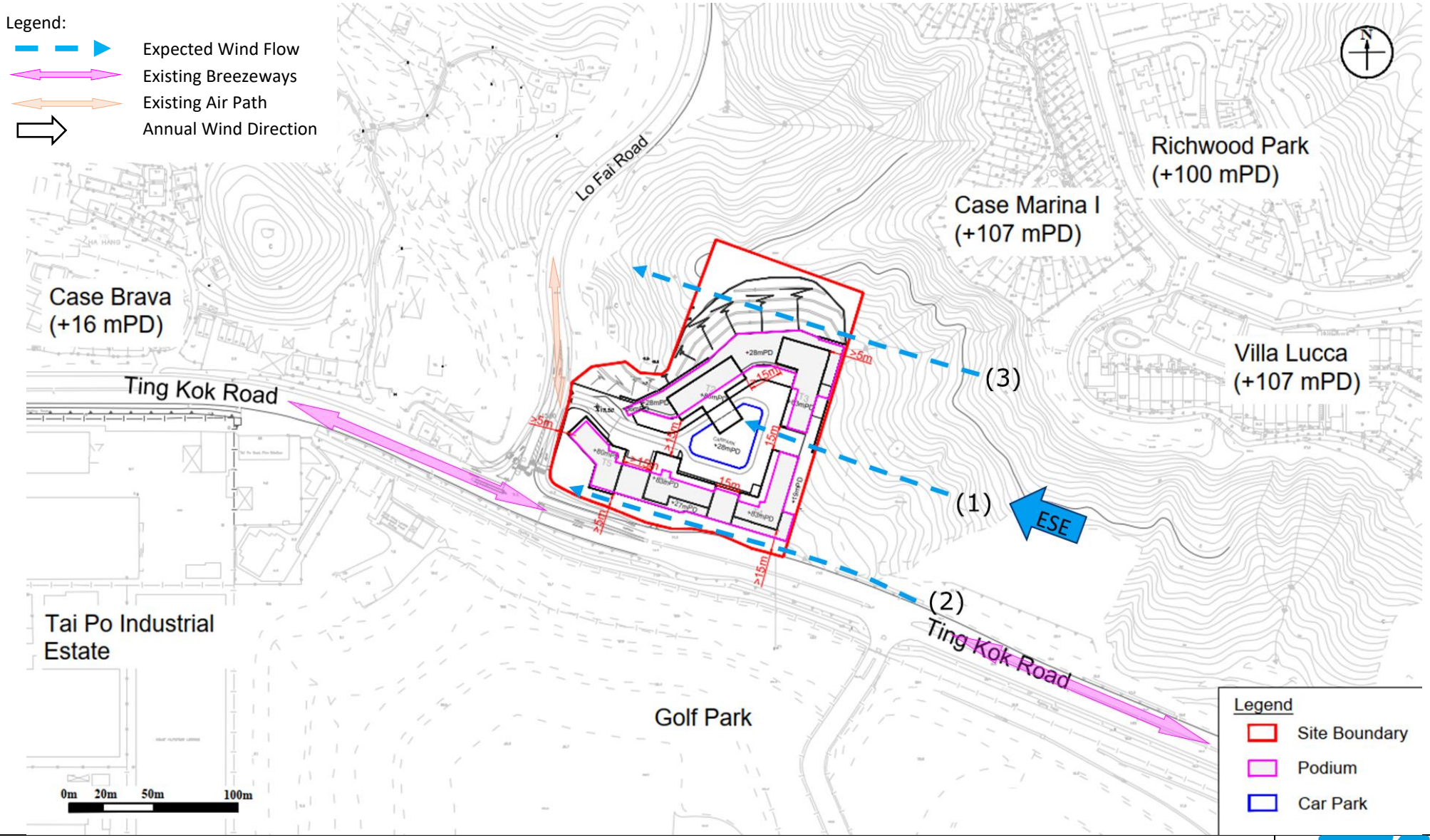

Figure: 5c	RAMBOLL
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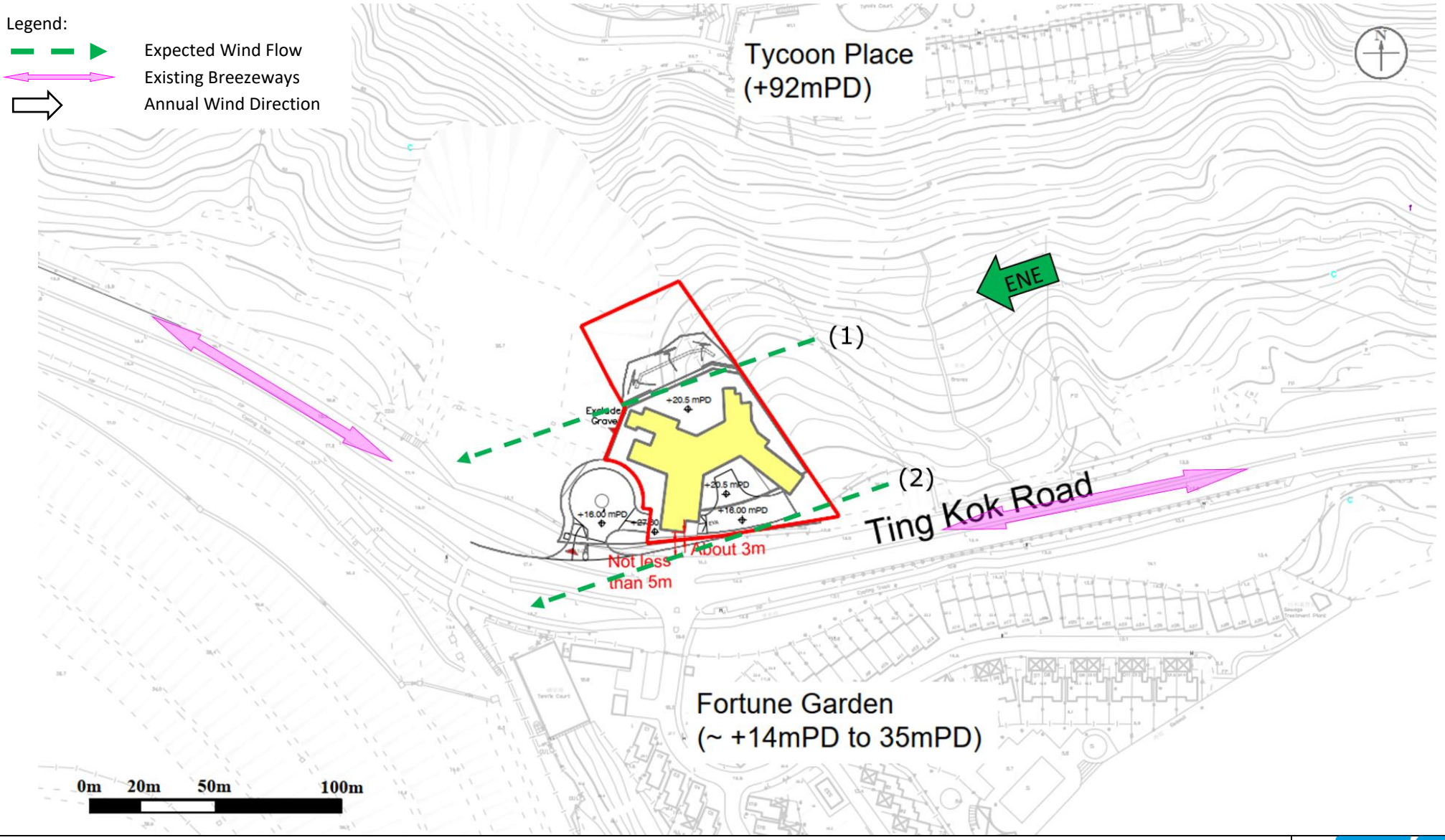

Figure:	6a	RAMBOLL
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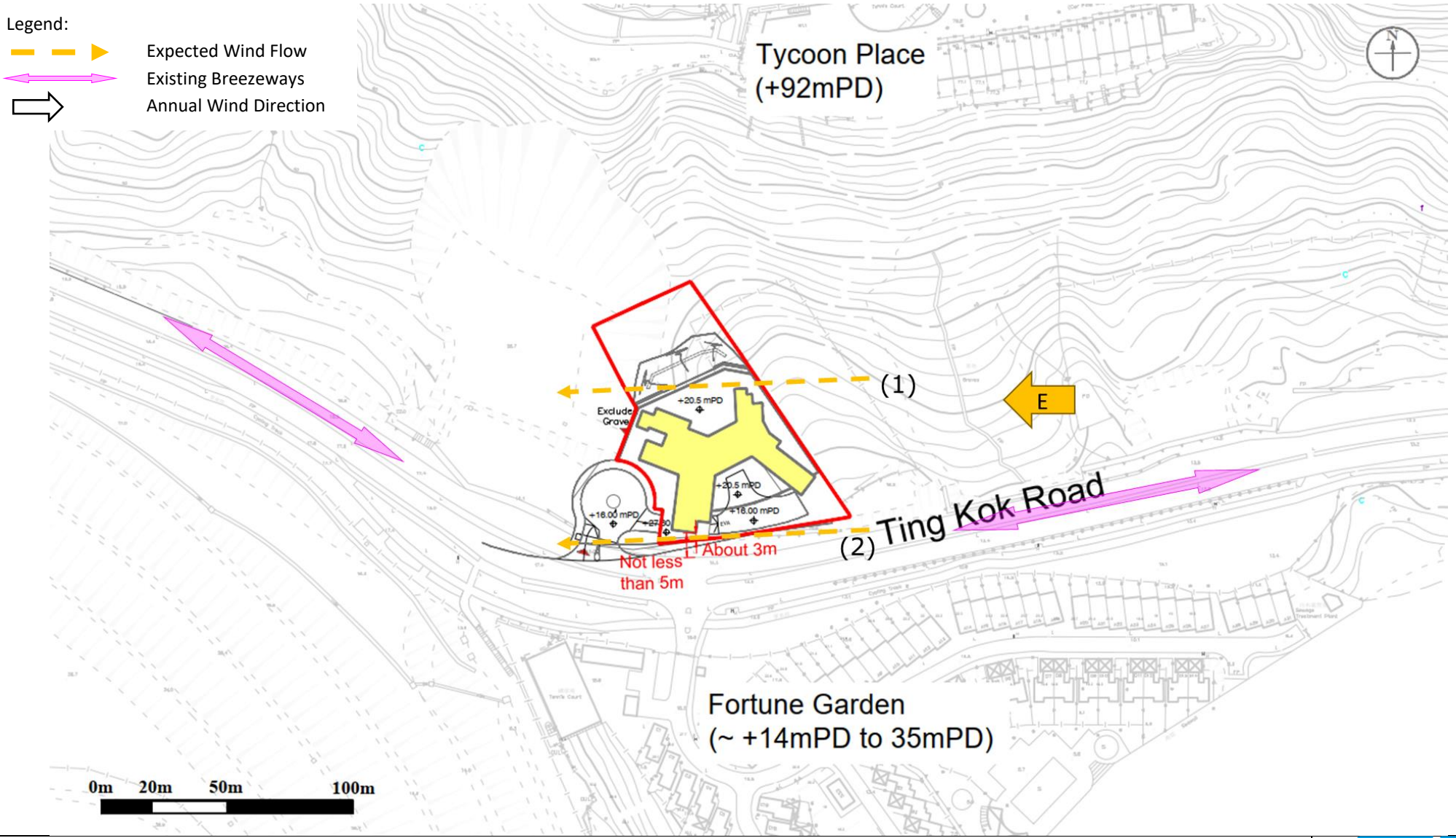

Figure:	6b	RAMBOLL
Title:	Illustration of Wind Flow from Annual Wind Directions for Proposed Scheme at Site B (E Wind)	Drawn by: MK Checked by: CC
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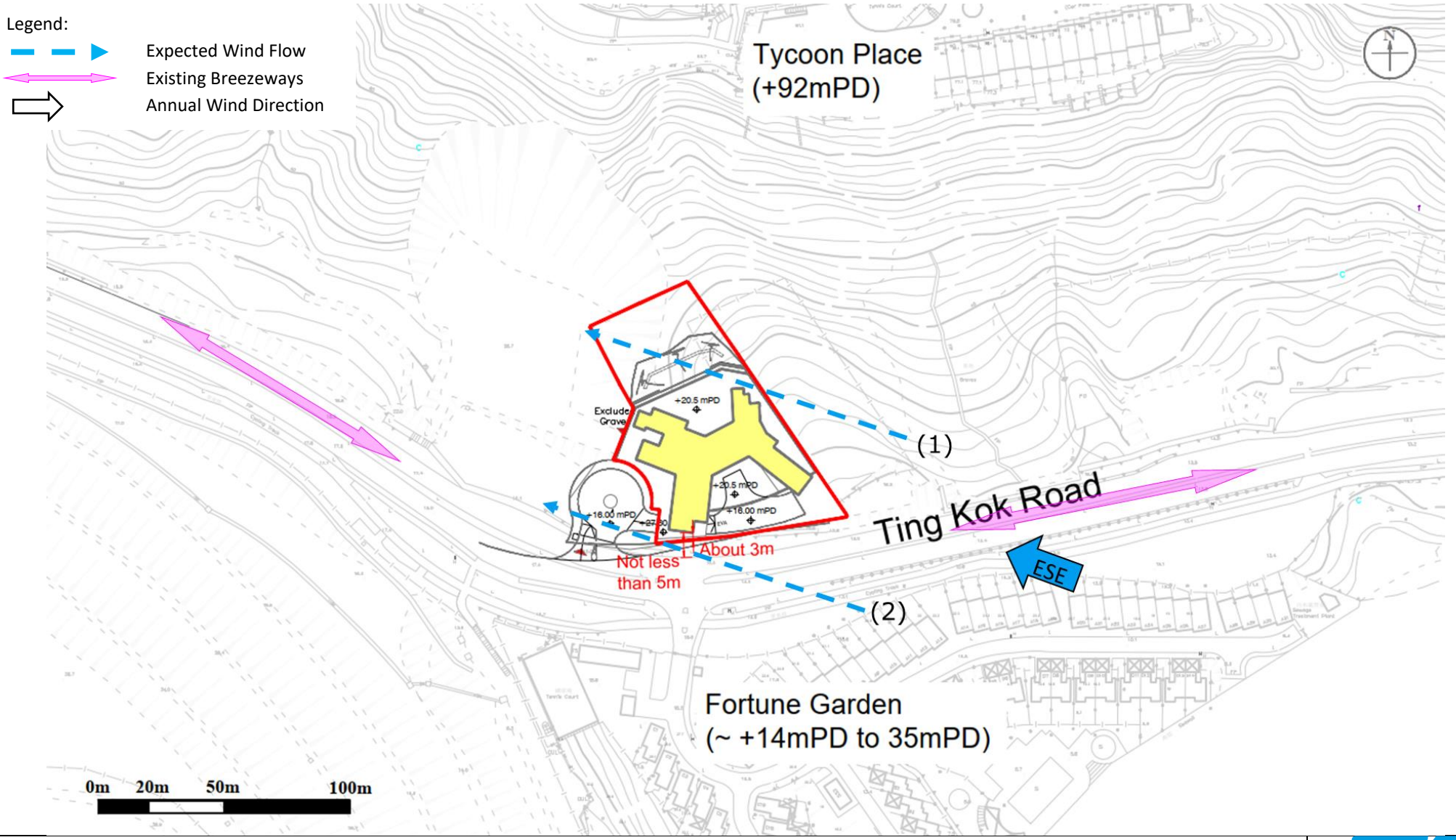

Figure:	6c	RAMBOLL
Title:	Illustration of Wind Flow from Annual Wind Directions for Proposed Scheme at Site B (ESE Wind)	Drawn by: MK Checked by: CC
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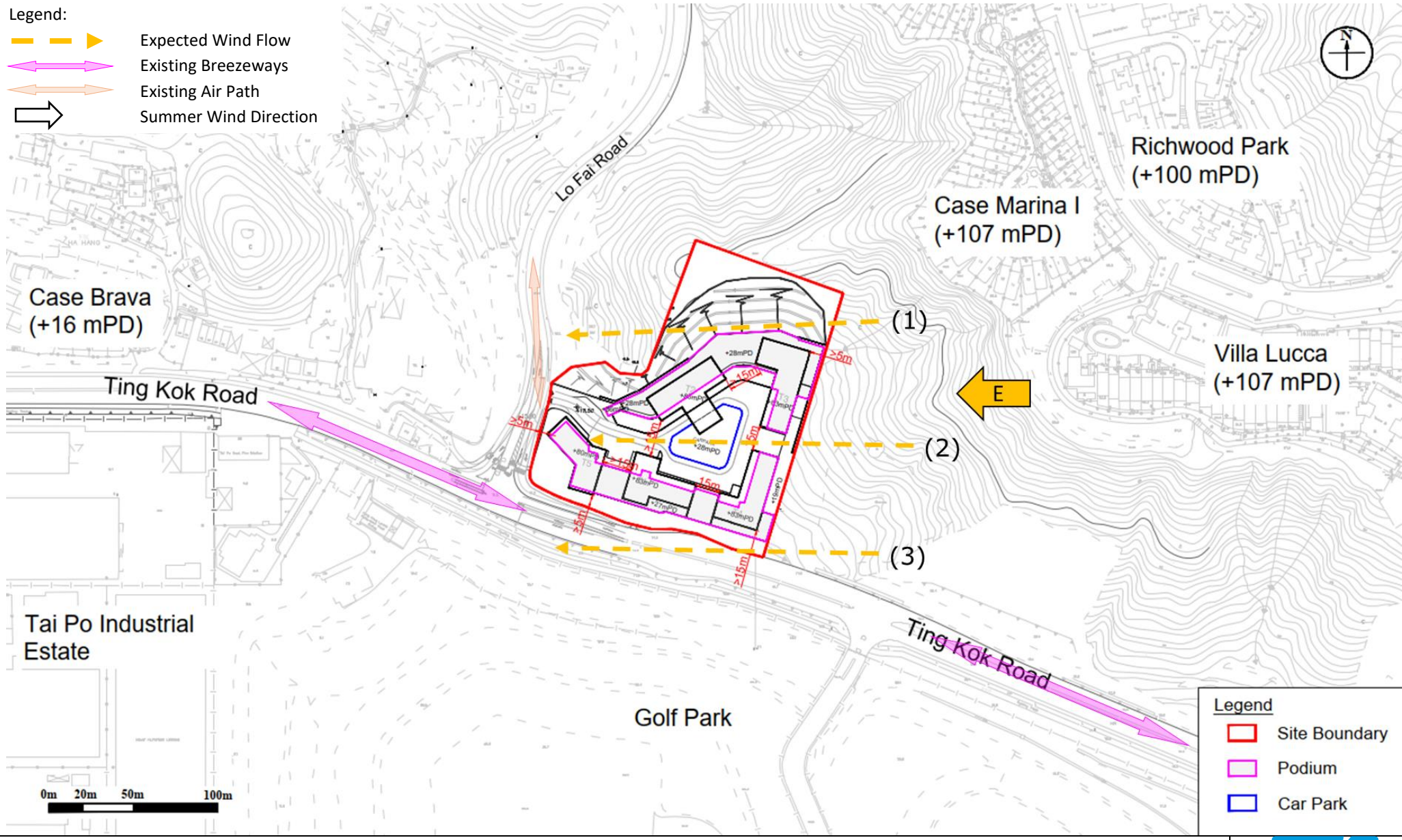

Figure: 7a	RAMBOLL
Title: Illustration of Wind Flow from Summer Wind Directions for Proposed Scheme at Site A (E Wind)	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

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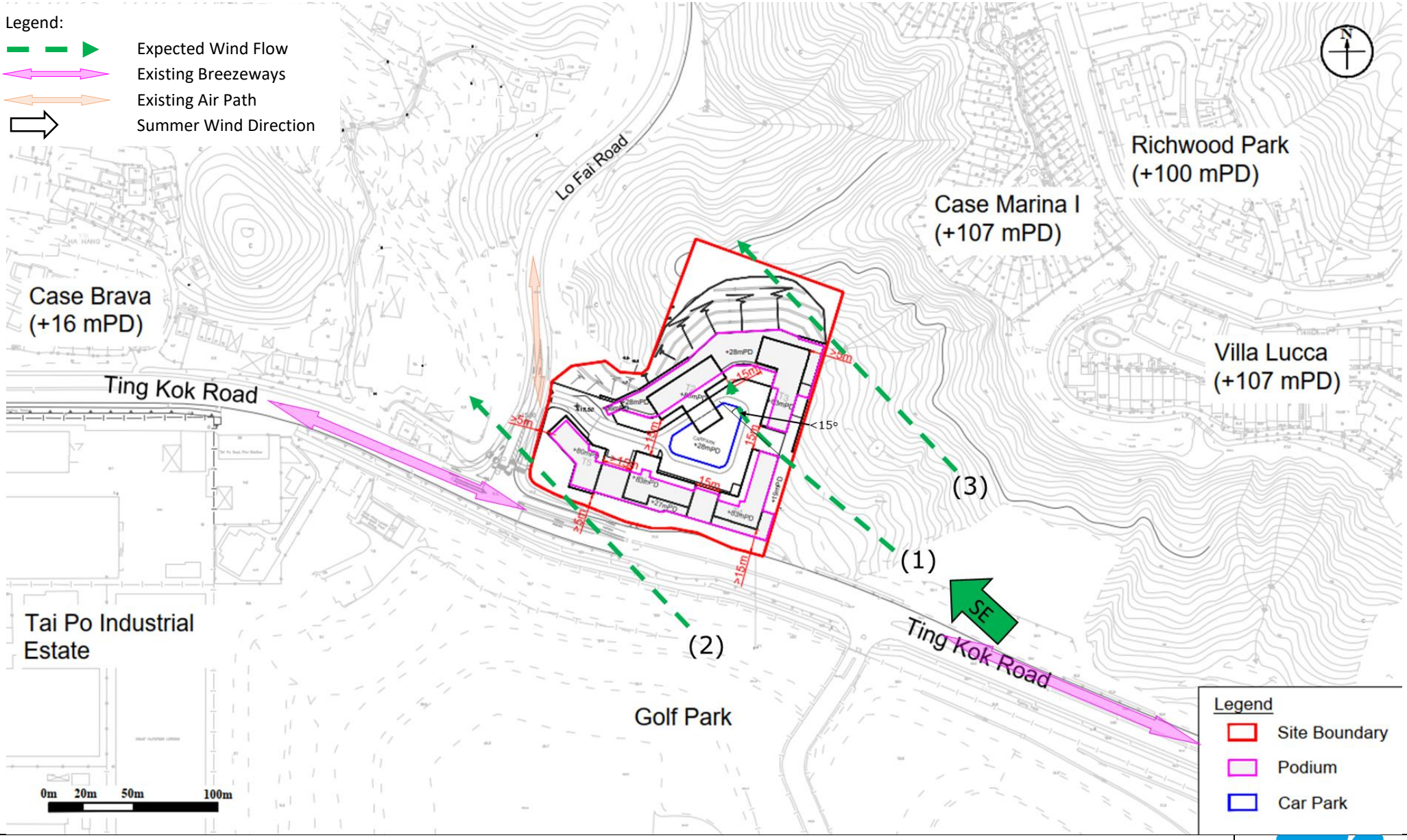

Figure: 7b	RAMBOLL
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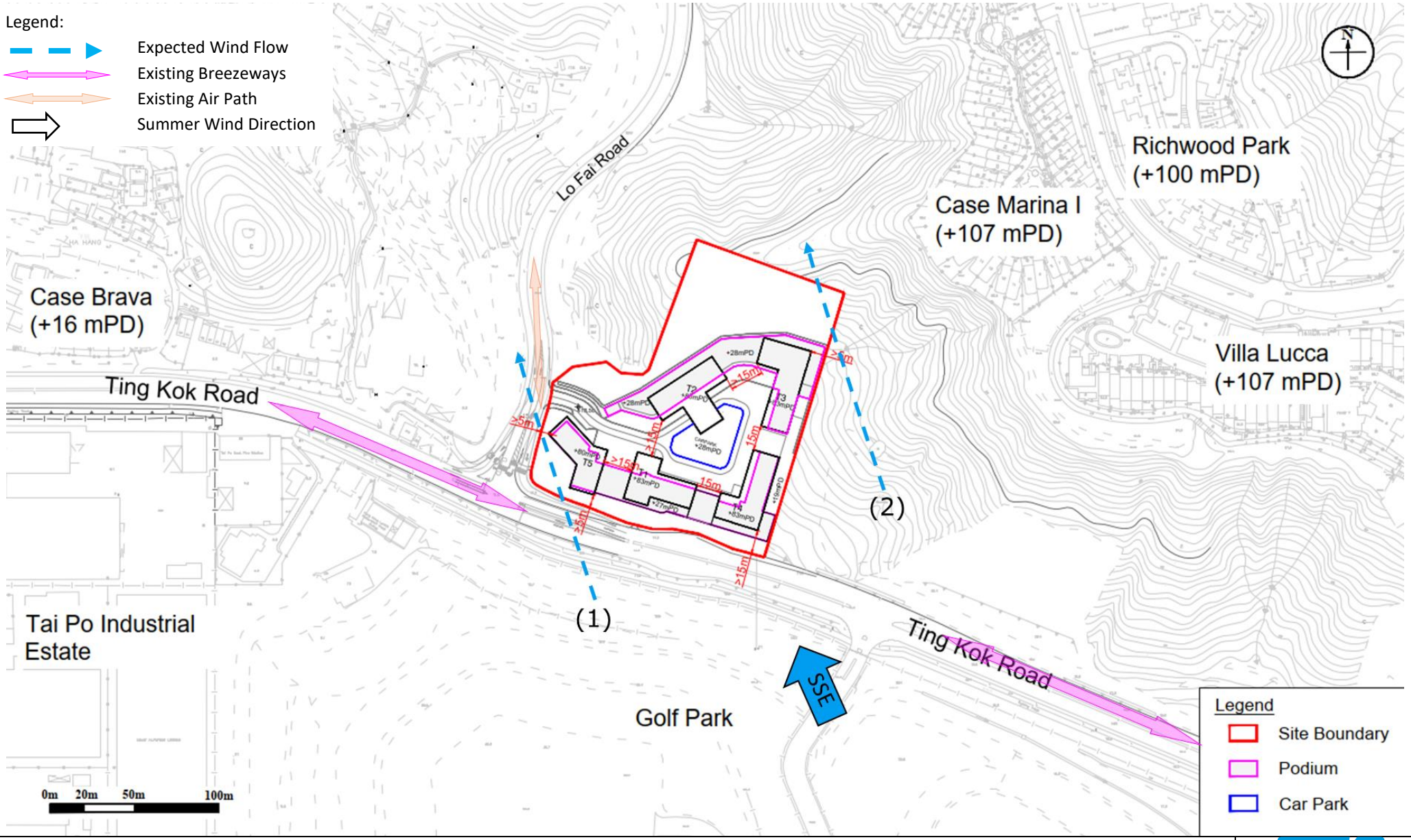

Figure: 7c	RAMBOLL
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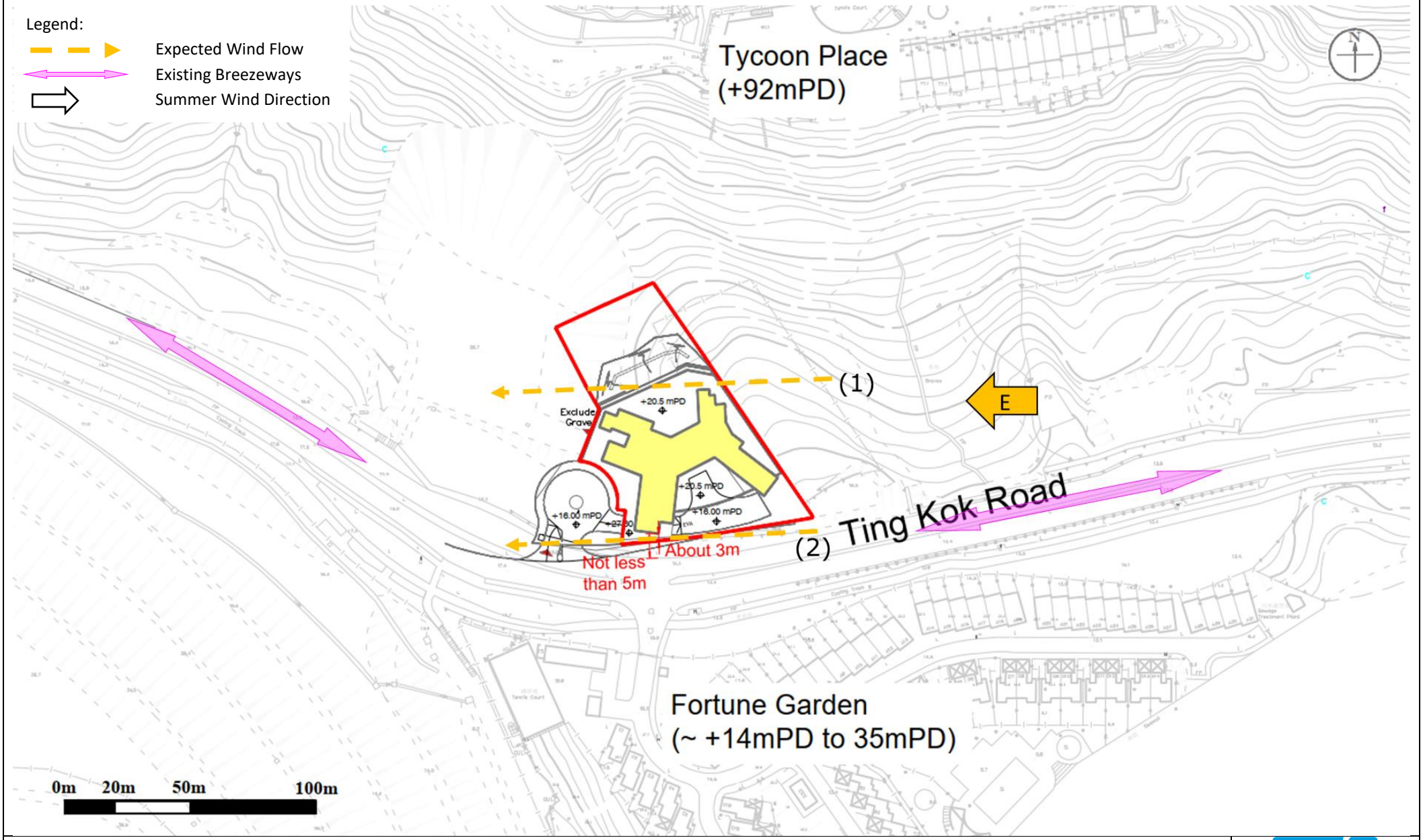

Figure: 8a	RAMBOLL
Title: Illustration of Wind Flow from Summer Wind Directions for Proposed Scheme at Site B (E Wind)	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

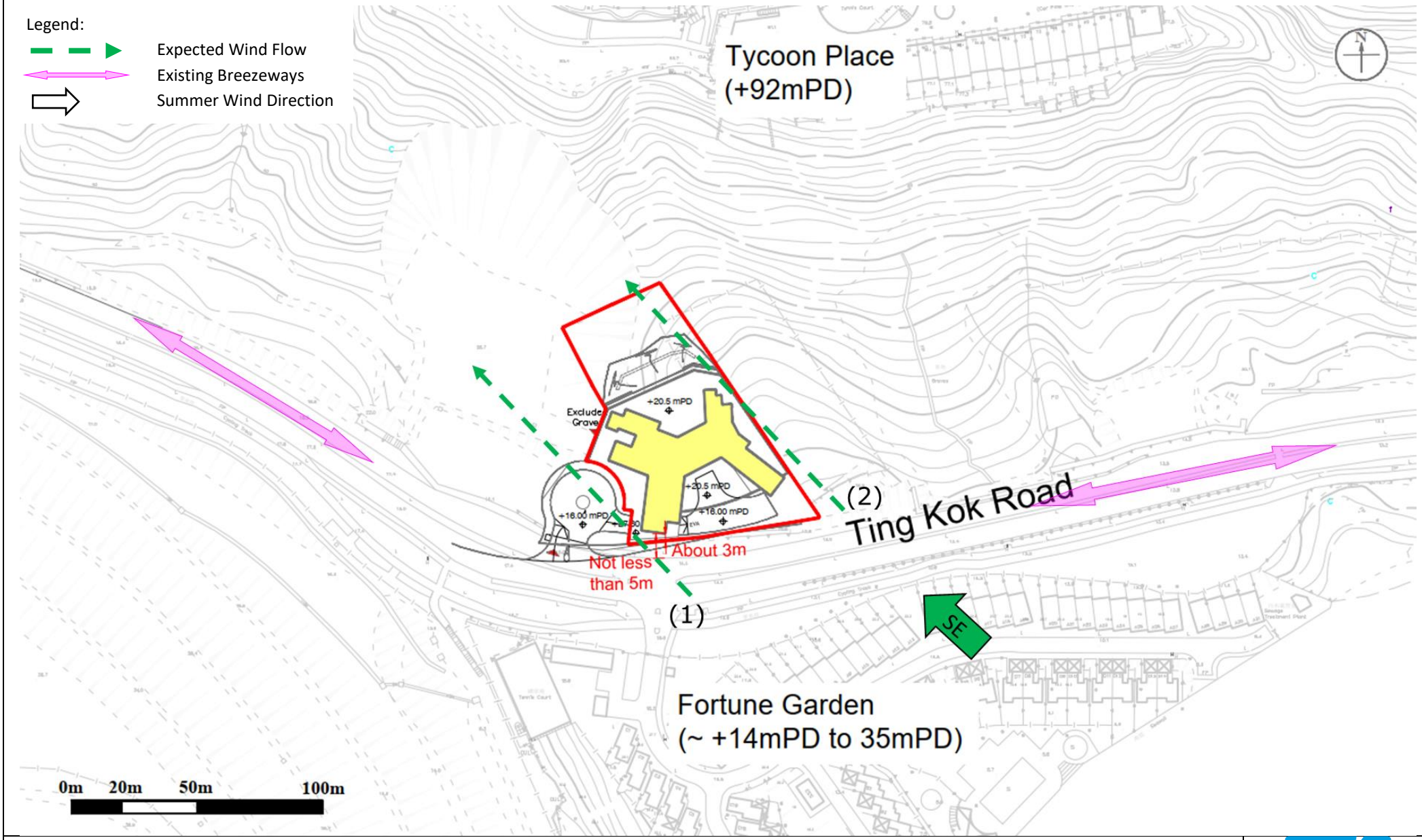

Figure: 8b	RAMBOLL
Title: Illustration of Wind Flow from Summer Wind Directions for Proposed Scheme at Site B (SE Wind)	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

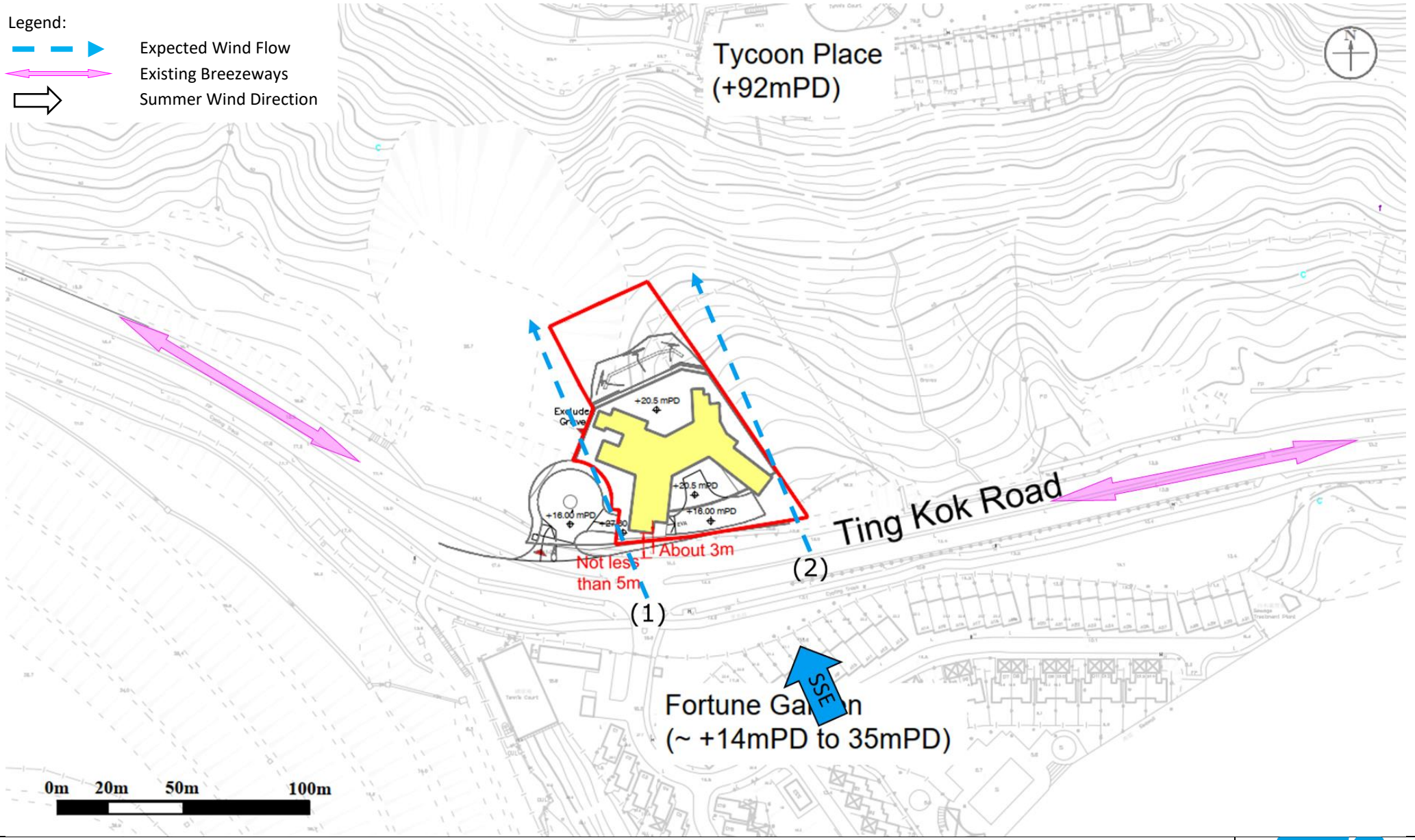

Figure: 8c	RAMBOLL
Title: Illustration of Wind Flow from Summer Wind Directions for Proposed Scheme at Site B (SSE Wind)	Drawn by: MK Checked by: CC
Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

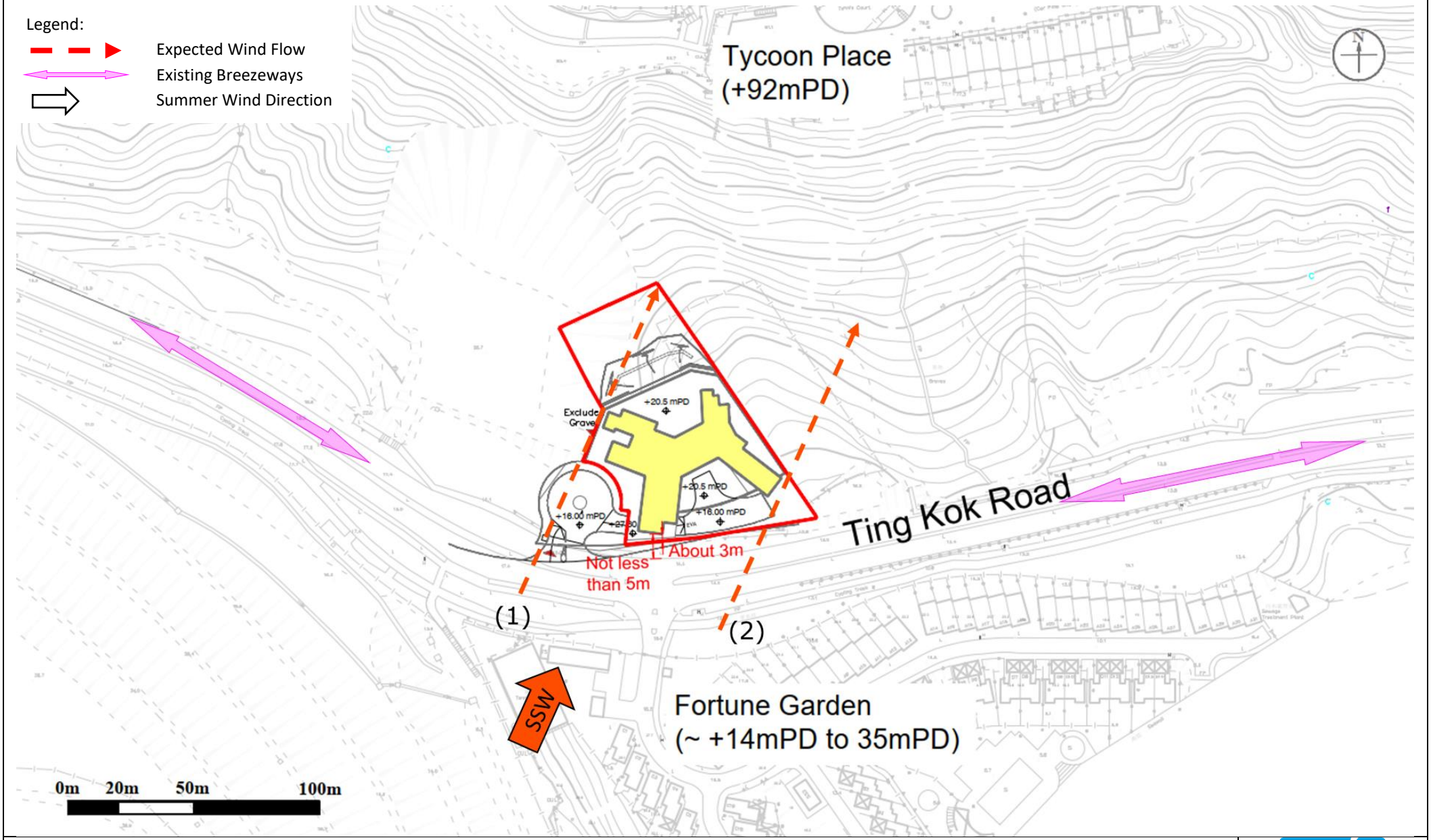

Figure:	8d	RAMBOLL
Title:	Illustration of Wind Flow from Summer Wind Directions for Proposed Scheme at Site B (SSW Wind)	Drawn by: MK Checked by: CC
Project:	Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po	Rev.: 1.5 Date: Dec 2024

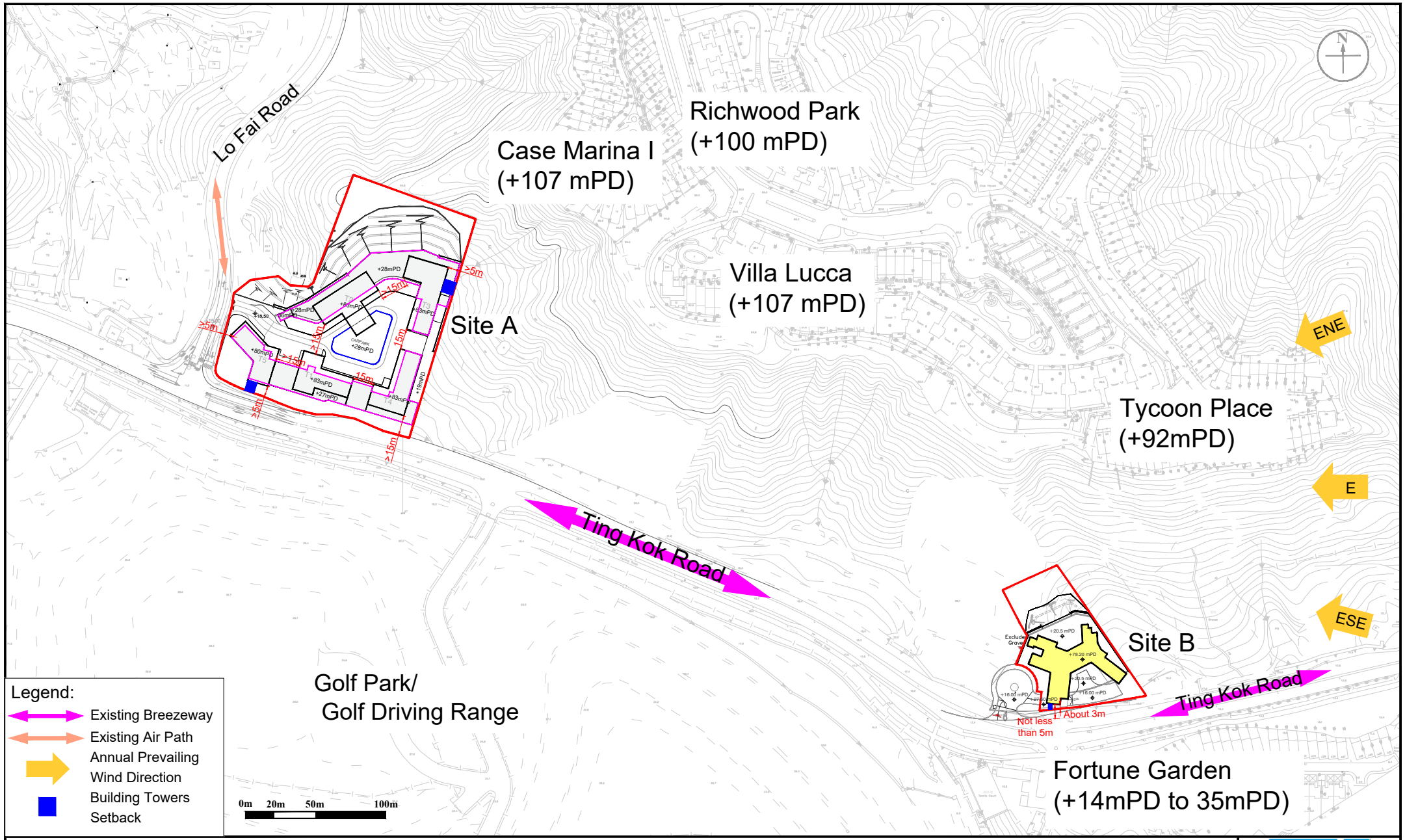

Figure: 9

Title: Summary of Annual Prevailing Wind Directions and Mitigation Measures for Site A & Site B

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	CC
Checked by:	MK
Rev.:	1.0
Date:	Feb 2025

Q:\Projects\NFDUDWYTEI00\04 Deliverables\06 AVA EE Report\01 Figure\Fig5.dwg

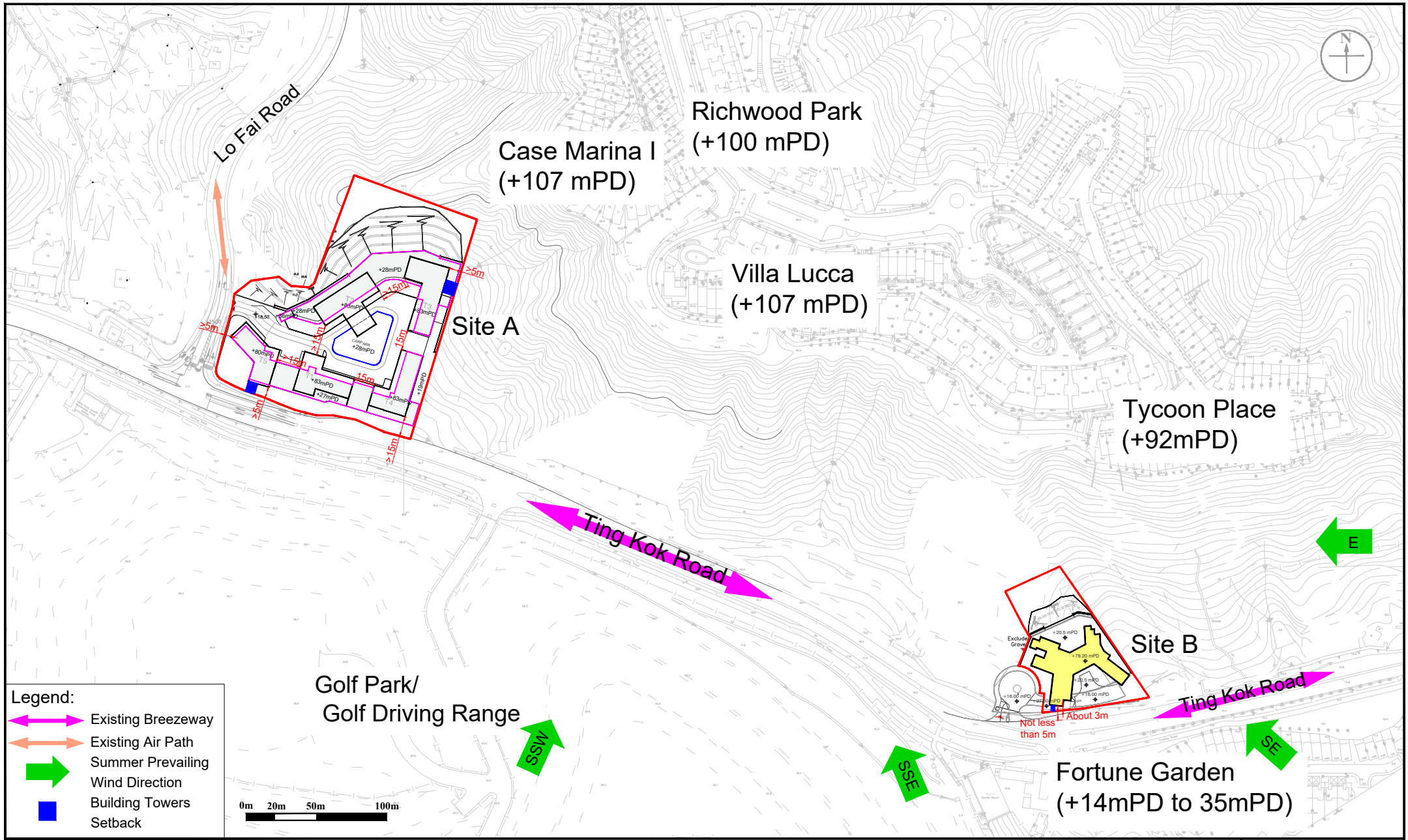

Figure: 10

Title: Summary of Summer Prevailing Wind Directions and Mitigation Measures for Site A & Site B

Project: Proposed Public Residential Housing / Starter Homes Development at UDWYT Lot 14RP (Site A) & UDWYT Lot 11 RP (Site B), Wong Yue Tan, Tai Po

RAMBOLL

Drawn by:	CC
Checked by:	MK
Rev.:	1.0
Date:	Feb 2025

Q:\Projects\NFDUDWYTEI00\04 Deliverables\06 AVA EE Report\01 Figure\Fig5.dwg

LAND SHARING PILOT SCHEME

PROPOSED PUBLIC RESIDENTIAL HOUSING/STARTER HOME DEVELOPMENT AT UDWYT LOT 14 RP (SITE A) AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT UDWYT LOT 11 RP (SITE B)

LANDSCAPE MASTER PLAN

(7th Submission)

FEB 2025

Applicant:
Kam Luk Investment Company Limited

Consultancy Team:
KTA Planning Limited
Colliers International
DLN Architects Limited
MVA Hong Kong Limited
Earthasia Limited
C M Wong & Associates Limited
Land Marker (1980) HK Company Limited

Issue and Revision Record

Rev	Date
-	JULY 2021
A	MAY 2023
B	AUG 2023
C	DEC 2023
D	OCT 2024
E	JAN 2025

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SECTION 1 INTRODUCTION

1.1 Introduction

This Landscape Master Plan is prepared for Kam Luk Investment Company Limited in support of the development proposal prepared for the Land Sharing Pilot Scheme ("LSPS") where the Lot No. 14 RP in Unsurveyed District at Wong Yue Tan and adjoining Government Land ("Site A") is proposed for public residential housing / starter homes ("SH") development, and the Lot No. 11 RP in Unsurveyed District at Wong Yue Tan and adjoining Government Land ("Site B") is proposed for private residential development in Wong Yue Tan, Tai Po ("the Sites"). The purpose of this Landscape Master Plan is to provide the Land Sharing Office and the Panel of Advisors with necessary landscape information and justifications for consideration of this development proposal. Please refer to **Appendix A** Site Location Plan.

SECTION 2 EXISTING SITE CONDITIONS

2.1 Existing Site Conditions

The Sites are both situated on vegetated slopes in along Ting Kok Road, Tai Po near Tai Po Industrial Estate. Site A with an area of about 20,291m2 is bounded by Ting Kok Road to its southwest, Lo Fai Road to its northwest, existing vegetation to its immediate northeast, and a number of graves to its southeast. Site B, located at about 500m to the southeast from Site A, has a site area of about 5,696 m2 and is bounded by Ting Kok Road to its south, slope features to its northwest, existing vegetation to its north and a permitted burial ground site no. TP/E2 to its east.

The Sites are both covered densely by trees and vegetation. The Sites are sloping grounds and different parts in Site A and Site B vary from 14mPD to 68mPD and 13mPD to 44mPD respectively. Some registered slopes are found within the Sites, of which some are maintained by the Highways Department. An existing structure is found within Site B near its southern boundary abutting Ting Kok Road. Please refer to **Appendix D** for the photos of the existing site condition.

2.2 General Description of Existing Trees

Please refer to Annex A – Tree Preservation and Removal Proposal.

SECTION 3 DEVELOPMENT PROPOSAL

3.1 The Indicative Development Proposal

The proposed public residential housing / Starter Homes ("SH") development at Site A (included Limb A Government Land) comprises 5 nos. of residential towers with maximum building height ("BH") of not more than 83mPD at main roof level. The proposed development at Site A will attain a total maximum domestic GFA of about 64,522m2, providing a total of about 1,290 nos. of flats with an estimated population of about 3,612. The proposed development will include 2 levels for G/IC facilities and internal transport facilities is located on grade at level 19.0mPD.

The proposed private residential development at Site B will have 1 no. of residential tower with a maximum BH of 78.2mPD at main roof level. The residential blocks stand atop the carpark below level 20.5mPD. The residents' clubhouse will be located on level 20.5mPD near the entrance. The maximum GFA will be about 23,000 m2, providing a total of 460 nos. of flats for an estimated population of about 1,288.

3.2 Landscape Master Plan - Design Strategy and Principles

The existing conditions and character of the surrounding site are to be taken into account to ensure the proposed landscape areas can create a pleasant and integrated environment for the users. The arrangement of the landscape spaces incorporates careful planning to ensure ease of access, appropriate design, the use of materials, visual and functional effectiveness.

The following landscape design objectives have been set as a guideline in developing the proposed landscape design:

- To soften the built-form by maximizing opportunities for landscaping so as to achieve better visual integration with the buildings and open spaces provided
- To establish pleasant landscape areas which not only satisfy varying needs of users, and also create identity for the development as well as in harmony with the architectural style
- To provide adequate spacious open space and quality environment for the users.
- To ensure that all landscaped areas are designed and finished to minimize future maintenance requirements
- To provide Barrier Free Access catering the disabled to all landscape areas in accordance with the requirements of Design Manual – Barrier Free Access from Buildings Department.
- To comply with relevant safety standards and guidelines for all outdoor facilities specified in open spaces.

3.3 Landscape Master Plan - Hard and Soft Landscape Particulars

The materials, patterns and finishes for the landscape hardworks and softworks will be selected to create a distinctive and unique landscape suitable in harmony with the architecture. The materials and finishes are also selected to be durable and minimize maintenance efforts.

Manual irrigation covering entire area and drainage provisions will also be ensured for proper maintenance. Outdoor play equipment and/or fitness equipment with safety mat shall all be in accordance with the relevant international safety standards. Landscape lighting shall take reference from CIBSE recommended lighting level for different landscape functional areas.

The planting design aims to create a lush open green area. A combination of species rich in textural and colour contrast are proposed. Planting at the various levels shall include coloured foliage species to create a leisure and pleasant environment as well as seasonal interest. All species chosen shall be hardy and require low future maintenance. Mixed plants with native and ornamental species will also be chosen for the display of aesthetic features. The proposed planting species are as follows:

Table 3.1.1- Indicative Tree Planting (Whip Tree) Schedule for Site A

Botanical name	Chinese name	Origin	DBH (mm)
Bischofia javanica	秋楓	Native	20
Cinnamomum burmannii	陰香	Native	20
Schima superba	木荷	Native	20
Elaeocarpus decipiens	尖葉杜英	Native	20
Elaeocarpus sylvestris	山杜英	Native	20
Litsea monopetala	假柿樹	Native	20
Macaranga tanarius	血桐	Native	20
Pongamia pinnata	水黃皮	Native	20
Sterculia lanceolata	假蘋婆	Native	20
Viburnum odoratissimum	珊瑚樹	Native	20

Table 3.1.2- Indicative Tree Planting (Heavy Standard) Planting Schedule for Site B

Abbreviation	Botanical Name	Chinese Name	Origin	Size	DBH (mm)	Live Crown Ratio (%)
CBU	*Cinnamomum burmannii*	陰香	Native	Heavy Standard	120	50%
CCA	*Cinnamomum camphora*	樟樹	Native	Heavy Standard	120	50%
EDE	*Elaeocarpus decipiens*	尖葉杜英	Native	Heavy Standard	100	50%
ESY	*Elaeocarpus sylvestris*	山杜英	Native	Heavy Standard	100	50%

Table 3.1.3 - Indicative Tree Planting (Whip Tree) Planting Schedule for Site B

Botanical name	Chinese name	Origin	DBH (mm)
Bischofia javanica	秋楓	Native	20
Cinnamomum burmannii	陰香	Native	20
Schima superba	木荷	Native	20
Elaeocarpus decipiens	尖葉杜英	Native	20
Elaeocarpus sylvestris	山杜英	Native	20
Litsea monopetala	假柿樹	Native	20
Macaranga tanarius	血桐	Native	20
Pongamia pinnata	水黃皮	Native	20
Sterculia lanceolata	假蘋婆	Native	20
Viburnum odoratissimum	珊瑚樹	Native	20

Table 3.2- Indicative Shrub/Groundcover Planting Schedule

Botanical name	Chinese name	Origin	Size(mm)	Spacing(mm)
Shrub				
Aglaia odorata	米仔蘭	Exotic	400Hx400S	400
Durenta repens 'Golden Leaves'	金連翹	Exotic	550Hx500S	500
Gardenia jasminoides	梔子	Native	400Hx450S	450
Melastoma malabathricum	野牡丹	Native	600Hx450S	450
Rhododendron simsii	紅杜鵑	Native	400Hx450S	500
Schefflera arboricola	花葉鴨腳木	Native	500Hx500S	450
Groundcover				
Asparagus densiflorus 'Meyeri'	狐尾天冬	Native	200Hx200S	150
Nephrolepis auriculata	腎蕨	Native	200Hx200S	150
Ophiopogon japonicus 'variegata'	花葉沿階草	Native	150Hx200S	100
Zephyranthes candida	蔥蓮	Exotic	150Hx200S	100
Vertical Greenery –Wire System (Climber)				
Trachelospermum jasminioides 'Variegata'	花葉絡石	Native	1000 long	200

The soil depth provision will be as follows, excluding all drainage layer, water proofing and protective screeding:

Table 3.3- Soil Depth Provision

Planting Type	Fabricated Soil Depth
Tree	1200mm (min)
Shrub	600mm (min)
Groundcover / Climber	300mm (min)

Please refer to **Appendix B** Landscape Master Plan for both Sites A and B.

3.4 Site Coverage of Open Space Requirement

The estimated population for Site A is 3,612**,** whereas the open space on G/F and Podium is **3,614m²**, which is more than the minimum open space requirement of 3,612m². The estimated population for Site B is 1,288, whereas the accumulative open space on G/F is **1,289m²**, which is more than the minimum open space requirement of 1,288m². Open space provision plan is shown in **Appendix C**.

3.5 Irrigation and Drainage

Proposed irrigation system for all landscaped area will be by means of standpipes for manual operation. Water points are located at 20m hose radius covering all planting areas. Sub-soil drainage shall be provided for all planting areas.

3.6 Maintenance

The future building management will be responsible to ensure the management and maintenance of the landscaped area to be undertaken in a sustainable manner, including tree monitoring of health or structural risks and planting maintenance, including fertilizing, watering, pruning, etc. The landscape area should be closely monitored and treated in an appropriate and timely manner. A maintenance schedule is shown in **Table 3.6** as reference guideline for future maintenance.

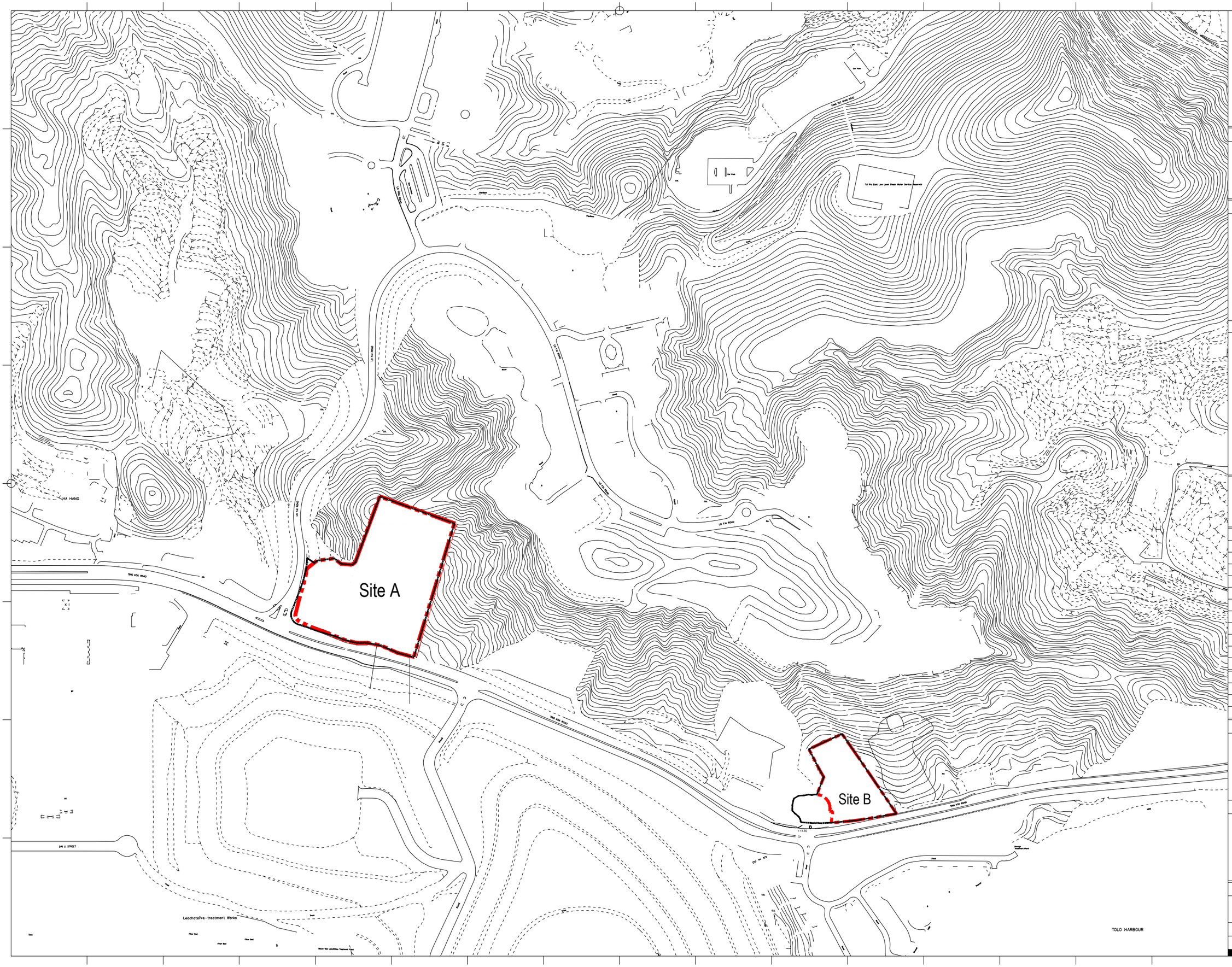
The Property Owners shall appoint a qualified tree professional to conduct tree risk assessment to facilitate proper tree management and maintenance for all trees within Lot in a timely manner. The qualifications for the personnel who perform the assessment will make reference to the related tree maintenance and tree risk assessment works guidelines and / or practice notes at that time.

Table 3.6- Maintenance Schedule

	12 Months (Time/month)											
	1st mth.	2nd mth.	3rd mth.	4th mth.	5th mth.	6th mth.	7th mth.	8th mth.	9th mth.	10th mth.	11th mth.	12th mth.
Tree Risk Assessment	As required											
Plants Treatment												
Fertilizing						1						1
Pruning	As required											
Preventive pesticide				1				1				1
Pest Checking			1			1			1			1
Litter Clearing	1	1	1	1	1	1	1	1	1	1	1	1
Weed Removal		1		1		1		1		1		1
Watering	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily

APPENDIX A

SITE LOCATION PLAN



earthasia limited

香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

Kam Luk Investment Company Limited

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PROPOSED SITE BOUNDARY

SURVEY BOUNDARY

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025

DESIGN: EW

DRAWN:

CHECKED: PL

STAGE:

PROJECT: 75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

SITE LOCATION PLAN

SCALE: 1:5000 (A1)

DRAWING NO.: SP-01

REVISION D

DATE: OCT 2024

REFERENCE:

APPENDIX B

LANDSCAPE MASTER PLAN

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	SURVEY BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	VERTICAL GREENERY WIRE SYSTEM (CLIMBER)

eadg泛亞國際
earthasia limited
香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025
F	SUBMISSION	FEB 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

LANDSCAPE MASTER PLAN (SITE A)

SCALE:	1:250(A3)
DRAWING NO.: LP-A-01	REVISION: F
DATE:	FEB 2025
REFERENCE:	

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	PROPOSED REZONING SITE BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	PROPOSED TREES
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	VERTICAL GREENERY WIRE SYSTEM (CLIMBER)

CHILDREN PLAYGROUND +20.5 mPD

BUILDING SCREEN WALL

SITTING-OUT AREA

SITTING-OUT AREA

+20.5 mPD

LANDSCAPE GARDEN

+16.00 mPD

+16.00 mPD

EVA

30° Cut Slope

13M

12.8

15.3

15.0

N

10m 50m 100m

eadg 泛亞國際

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香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

KAM LUK INVESTMENT COMPANY LIMITED

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	APR 2023
A	SUBMISSION	JAN 2025
F	SUBMISSION	FEB 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

LANDSCAPE MASTER PLAN (SITE B)

SCALE:	1:250(A3)
DRAWING NO.: LP-B-01	REVISION F
DATE:	FEB 2025
REFERENCE:	

APPENDIX C

OPEN SPACE PROVISION

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	SURVEY BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	OPEN SPACE (GROUND FLOOR)
	OPEN SPACE (PODIUM FLOOR)

N

LO FAI ROAD

TING KOK ROAD

Cycling Track

55 deg.

30 deg.

30 to 50

T1 +28.00 mPD

T2

T3 +83.00 mPD

T4 +83.00 mPD

T5 +80.00 mPD

+27.00 mPD

+19.00 mPD

+18.50

CHILDREN PLAY TERRAIN +28.00 mPD

LANDSCAPE GARDEN

FITNESS CORNER +28.00 mPD

COVERED LANDSCAPE AREA

OPEN CARPARK

CARPARK +28.00 mPD

CHILDREN PLAYGROUND

LANDSCAPE GARDEN

CHILDREN PLAYGROUND

SITTING-OUT AREA

SITTING-OUT AREA

FITNESS CORNER

retaining height 2-8m

Excluded Grave

10m 50m 100m

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香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

OPEN SPACE PROVISION PLAN (SITE A)

SCALE:	1:800(A3)
DRAWING NO.: OP-A-01	REVISION F
DATE:	FEB 2025
REFERENCE:	

LEGEND

CODE	DESCRIPTION
	PROPOSED DEVELOPMENT SITE BOUNDARY
	PROPOSED REZONING SITE BOUNDARY
	PROPOSED SOLDIER PILE WALL
	PROPOSED TOWER
	PROPOSED HARD PAVED AREA
	PROPOSED VEHICULAR PATH
	PROPOSED LANDSCPE AREA
	PROPOSED WHIP TREE PLANTING AREA
	PROPOSED SITE FORMATION SLOPE
	PROPOSED TREES
	EXISTING TREES ON SLOPE
	MAJOR ENTRANCE
+XX.XX mPD	SPOT LEVEL
	OPEN SPACE

CHILDREN PLAYGROUND
+20.5 mPD

SITTING-OUT AREA

SITTING-OUT AREA

BUILDING SCREEN WALL

LANDSCAPE GARDEN

+20.5 mPD

+16.00 mPD

+16.00 mPD

EVA

30° Cut Slope

15.3

15.0

12.8

10m

50m

100m

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香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE
-	SUBMISSION	JUL 2023
A	SUBMISSION	MAY 2023
B	SUBMISSION	AUG 2023
C	SUBMISSION	DEC 2023
D	SUBMISSION	JAN 2025

DESIGN:	EW
DRAWN:	
CHECKED:	PL
STAGE:	
PROJECT:	75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

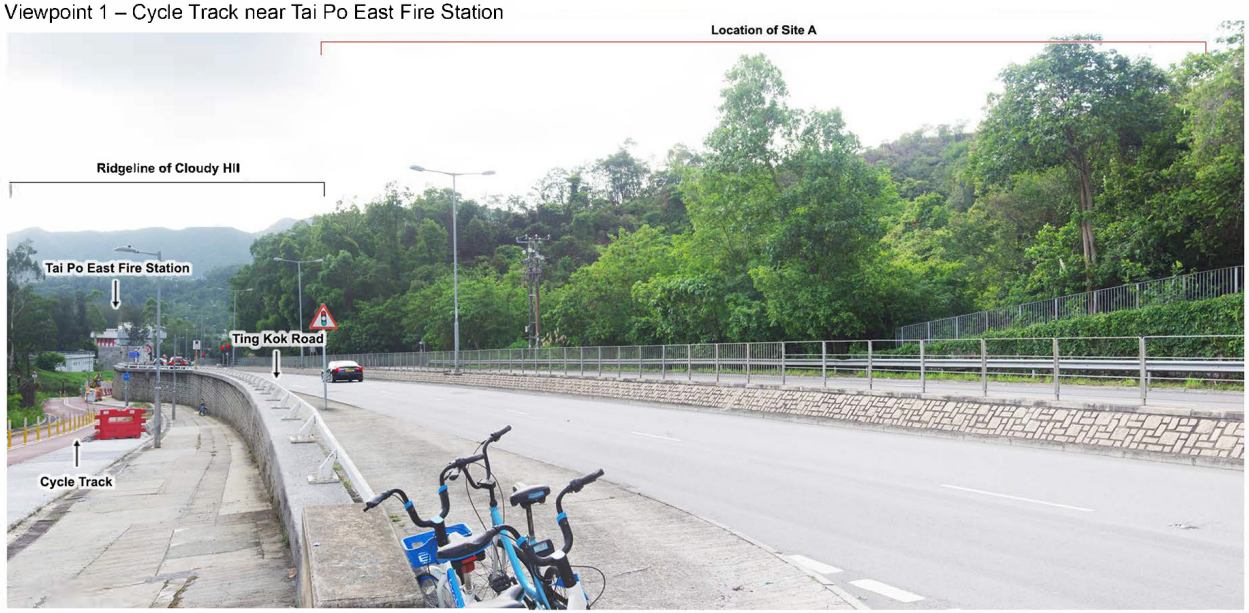
OPEN SPACE PROVISION PLAN (SITE B)

SCALE:	1:500(A3)
DRAWING NO.: OP-B-01	REVISION F
DATE:	FEB 2025
REFERENCE:	

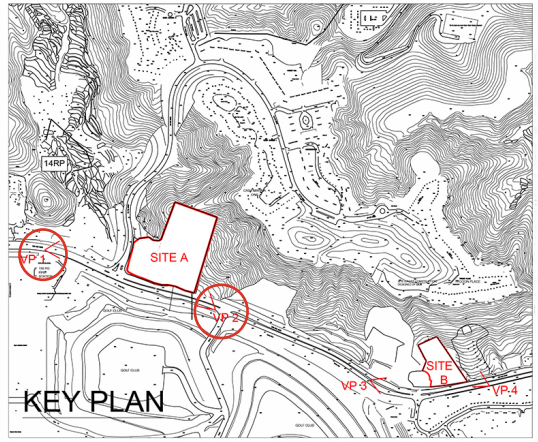
APPENDIX D

EXISTING SITE CONDITION

Viewpoint 1 – Cycle Track near Tai Po East Fire Station



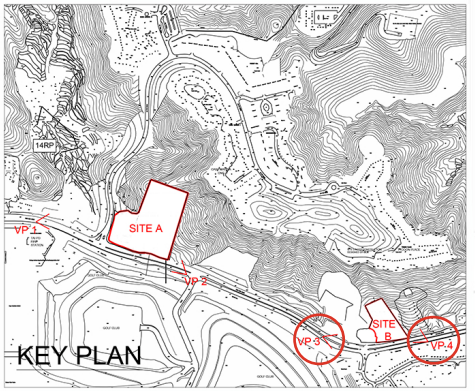
Viewpoint 2 – Cycle Track near Entrance of Golf Course



EXISTING SITE CONDITION (SITE A)

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

Date: 15 May 2023



Viewpoint 3 – Cycle Track near Tai Po Fortune Garden Bus Stop

Viewpoint 4 – Cycle Track near Fortune Garden

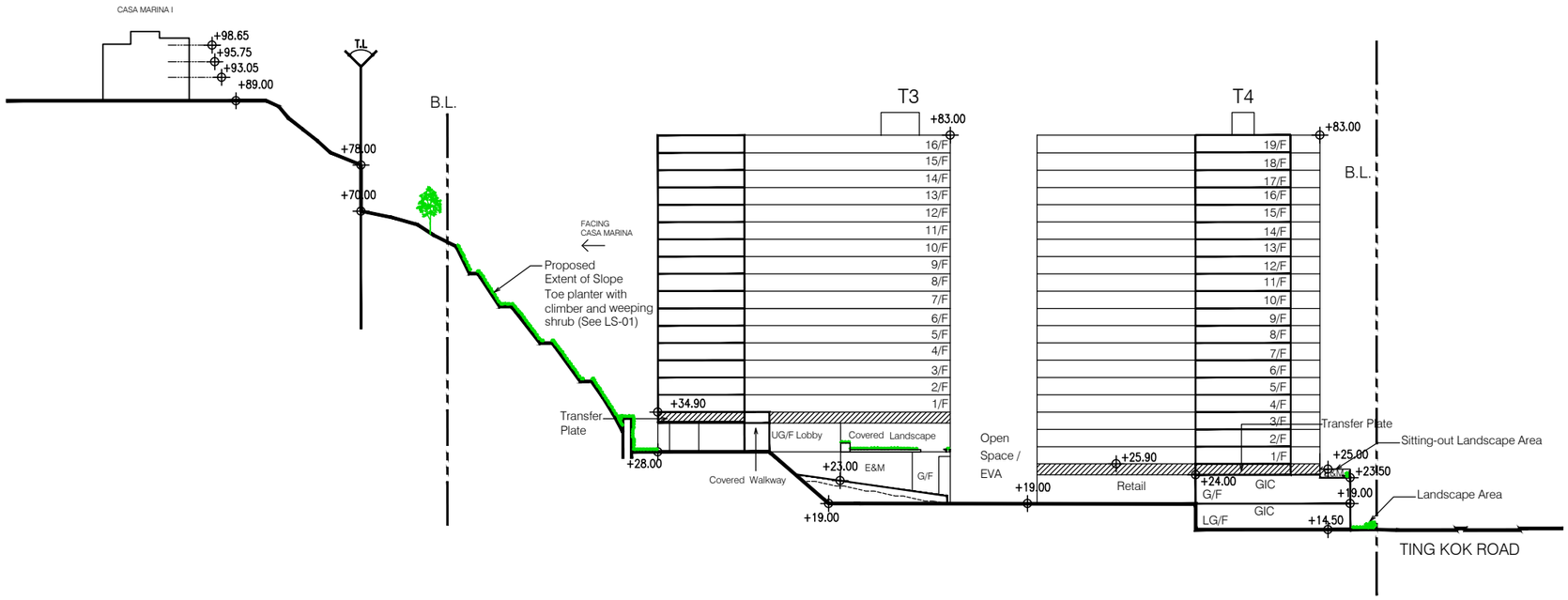
EXISTING SITE CONDITION (SITE B)

Proposed Public Residential Housing / SH Development at UDWYT Lot 14 RP and Adjoining GL and Proposed Private Residential Development at UDWYT Lot 11 RP and Adjoining GL

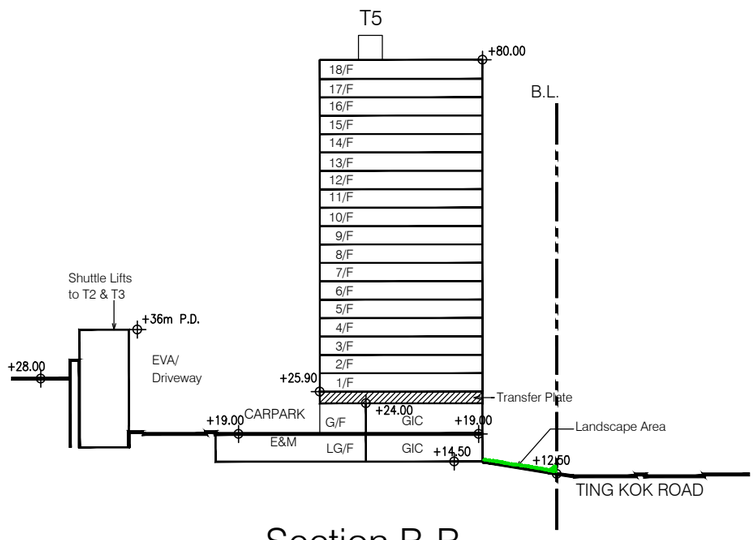
Date: 15 May 2023

APPENDIX X

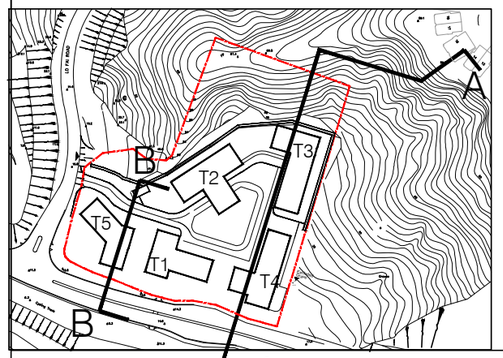
LANDSCAPE SECTIONS AND ELEVATION



Section A-A



Section B-B



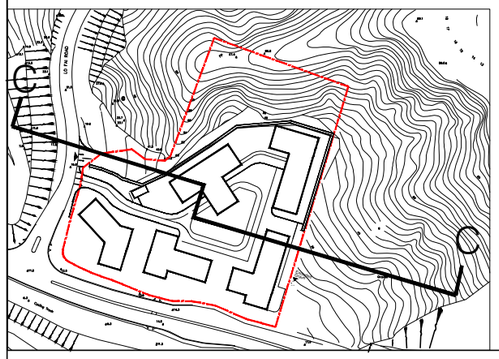
KEY PLAN

DATE:20250210

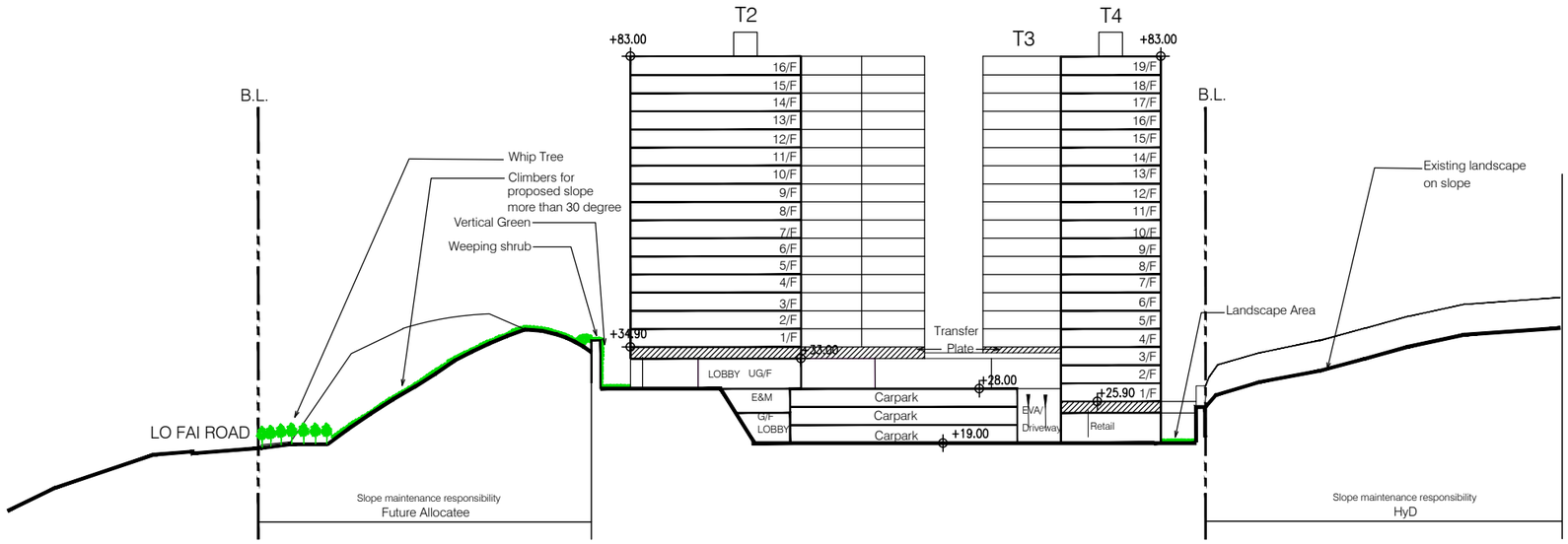
LEGEND:

SITE BOUNDARY

Site A - Landscape Section A-A & B-B
Scale 1:1000 (A3)



KEY PLAN



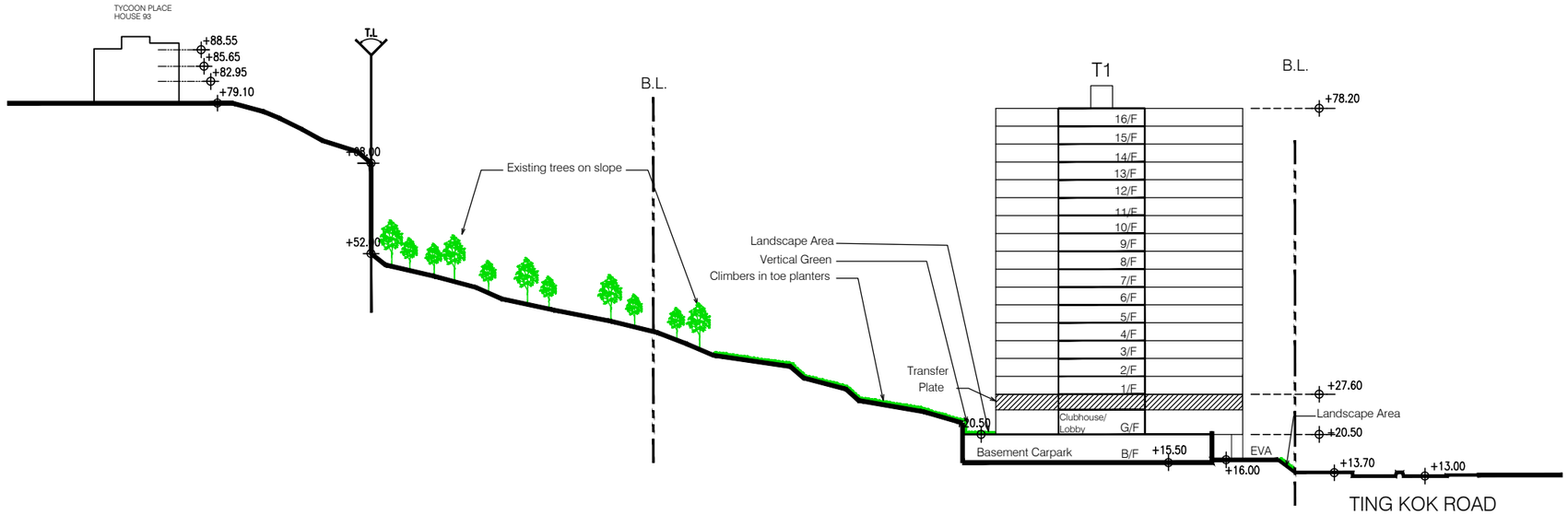
Section C-C

DATE:20250210

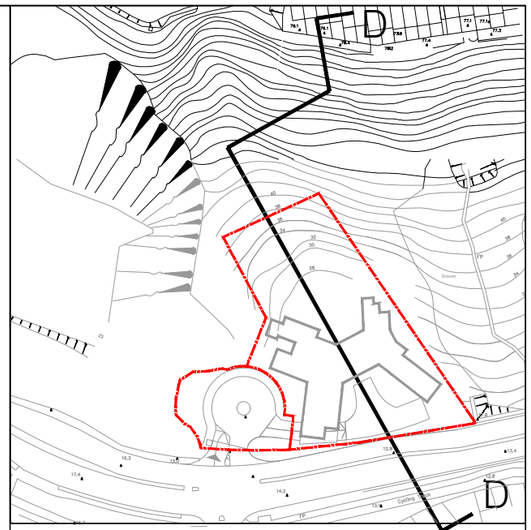
LEGEND:

SITE BOUNDARY

Site A - Landscape Section C-C
Scale 1:1000 (A3)



Section D-D



KEY PLAN

DATE:20250210

LEGEND:

SITE BOUNDARY

Site B - Landscape Section D-D
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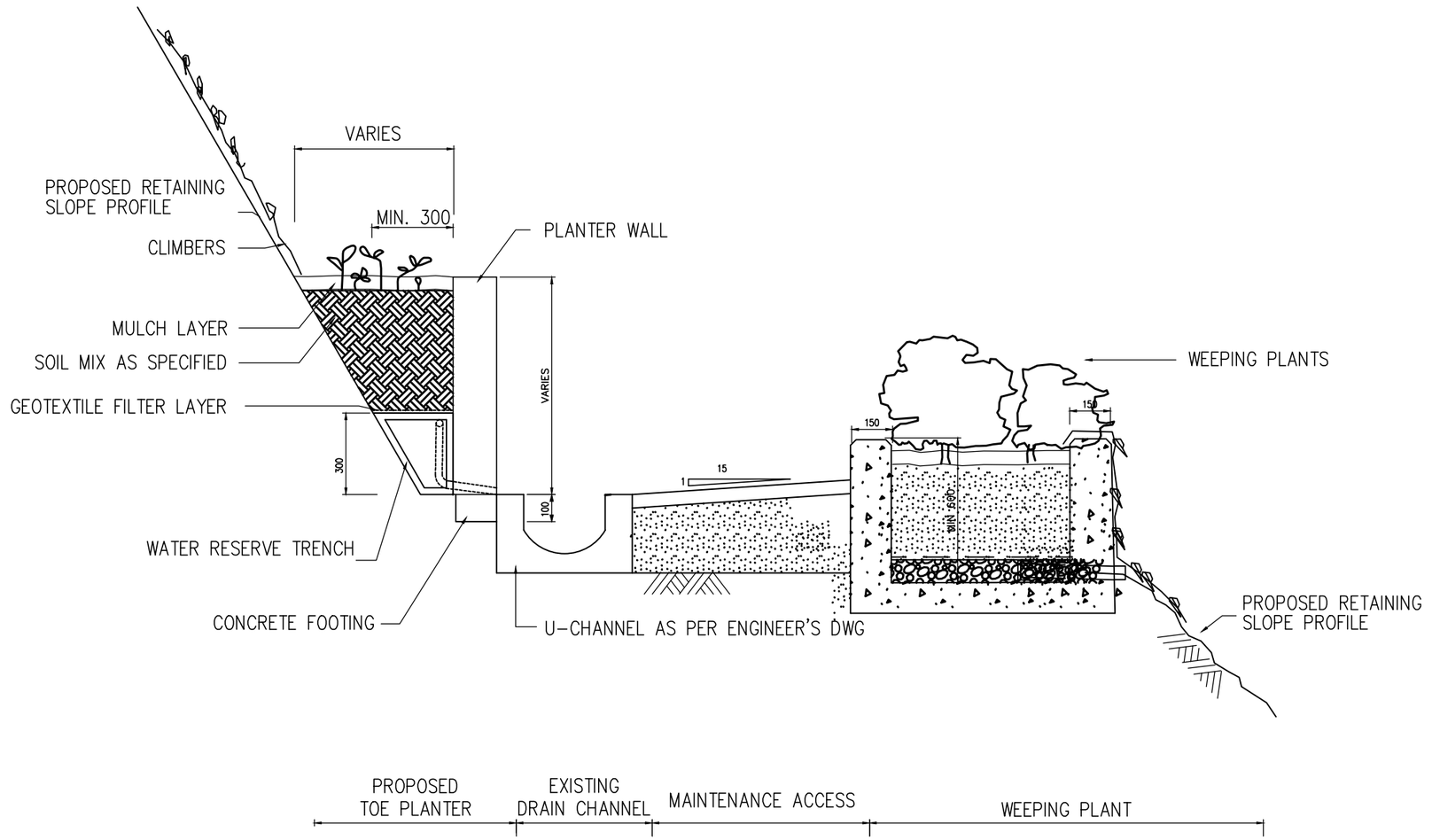

1 PROPOSED TYPICAL DETAIL OF TOE PLANTER
SECTION

1:20

earthasia limited
香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

CLIENT

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE

DESIGN: EW
DRAWN:
CHECKED: PL
STAGE:

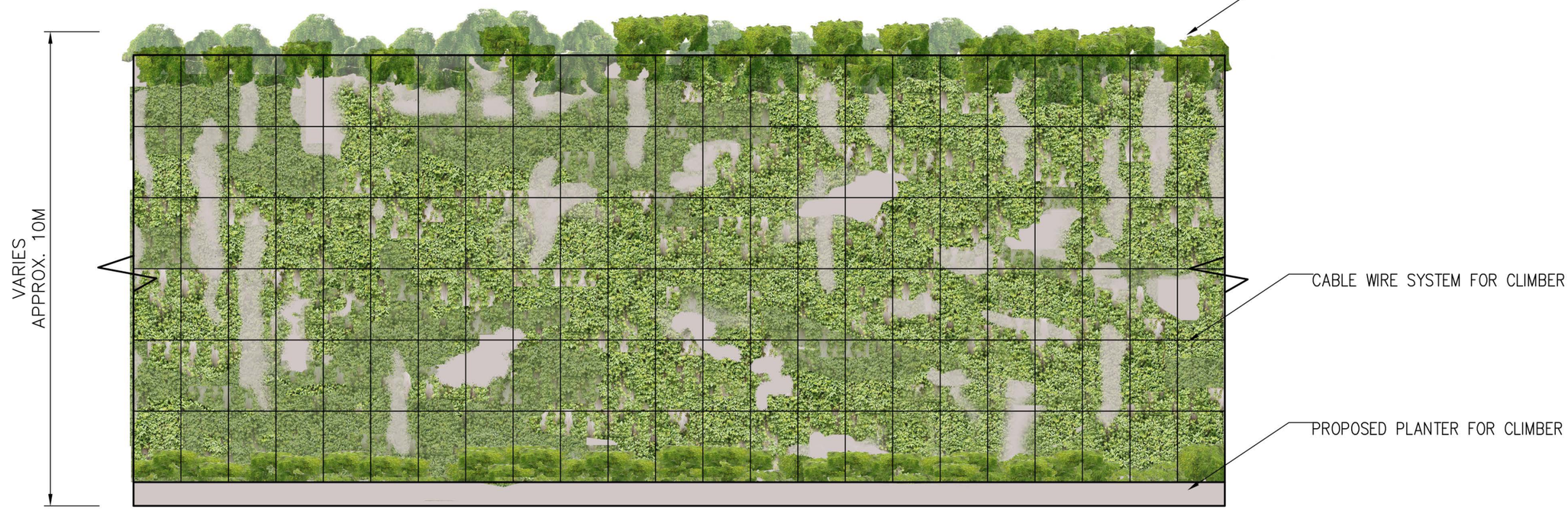
PROJECT: 75520

PROPOSED PUBLIC HOUSING/ STARTER HOME DEVELOPMENT AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

TITLE:

PROPOSED TYPICAL DETAIL OF TOE PLANTER AT RETAINING WALL

SCALE: 1:20(A3)
DRAWING NO.: LS-01
REVISION: -
DATE: FEB 2025
REFERENCE:



1 ELEVATION
SECTION
1:10

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earthasia limited
香港銅鑼灣告士打道262號中糧大廈11樓
11/F, COFCO Tower, 262 Gloucester Road
Causeway Bay, Hong Kong
Tel: (852) 2559 9438 Fax: (852) 2559 9841

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KEY PLAN

REVISION

ISSUE	DESCRIPTION	DATE

DESIGN: EW
DRAWN:
CHECKED: PL
STAGE:

PROJECT: 75520

PROPOSED PUBLIC HOUSING/
STARTER HOME DEVELOPMENT
AND PROPOSED PRIVATE
RESIDENTIAL DEVELOPMENT

TITLE:

ELEVATION OF RETAINING WALL

SCALE: 1:10(A3)
DRAWING NO.: LS-02
REVISION -
DATE: FEB 2025
REFERENCE:

Land Sharing Pilot Scheme - Proposed Public Residential Housing / Starter Homes Development at Lot 14 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 14 RP") and Adjoining Government Land and Proposed Private Residential Development at Lot 11 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 11 RP") and Adjoining Government Land, Tai Po

FEB 2025

Reference number CHK50539711

TRAFFIC IMPACT ASSESSMENT REPORT

SYSTRA MVA

LAND SHARING PILOT SCHEME - PROPOSED PUBLIC RESIDENTIAL HOUSING / STARTER HOMES DEVELOPMENT AT LOT 14 RP IN UNSURVEYED DISTRICT AT WONG YUE TAN ("UDWYT LOT 14 RP") AND ADJOINING GOVERNMENT LAND AND PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT LOT 11 RP IN UNSURVEYED DISTRICT AT WONG YUE TAN ("UDWYT LOT 11 RP") AND ADJOINING GOVERNMENT LAND, TAI PO

TRAFFIC IMPACT ASSESSMENT REPORT

IDENTIFICATION TABLE	
Applicant	Kam Luk Investment Company Limited
Project	Land Sharing Pilot Scheme - Proposed Public Residential Housing / Starter Homes Development at Lot 14 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 14 RP") and Adjoining Government Land and Proposed Private Residential Development at Lot 11 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 11 RP") and Adjoining Government Land, Tai Po
Study	Traffic Impact Assessment Report
Date	Feb 2025
Reference number	CHK50539711
Version	9

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APPENDIX F – TIME DATA PLAN
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1. INTRODUCTION

1.1 Background

1.1.1 We refer to the proposed Land Sharing Pilot Scheme ("LSPS") application at Lo Fai Road / Ting Kok Road with application no. LSPS/001 ("the Development"). With reference to our submission on 19 July 2021, the applicant has revised the scheme under this submission.

1.1.2 The Development involves two private lots, namely Lot 14 RP (portion of Site A) and Lot 11 RP (portion of Site B) in Unsurveyed District at Wong Yue Tan ("UDWYT") and adjoining Government Lands ("GL") (collectively known as "Application Site"). Site A would be designated for public residential housing / Starter Homes ("SH") development, whereas Site B would be designated for private residential development.

1.1.3 Under this revised submission, the applicant proposed to provide further public residential housing / Starter Homes ("SH") development at additional GL near to Site A under Para. 16(a) of LSPS Topical Guideline 1 ("Limb A"). **Drawing No. 1.1** shows the location of the two proposed residential developments.

1.1.4 MVA Hong Kong Ltd. has been commissioned by the applicant, Kam Luk Investment Company Limited to conduct a consolidated Traffic Impact Assessment ("TIA") for the two proposed residential developments. This study is to examine the impact of the traffic generated by the proposed residential developments on the existing road networks in the near vicinity. Any traffic impacts would be identified and improvement measures would be recommended if necessary to resolve any foreseeable problem.

1.2 Study Objectives

1.2.1 The main objective of this study is to examine the potential traffic impact generated by the proposed two residential developments on the adjacent local road network. The key tasks are summarized as follows:

- to assess the existing traffic conditions in the vicinity of the proposed development;
- to forecast traffic demands on the adjacent road network for the design year;
- to estimate the likely traffic generated by the proposed development;
- to assess the impact of the traffic generated on the adjacent road network; and
- to recommend improvement measures, if necessary, to alleviate any traffic problems on the road network.

1.3 Structure of the Report

1.3.1 This TIA report is structured into the following chapters:

- Chapter 2 – Existing Traffic Conditions
- Chapter 3 – Site Context
- Chapter 4 – Traffic Forecast
- Chapter 5 – Traffic Impact Assessment
- Chapter 6 – Summary

2. EXISTING TRAFFIC CONDITIONS

2.1 Existing Road Network

2.1.1 The proposed development consists of 2 sites, namely UDWYT Lot 14 RP and adjoining GL ("Site A") and UDWYT Lot 11 RP and adjoining GL ("Site B") in Wong Yue Tan, Tai Po, which are planned to be developed into public and private residential developments, respectively. The existing road network in the vicinity of both sites in Wong Yue Tan, Tai Po is shown in **Drawing No. 2.1**. The proposed residential developments are mainly served by Yuen Shin Road, Ting Kok Road and Lo Fai Road.

2.1.2 Site A is bounded by Lo Fai Road to the west, Ting Kok Road to the south and landscape area to the north and south.

2.1.3 Site B is mainly bounded by landscape and Ting Kok Road to the south. It is located adjacent to the junction of Ting Kok Road and the access road of Fortune Garden.

2.1.4 Ting Kok Road is running in an east-west direction. The section of Ting Kok Road near Site A and B is a dual-2 lane carriageway connecting to Tai Po City Centre, Yuen Shin Road towards Tolo Highway and Tai Mei Tuk to the east.

2.1.5 Yuen Shin Road is a Primary Distributor connecting Ting Kok Road to the north and Tolo Highway to the south, which served as the major road connection to local area.

2.1.6 Lo Fai Road is a single-2 lane carriageway, connecting Ting Kok Road to the South and the residential development Tycoon Place at the end. This is a local road mainly served for the Education University of Hong Kong and the residential developments Casa Marina I & II, Forest Hill, Richwood Park and Tycoon Place.

2.2 Public Transport Services

2.2.1 There are franchised bus and Green Mini Bus currently serving at Ting Kok Road in the vicinity of both proposed residential developments. The details of the public transport services are summarized in **Table 2-1** and the location public transport facilities are shown in **Drawing No. 2.2**.

2.2.2 To review the existing public transport utilization, a public transport utilization survey is conducted on Monday 6th March 2023 at the bus stop on Ting Kok Road westbound near Fortune Garden during AM peak and on Ting Kok Road near its junction with Lo Fai Road during PM peak period.

2.2.3 The existing average occupancy at peak hours of the surveyed bus routes and GMB are summarized in **Table 2-1**.

Table 2-1 Public Transport Services in the vicinity of the Proposed Development and Existing Public Transport Occupancy

ROUTE NO.	ROUTING	FREQUENCY	AVERAGE OCCUPANCY RATE	
			AM PEAK	PM PEAK
Franchised Bus				
72C[1]	Tai Mei Tuk -> Tai Po Market Station	6:55	42%	No Service
73P[1]	Tai Mei Tuk <-> Tsuen Wan (Nina Tower)	AM & PM peak	32%	32%
74E[1]	Tai Mei Tuk <-> Kwun Tong Ferry Pier	AM & PM peak	34%	32%
74F[1]	Kwun Tong Ferry Pier <-> The Education University of Hong Kong	AM & PM peak	30%	39%
74K	Tai Po Market Station <-> Sam Mun Tsai (circular)	10 – 30 mins	35%	32%
75K	Tai Po Market Station <-> Tai Mei Tuk	8 – 30 mins	77%	74%
275R[2]	Tai Po Market Station <-> Wu Kau Tang	10 – 20 mins	- [4]	- [4]
Green Mini Bus				
20B	Tai Po Market Station <-> Tung Tsz	12 – 20 mins	75%	74%
20C	Tai Po Market Station <-> Tai Mei Tuk	4 – 10 mins	80%	74%
20E[3]	Tai Po Market Station <-> Shan Liu (Circular)	30 mins	- [4]	79%
20K	Tai Po Market Station <-> Sam Mun Tsai	3 – 20 mins	61%	73%
20R	Tai Po Market Station <-> Wu Kau Tang	60 mins	- [4]	- [4]
20T[1]	Tai Po Market Station <-> Tsz Shan Monastery	30 mins	- [4]	- [4]
26	The Education University of Hong Kong <-> Bayshore Towers, Ma On Shan	6 – 9 mins	11%	96%
26A[1]	The Education University of Hong Kong <-> Tai Po Market (Kwong Fuk Road) (Circular)	15 mins	100%[5]	N/A

Notes: (1) Service on Monday to Friday only, except Public Holidays
(2) Service on Sundays and Public Holidays only
(3) Service on Monday to Saturday only, except Public Holidays
(4) No observation was recorded during survey period (AM: 7:00 – 9:00, PM 17:30 – 19:30)
(5) Only 1 trip was observed during the survey

2.2.4 As shown in **Table 2-1**, the observed occupancy rates of the surveyed bus routes were mainly having the occupancy rate of 40% or below during AM and PM peak except Route 75K will having the occupancy rate close to 80% during AM and PM peak. Thus, the existing franchised bus services would still have spare capacity to accommodate additional passengers demand. Future estimated occupancy rates of the surveyed bus and GMB routes will be further elaborated in **Section 5**.

2.2.5 For GMB routes, the observed occupancy rates were 80% or below during AM and PM peak. Thus, the existing GMB services would also still have spare capacity to accommodate additional passengers demand.

2.3 Traffic Survey

2.3.1 A manual classified traffic surveys were conducted at the affected key junctions in the vicinity of the proposed residential developments from 07:30 to 09:30 and from 17:00 to 19:00 on Monday 6th March 2023, which was a sunny day and no special events. **Table 2-2** and **Drawing No. 2.1** shows the locations of the surveyed junctions. The existing junction layout of the surveyed junctions are shown in **Drawing Nos. 2.3** to **2.10.** The existing traffic flows is shown in **Drawing No. 2.11**.

Table 2-2 Surveyed Key Junctions for Traffic Assessment

JUNCTION	DRAWING NO.	LOCATION	TYPE
J1	2.3	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	Signal
J2	2.4	Yuen Shin Road / Dai Fat Street	Signal
J3	2.5	Tai Po Tai Wo Road / Yuen Shin Road	Signal
J4	2.6	Ting Kok Road / Dai Fat Street	Signal
J5	2.7	Ting Kok Road / Dai Kwai Street	Signal
J6	2.8	Ting Kok Road Access Road to Fortune Garden	Signal
J7	2.9	Ting Kok Road / Lo Fai Road	Signal
J8	2.10	Ting Kok Road / Fung Yuen Road	Signal

2.3.2 The normal weekday AM and PM peak hour are identified from 08:00 to 09:00 and from 17:30 to 18:30 respectively from the traffic survey.

2.4 Existing Junction Capacity Assessment

2.4.1 **Table 2-3** shows the existing junction capacity analysis of the selected key junctions. The traffic calculations are attached in the **Appendix A** of the TIA.

Table 2-3 Junction Capacity Analysis – Existing (2023)

NO.	JUNCTION LOCATION	EXISTING (2023) R.C.(1)	
		AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	31%	17%
J2	Yuen Shin Road / Dai Fat Street	29%	46%
J3	Tai Po Tai Wo Road / Yuen Shin Road	14%	23%
J4	Ting Kok Road / Dai Fat Street	13%	29%
J5	Ting Kok Road / Dai Kwai Street	22%	24%
J6	Ting Kok Road Access Road to Fortune Garden	86%	134%
J7	Ting Kok Road / Lo Fai Road	33%	39%
J8	Ting Kok Road / Fung Yuen Road	0%	1%

Note: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C.>15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.

2.4.2 Results of the junction capacity assessment indicated that J1, J2, J5, J6 & J7 are currently operating with adequate capacity except J3, J4 & J8 are currently operating beyond the acceptable criteria (i.e. RC < 15%) during the peak hours period.

2.4.3 A pedestrian survey were also conducted at the concerned footpath in the vicinity of the proposed residential developments from 07:30 to 09:30 and from 17:00 to 19:00 on Thursday 28th September 2023, which was a sunny day and no special events normal school day. **Table 2-4** and **Drawing No. 2.12** shows the locations of the surveyed footpath sections.

Table 2-4 Surveyed Key Junctions for Traffic Assessment

SECTION	LOCATION	TYPE
P1	Lo Fai Road near Ting Kok Road	Footpath
P2	Along Ting Kok Road eastbound	Footpath
P3	Along Ting Kok Road eastbound near bus lay-by	Footpath
P4	Along Ting Kok Road westbound near bus lay-by	Footpath
P5	Along Ting Kok Road eastbound near Site B	Footpath
P6	Along Ting Kok Road westbound near Site B	Footpath
C1	Crossing at Lo Fai Road	Crossing
C2	Crossing at Ting Kok Road outside Site A	Crossing
C3	Crossing at Ting Kok Road outside Site B	Crossing

2.4.4 **Table 2-5** shows the existing pedestrian assessment results of the identified locations.

Table 2-5 Pedestrian Assessment – Existing (2023)

SECTION	EFFECTIVE WIDTH (M)	TWO-WAY PEDESTRIAN FLOW (PED/15-MIN)		TWO-WAY PEDESTRIAN RATE (PED/M/MIN)		LOS(1)	
		AM	PM	AM	PM	AM	PM
P1	1.6	5	10	0.2	0.4	A	A
P2	1.8	9	11	0.4	0.4	A	A
P3	1.9	0	0	0	0	A	A
P4	2.4	6	1	0.2	0.1	A	A
P5	1.9	4	5	0.2	0.2	A	A
P6	1.8	13	7	0.5	0.3	A	A
C1	2.5	6	1	0.2	0.1	A	A
C2	2.5	6	1	0.2	0.1	A	A
C3	2.5	4	5	0.1	0.2	A	A

Note: (1) Level of Service ("LOS") is the assessment criteria for walkways and sidewalks according to Chapter 18 Pedestrian Exhibit 18-3 in Highway Capacity Manual 2000 published from Transportation Research Board of U.S. National Research Council, and it is also referring to TPDM Volume 6 Chapter 10 Section 10.5.2. The LOS thresholds are summarized in **Appendix E** for reference.

2.4.5 The results indicated that the existing operations of all pedestrian facilities are adequate.

3. SITE CONTEXT

3.1 The Proposed Development

3.1.1 The two proposed residential developments are located at the Wong Yue Tan. **Drawing Nos. 3.1 and 3.2** illustrates the preliminary Master Layout Plan of the proposed residential developments, respectively which are the subject of this submission.

3.1.2 The development parameters of the two proposed residential developments are shown in **Table 3-1**.

Table 3-1 Development parameters

DEVELOPMENT PARAMETERS	SITE A LOT 14 RP	LIMB A	SITE B LOT 11 RP	OVERALL
Site Area (m^2) (about)	16,494	3,797	5,696	25,987
Domestic GFA (m^2) (about)	53,667	10,855	23,000	87,522
Domestic blocks	4	1	1	-
Residential units (assume an average flat size of 50 m^2)	1,073	217	460	1,750
Non Domestic GFA (m^2) (about)	1,000 (Retail) 2,683(1) (G/IC)	543 (G/IC)	-	4,226

Note: (1) 5% of domestic GFA in Public Portion for G/IC facilities

3.2 Parking and Servicing Provision

3.2.1 Parking and servicing provision rates are proposed in accordance with the latest requirements as stipulated in the Hong Kong Planning Standards and Guidelines ("HKPSG") from Planning Department. The provision of the parking and servicing facilities for Site A and Site B are summarized in the **Table 3-2** ,**Table 3-3** and **Table 3-4**.

Table 3-2 Proposed Parking and Service Provision for Site A & Limb A

INTERNAL TRANSPORT FACILITY	HKPSG REQUIREMENT	PROPOSED PROVISION(2)
Residential Car Parking	0.52 spaces per 4-7 flats with adjustment factors(1) No. of flats = 1,290 Required spaces: 1,290 / 7 x 0.52 = 96 1,290 / 4 x 0.52 = 168	168
Accessible Car Parking	2 spaces for 51 – 150 total car parking spaces 3 spaces for 151 – 250 total car parking spaces Total car parking spaces = 96 – 168	3
Motorcycle Parking	1 space per 89 flats No. of flats = 1,290	15

INTERNAL TRANSPORT FACILITY	HKPSG REQUIREMENT	PROPOSED PROVISION[(2)]
	Required spaces: 1,290 / 89 = 15	
Bicycle Parking	1 space per 7.5 flats No. of flats = 1,290 Required spaces: 1,290 / 7.5 = 172	172
Light Goods Vehicle	1 shared-use space per 260 flats No. of flats = 1,290 Required spaces: 1,290 / 260 = 5	5
Loading and Unloading for service vehicle	2 shared-use bays per block No. of blocks = 5 Required spaces: 5 x 2 = 10 (11m (L) x 3.5 (W))	10

Note: (1) Demand Adjustment Ratio (R1 = 0.52 for all subsidized housing), Accessibility Adjustment Ratio (R2 = 1.0 for rail accessibility >500m) have been incorporated according to the latest HKPSG requirements

Table 3-3 Proposed Parking and Service Provision for Retail/ GIC at Site A

TRANSPORT FACILITY	HKPSG REQUIREMENT	PROPOSED PROVISION
Retail Car Parking Spaces	1 car space per 150 - 300m² GFA GFA = 1,000 Required spaces: 1,000/ 300 = 4 1,000 / 150 = 7	7
Retail Accessible Car Parking	1 spaces for 1 – 50 total car parking spaces	1
Retail Loading and Unloading space	1 loading/ unloading bay for goods vehicles for every 800 to 1,200m² GFA = 1,000 Required spaces: 1	1
GIC Car Parking Spaces	-	1
GIC Loading and Unloading space	-	1

Table 3-4 Proposed Parking and Service Provision for Site B

INTERNAL TRANSPORT FACILITY	HKPSG REQUIREMENT	PROPOSED PROVISION
Residential Car Parking	For flat size 50sqm: 1.2 spaces per 4 – 7 flats with adjustment factors(1) No. of flats = 460 Required spaces: 460 / 7 x 1.2 = 79 460 / 4 x 1.2 = 138 Total required spaces =79 – 138	138
Visitors' Car Parking	5 spaces per block No. of blocks = 1 Required spaces: 5	5
Accessible Car Parking	2 spaces for 51 – 150 total car parking spaces Total car parking spaces = 89 – 148	2
Motorcycle Parking	1 space per 83 flats No. of flats = 460 Required spaces: 460 / 83 = 6	6
Bicycle Parking	1 space per 7.5 flats No. of flats = 460 Required spaces: 460 / 7.5 = 62	62
Loading and Unloading	1 bay per block No. of blocks = 1 Required spaces: 1 Heavy vehicle	1

Note: (1) Demand Adjustment Ratio (R1 = 1.2 for flat size of 40-70sqm), Accessibility Adjustment Ratio (R2 = 1.0 for rail accessibility > 500m) and Development Intensity Adjustment Ratio (R3 = 1.0 for PR 2.0-5.0) have been incorporated according to the latest HKPSG requirements.

3.2.2 The summary of parking facilities provision of the Proposed Development is shown in **Table 3-5**.

Table 3-5 Summary of Proposed Parking Facilities of the Proposed Development

FACILITY	SITE A LOT 14RP (NOS.)	RETAIL/GIC	SITE B LOT 11RP (NOS.)
Residential/Retail Car Parking	168	8	138
Visitors' Car Parking	-	-	5
Total Car Parking Spaces	**168** (1)	**8** (1)	**143** (1)

FACILITY	SITE A LOT 14RP (NOS.)	RETAIL/GIC	SITE B LOT 11RP (NOS.)
Motorcycle Parking	15	-	6
Bicycle Parking	172	-	62
Light Goods Vehicle	5	-	-
Loading and Unloading space	10 Heavy vehicles	1 Heavy vehicle & 1 Light vehicle	1 (Heavy vehicle)

Note: (1) Including accessible parking spaces for disabled person.

3.3 Vehicular Access Arrangement

3.3.1 Site A has an ingress/egress point located at the eastern side of Lo Fai Road. It is located around 45m far from the junction Ting Kok Road/Lo Fai Road. The intersection of the ingress/egress point with Lo Fai Road is proposed to be priority-controlled. It is proposed to setback the footpath to provide a right-turn pocket at Lo Fai Road Northbound for the ingress traffic as shown in **Drawing 3.3**.

3.3.2 Site B has an ingress/egress point located at the northern side of junction of Ting Kok Road / Access Road to Fortune Garden and it is combined with the junction to form a 4-arm junction. The intersection of the ingress/egress point with Ting Kok Road junction is proposed to be signal-controlled. Modifications on the Method-of-Control are proposed to allow the vehicles entering/leaving the site.

3.3.3 The internal roads within the development would provide access for general traffic access as well as emergency vehicular access ("EVA").

4. TRAFFIC FORECAST

4.1 Methodology of Traffic Forecast

4.1.1 The two proposed residential developments are tentatively scheduled for completion by year 2033. According to the "Traffic Impact Assessment (TIA) Checklist for Development Project" published by Transport Department in TD website, the planning horizon for traffic forecast should be set at the time at least 3 years after the completion of the development. Therefore design year 2036 is adopted for TIA.

4.1.2 The traffic forecast has been derived by taking into account of the nearby planned developments in Wong Yue Tan and Tai Po area and based on the review of the following information:

- Historical traffic growth in Annual Traffic Census ("ATC") published by Transport Department;
- 2019-Based Territorial Population and Employment Data Matrix ("TPEDM") planning data published by Planning Department;
- Projections of Population Distribution 2023-2031; and
- Future Planned Developments in the Vicinity of the Site

Traffic growth trend from ATC

4.1.3 Transport Department has traffic count stations in the vicinity of the two proposed residential developments. The traffic count at the concerned stations over a period of 5 years between 2018 and 2022 are reported in the latest ATC published by Transport Department and are summarized in **Table 4-1**.

Table 4-1 Traffic Growth Rates between 2018 and 2022 from ATC

STATION NO.	LOCATION	ANNUAL AVERAGE DAILY TRAFFIC (VEH/DAY)					AVERAGE ANNUAL GROWTH RATE (%)
		2018	2019	2020	2021	2022	2018-2022
5006	Ting Kok Road – Nam Wan Road to Dai Kwai Street	30,900	30,840	29,430	32,240	30,440	-0.37%
5862	Tai Po Tai Wo Road – Nam Wan Road to Yuen Shin Road	29,240*	30,410*	28,950*	29,830	28,420	-0.71%
6057	Yuen Shin Road – Tolo Highway to Ting Kok Road	38,630	40,170*	38,240*	40,100*	44,820	3.79%
6211	Ting Kok Road – Dai Kwai Street to Tai Mei Tuk	29,580	28,620	28,530	30,220	28,760	-0.70%
	Total:	**128,350**	**130,040**	**125,150**	**132,390**	**132,440**	**0.79%**

Note: * Estimated AADT in ATC

4.1.4 As shown in **Table 4-1**, it can be noted that over the past 5 years trend, the average annual daily traffic growth pattern in the vicinity of the Site from 2018 to 2022 has an increase trend of 0.79% per annum.

Planning Data from 2019-Based TPEDM

4.1.5 Reference has also been made to the 2019-Based TPEDM planning data published by Planning Department for years 2019, 2026 and 2031 in the relevant Planning Data District (i.e. Tai Po). The population and employment data in 2019, 2026 and 2031 and the annual growth rates between 2019/2026, 2026/2031 and 2019/2031 are summarized in **Table 4-2** and **Table 4-3**, respectively.

Table 4-2 2019, 2026 and 2031 Population and Employment Growth in Tai Po from TPEDM

PLANNING DATA DISTRICT	2019		2026		2031	
	Population	Employment	Population	Employment	Population	Employment
Tai Po	250,050	86,750	285,850	83,700	263,800	78,550

Table 4-3 Population and Employment Growth Rate in Tai Po from TPEDM

PLANNING DATA DISTRICT	ANNUAL GROWTH RATE (%)					
	POPULATION 2019/ 2026	EMPLOYMENT 2019/ 2026	POPULATION 2026/ 2031	EMPLOYMENT 2026/ 2031	POPULATION 2019/ 2031	EMPLOYMENT 2019/ 2031
Tai Po	1.93%	-0.51%	-1.59%	-1.26%	0.45%	-0.82%

4.1.6 As shown in **Table 4-3**, the population growth rate in Tai Po has an increasing trend of 1.93% and 0.45% per annum from 2019 to 2026 and from 2019 to 2031 respectively, and has an decreasing trend of 1.59% from 2026 to 2031. The employment growth rate in Tai Po has an decreasing trend of 0.51%, 1.26% and 0.82% per annum from 2019 to 2026, 2026 to 2031 and 2019 to 2031 respectively.

Projections of Population Distribution 2023-2031

4.1.7 The Projections of Population Distribution 2023-2031 published by Planning Department for year 2023 to 2031 in relevant district (i.e. Tai Po) have also taken into reference. **Table 4-4** and **Table 4-5** summarized the projections of population in 2026 & 2031 and the annual growth rate from 2026 to 2031 in Tai Po.

Table 4-4 2026 and 2031 Projections of Population in Tai Po

DISTRICT	POPULATION 2026	POPULATION 2031
Tai Po	348,900	343,200

Table 4-5 2026-2031 Population Growth Rate in Tai Po

DISTRICT	ANNUAL GROWTH RATE (%) 2026-2031
Tai Po	-0.33%

4.1.8 As shown in **Table 4-5**, the population growth rate in Tai Po has an decreasing trend of 0.33% per annum from 2026 to 2031.

4.1.9 Taking into account the ATC, TPEDM planning data and the Projections of Population Distribution, the higher annual growth rate is adopted for the future traffic growth in short-term forecast for conservative purpose. As such, 1.93% p.a. growth rate is adopted for year 2023 to 2026. For conservative purpose, 0.5% instead of -0.33% p.a. growth rate is adopted for year 2026 to 2031.

4.1.10 Considering the long-term traffic growth from 2031 onwards, 0.5% annual growth rate will also be adopted for the traffic growth forecast from 2031 to 2036 for conservative purpose. These adopted growth rates would be able to ensure a reasonable estimation of future traffic.

Future Planned Developments in the vicinity of the Site

4.1.11 Other planned future new developments in the vicinity of the two proposed residential developments to be completed before 2036 which may have traffic impact along Ting Kok Road have also been considered in the future background traffic flow in 2036. The parameters of these planned and committed developments are shown in **Table 4-6** below.

Table 4-6 Planned/Committed Future Developments

FUTURE DEVELOPMENT	USE	NO. OF UNITS	AVERAGE FLAT SIZE / GFA (M^2)
Lo Fai Road development (Villa Lucca)	Private housing	262	176[(1)]
Fung Yuen development (Y/TP/38)	Private housing	1,759[(2)]	55[(2)]
Fung Yuen Phase 2 development (A/TP/333)	Private housing	216[(2)]	60[(2)]
Chung Nga Road West	Public housing	1,030	40[(2)]
Chung Nga Road East & Tai Po Area 9 (A/TP/672)	Public housing	7,431	40[(2)]
Retail at Chung Nga Road Public Housing development	Retail	-	5,850[(2)]
KMB 4-storey bus depot (A/TP/685)	Bus depot	-	-
Construction Industry Council Training Academy Tai Po Training Ground at Area 33	Office, training centre	Training centre: 2,355 population MiC yard: 150 population MiC Trucks[(3)]	2,650[(3)]
Football-cum-rugby pitch/underground public vehicle park in Area 33	Recreation, carpark	Carpark with around 300 parking spaces[(4)]	

FUTURE DEVELOPMENT	USE	NO. OF UNITS	AVERAGE FLAT SIZE / GFA (M^2)
Golf course at the ex-Shuen Wan Landfill Site	Recreation	18-hole, 53 hectare[5]	
Organic Waste Pre-treatment Centre	Utility	-	-
Expansion and upgrading of Tai Po Sewage Treatment Works	Utility	-	-
Transitional Housing project at Wong Yue Tan (A/NE-TK/702)	Transitional Housing	1,236	-
Transitional Housing project at Shuen Wan (A/NE-TK/753)	Transitional Housing	276	-

Notes:
(1) Noted the development has already completed, but its not fully intake during the traffic survey and thus it will assume this is one of the Planned/Committed Future Developments.
(2) Information reference to LegCo Paper No. CB(1)847/2022(03) and Fung Yuen development (Y/TP/38).
(3) Taken reference to the TIA Report of Construction Industry Council Training Academy Tai Po Training Ground at Area 33.
(4) Information reference to Tai Po Committees Meetings Discussion Papers DFM 25/2018.
(5) Information reference to Shuen Wan Golf Course EIA report AEIAR-221/2019.

4.1.12 In order to estimate the traffic generation and attraction of the planned/committed development in the vicinity, reference has been made to the trip generation rates as stipulated in Volume 1 Chapter 3 Appendix D Table 1 and Table 2 of the latest Transport Planning and Design Manual ("TPDM"). The adopted trip rates are summarized in **Table 4-7**.

Table 4-7 Adopted Trip Rate of Planned/Committed Development

FUTURE DEVELOPMENT	AM PEAK		PM PEAK	
	GENERATION	ATTRACTION	GENERATION	ATTRACTION
Lo Fai Road development (Villa Lucca)	0.3276 [1] pcu/hr/flat	0.2407 [1] pcu/hr/flat	0.2233 [1] pcu/hr/flat	0.3097 [1] pcu/hr/flat
Fung Yuen development (Y/TP/38)	0.1021 [2] pcu/hr/flat	0.0709 [2] pcu/hr/flat	0.0415 [2] pcu/hr/flat	0.0464 [2] pcu/hr/flat
Fung Yuen Phase 2 development (A/TP/333)	0.0677 [3] pcu/hr/flat	0.0349 [3] pcu/hr/flat	0.0431 [3] pcu/hr/flat	0.0465 [3] pcu/hr/flat
Chung Nga Road West, Chung Nga Road East & Tai Po Area 9 Public Housing	0.0432 [4] pcu/hr/flat	0.0326 [4] pcu/hr/flat	0.0237[4] pcu/hr/flat	0.0301 [4] pcu/hr/flat
Retail at Chung Nga Road Public Housing development	0.2296 [5] pcu/hr/ 100 sqm GFA	0.2434 [5] pcu/hr/ 100 sqm GFA	0.3100 [5] pcu/hr/ 100 sqm GFA	0.3563 [5] pcu/hr/ 100 sqm GFA

FUTURE DEVELOPMENT	AM PEAK		PM PEAK	
	GENERATION	ATTRACTION	GENERATION	ATTRACTION
KMB 4-storey bus depot (A/TP/685)	-	-	-	-
Construction Industry Council Training Academy Tai Po Training Ground at Area 33	-	-	-	-
Football-cum-rugby pitch/underground public vehicle park in Area 33	-	-	-	-
Golf course at the ex-Shuen Wan Landfill Site	-	-	-	-
Organic Waste Pre-treatment Centre	-	-	-	-
Expansion and upgrading of Tai Po Sewage Treatment Works	-	-	-	-
Transitional Housing project at Wong Yue Tan (A/NE-TK/702)	-	-	-	-
Transitional Housing project at Shuen Wan (A/NE-TK/753)	-	-	-	-

Notes:

(1) Upper Limit trip rates (pcu/hr/flat) of Private Housing: Low-Density /R(C) for flat size 180 m^2 with Accessibility Level B as provided in TPDM Volume 1, Chapter 3, Annex D, Table 1 is adopted.
(2) Upper Limit trip rates (pcu/hr/flat) of Private Housing: High-Density /R(A) for flat size 60 m^2 with Accessibility Level A as provided in TPDM Volume 1, Chapter 3, Annex D, Table 1 is adopted.
(3) Trip rate reference to Phase 1 Development of A/TP/333 survey.
(4) Mean trip rates (pcu/hr/flat) of Subsidized Housing: : Public Rental for flat size 40 m^2 with Accessibility Level A as provided in TPDM Volume 1, Chapter 3, Annex D, Table 1 is adopted.
(5) Mean trip rates (pcu/hr/100 m^2 GFA) of Retail / Shopping Complex (Office + Retail) as provided in TPDM Volume 1, Chapter 3, Annex D, Table 2 is adopted.

4.1.13 Based on the adopted trip rates as shown in **Table 4-7**, **Table 4-8** summarizes the volume of traffic generated by the committed developments.

Table 4-8 Adopted Trip Generation of Planned/Committed Development

FUTURE DEVELOPMENT	AM PEAK (PCU/HR)		PM PEAK (PCU/HR)	
	GENERATION	ATTRACTION	GENERATION	ATTRACTION
Lo Fai Road development (Villa Lucca)	86	63	59	82
Fung Yuen development (Y/TP/38)	180	125	73	82

FUTURE DEVELOPMENT	AM PEAK (PCU/HR)		PM PEAK (PCU/HR)	
	GENERATION	ATTRACTION	GENERATION	ATTRACTION
Fung Yuen Phase 2 development (A/TP/333)	15	8	9	10
Chung Nga Road West Public Housing	42	31	23	29
Chung Nga Road East & Tai Po Area 9 Public Housing	321	243	177	224
Retail at Chung Nga Road Public Housing development	13	14	18	21
KMB 4-storey bus depot (A/TP/685) (1)	5	5	5	5
Construction Industry Council Training Academy Tai Po Training Ground at Area 33 (2)	80	146	97	54
Football-cum-rugby pitch/underground public vehicle park in Area 33 (3)	46	24	32	30
Golf course at the ex-Shuen Wan Landfill Site (4)	20	20	20	20
Organic Waste Pre-treatment Centre (5)	5	5	5	5
Expansion and upgrading of Tai Po Sewage Treatment Works (5)	5	5	5	5
Transitional Housing project at Wong Yue Tan (A/NE-TK/702) (6)	8	8	8	8
Transitional Housing project at Shuen Wan (A/NE-TK/753) (6)	8	8	8	8
Total	**834**	**705**	**539**	**583**

Notes:

(1) The proposed development is a bus depot. Traffic generation during the weekday peak hour would be minimal. For conservative, a nominated Trip Generation of 5pcu/hr has been assumed.

(2) Trip generation reference to the TIA Report of Construction Industry Council Training Academy Tai Po Training Ground at Area 33.

(3) Part of the proposed development would serve recreational purpose. Traffic generation during the weekday peak hour would be minimal. The other part of the proposed development is a public car park. The trip generation is referenced to the Driving School with Permitted Government Use and Public Vehicle Park, around 300 parking spaces, in Chai Wan.

(4) The proposed development would serve recreational purpose. Traffic generation during the weekday peak hour would be minimal. For conservative, a nominated Trip Generation of 20pcu/hr has been assumed.

(5) The proposed development would serve public utility purpose. Traffic generation during the weekday peak hour would be minimal. For conservative, a nominated Trip Generation of 5pcu/hr has been assumed.

(6) As there will be no car parking spaces to be provided for transitional housing and thus it is assumed the daily trip generated from both sites are very minor.

4.1.14 The reference traffic flows (without the proposed development) for year 2036 are derived by applying the adopted growth factor to the observed traffic flows in 2023 with addition to traffic flows in the planned developments in the vicinity of the site as shown in **Table 4-8**. The 2036 AM and PM reference traffic flows are shown in **Drawing No. 4.1**.

4.2 Proposed Development Traffic Generation

4.2.1 The volume of traffic that will be generated by the two proposed residential developments were estimated using the trip rates with reference to the "Traffic Generation and Attraction Rates" as stated in Annex D of Volume 1 - Chapter 3 in TPDM published by Transport Department. It is noted that the parking provision of the latest version of HKPSG will higher than the previous version. Thus, upper limit of the trip rate will be adopted for the estimation on the trip generation/attraction in order to reflect the higher parking provision of the latest HKPSG.

4.2.2 The reference trip rates adopted are shown in **Table 4-9**.

Table 4-9 Reference Traffic Trip Rates

SITE	DEVELOPMENT CATEGORY	TRAFFIC TRIP RATE*			
		AM GENERATION	AM ATTRACTION	PM GENERATION	PM ATTRACTION
A	Subsidized Housing Average Flat Size 50m^2	0.0761 pcu/hr/flat	0.0573 pcu/hr/flat	0.0350 pcu/hr/flat	0.0451 pcu/hr/flat
	Retail	0.3307 pcu/hr/100 sqm GFA	0.3342 pcu/hr/100 sqm GFA	0.3839 pcu/hr/100 sqm GFA	0.4504 pcu/hr/100 sqm GFA
B	Private Housing Average Flat Size 50m^2 (Trip rates for flat size 60m^2 is adopted)	0.1021 pcu/hr/flat	0.0709 pcu/hr/flat	0.0415 pcu/hr/flat	0.0464 pcu/hr/flat

Note * Upper limit trip rates adopted

4.2.3 By adopting the upper limit trip rate to corresponding flat numbers of two sites, the estimated trip generations are summarized in **Table 4-10**.

Table 4-10 Estimated Development Traffic Trip Generations

SITE	DEVELOPMENT CATEGORY	NO. OF UNITS/ GFA	TRAFFIC TRIP (PCU/HR)			
			AM GEN	AM ATT	PM GEN	PM ATT
A	Subsidized Housing	1,290	100	75	45	60
	Retail	1,000	5	5	5	5
B	Private Housing	460	45	35	20	20
		Total	**150**	**115**	**70**	**85**

4.2.4 Community facilities will also provide in Site A which traffic generation/ attraction have also been considered in the assessment. The estimated trip generations for each of the facility are assumed and are summarized in **Table 4-11**.

Table 4-11 Estimated Community Facilities Traffic Trip Generations

COMMUNITY FACILITIES	TRAFFIC TRIP (PCU/HR)			
	AM GENERATION	AM ATTRACTION	PM GENERATION	PM ATTRACTION
Community Care Services Facilities(1)	5	5	5	5
Residential Care Homes for the Elderly(2)	15	15	10	15
Child Care Centre (CCC) (1)	5	5	5	5
Local Open Space	-	-	-	-
Kindergarten/Nursery(1)	5	5	5	5
Total	**30**	**30**	**25**	**30**

Notes: (1) Trip Generation of 5 pcu/hr has been assumed.
(2) Trip Generation are calculated based on the in-house trip rate from the elderly centre in Tuen Mun (Li Ka Shing Care and Attention Home) for the proposed 2,465m^2 GFA

4.2.5 The summary of estimated traffic trip generation of the two proposed residential developments are shown in **Table 4-12**.

Table 4-12 Summary of the Traffic Trip Generations of Proposed Development

SITE	DEVELOPMENT CATEGORY	NO. OF UNITS/GFA	TRAFFIC TRIP (PCU/HR)			
			AM GEN	AM ATT	PM GEN	PM ATT
A	Subsidized Housing	1,290 units	100	75	45	60
	Retail	1,000 sqm GFA	5	5	5	5
	Community Facilities	-	30	30	25	30
B	Private Housing	460 units	45	35	20	20
		Total	**180**	**145**	**95**	**115**

4.2.6 As shown in **Table 4-12**, it is estimated that the proposed development will generate and attract about 180 pcu/hr and 145 pcu/hr in the AM peak hour, and generate and attract about 95 pcu/hr and 115 pcu/hr in the PM peak hour respectively.

4.2.7 The two proposed residential developments traffic flows were then superimposed onto the 2036 Reference Traffic Flows (without development) as shown in **Drawing No. 4.1** to derive the 2036 Design Traffic Flows (with development) as shown in **Drawing No. 4.2**.

5. TRAFFIC IMPACT ASSESSMENT

5.1 Junction Capacity Assessment

5.1.1 The traffic impact of the two proposed residential developments on the surrounding road network has been assessed under the weekday AM and PM peak hour period. The junction capacity analysis of the selected key junctions in the reference scenario (without Proposed Development) and design scenario in Year 2036 (with Proposed Development) are shown in **Table 5-1**. The junction calculations are attached in the **Appendix A** for reference.

Table 5-1 Junction Capacity Analysis – 2036 Reference and Design Scenarios

JUNCTION NO.	JUNCTION LOCATION	2036 REFERENCE (WITHOUT DEVELOPMENT)		2036 DESIGN (WITH DEVELOPMENTS)	
		R.C.(1)		R.C.(1)	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	9%	-2%	0%	-7%
J2	Yuen Shin Road / Dai Fat Street	2%	22%	-4%	15%
J3	Tai Po Tai Wo Road / Yuen Shin Road	-6%	3%	-8%	1%
J4	Ting Kok Road / Dai Fat Street	-3%	10%	-11%	3%
J5	Ting Kok Road / Dai Kwai Street	3%	6%	-4%	-6%
J6 (2)	Ting Kok Road Access Road to Fortune Garden	67%	111%	-27%	-27%
J7	Ting Kok Road / Lo Fai Road	21%	20%	9%	14%
J8	Ting Kok Road / Fung Yuen Road	-14%	-12%	-19%	-16%

Notes: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C. >15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.
(2) Junction J6 will change from existing 3-arm signal-controlled junction to 4-arm signal-controlled junction (Method of Control with 5 stages) in Design Scenario upon Completion of Site B and adopt in 2036 Design Scenario Assessment.

5.1.2 As shown in **Table 5-1**, the results in design scenario (with two proposed residential developments) indicated that all assessed junctions would be operated beyond the acceptable criteria (i.e. RC < 15%) or overloaded (i.e. RC < 0%) during both AM and PM peak period.

5.2 Proposed Improvement Measures

5.2.1 According to the above assessment results, capacity problems are anticipated at all assessed junctions. Junction improvement measures are proposed to alleviate the traffic issues and enhance the junction performance to operate satisfactorily. In order to synchronize the traffic along Ting Kok Road and Yuen Shin Road, it is proposed to increase the AM and PM cycle time of all junctions to 120s.

Proposed Junction Improvement Scheme - J1

5.2.2 The proposed improvement scheme of J1 is shown in **Drawing No. 5.1.**

5.2.3 At Ting Kok Road eastbound, it is proposed to provide an additional lane for right-turn traffic with the setback of slope at Ting Kok Road westbound in order to increase the discharge capacity.

5.2.4 At Ting Kok Road southbound, it is proposed to be widened to provide two and a half lanes for ahead traffic with the setback of kerb at Ting Kok Road southbound and the central reserve at Yuen Shin Road southbound in order to enhance the discharge capacity.

Proposed Junction Improvement Scheme – J2

5.2.5 The proposed improvement scheme of J2 is shown in **Drawing No. 5.2**.

5.2.6 In order to increase the junction capacity, it is proposed to widen the Yuen Shin Road northbound & southbound and modify the lane configurations.

5.2.7 Widening the Yuen Shin Road northbound could provide two and a half lanes for right-turn movement. It would setback the existing cycle track and the footpath.

5.2.8 It is also proposed to widen Yuen Shin Road southbound to provide two and a half lanes for ahead traffic and half lane for left-turn traffic which could enhance the discharge capacity. The widening requires setback of Yuen Shin Road southbound and existing footpath width could be maintained.

Proposed Junction Improvement Scheme – J3

5.2.9 The proposed improvement scheme of J3 is shown in **Drawing No. 5.3.**

5.2.10 To enhance the junction capacity, it is proposed to convert the Tai Po Tai Wo Road eastbound left turn lane into free flow lane with the setback of slope, cycle track and footpath at the Yuen Shin Park. Also, it is proposed to widen the Tai Po Tai Wo Road eastbound to provide 3 right turn lanes with the setback of central reserve and the Tai Po Tai Wo Road westbound. The Method of Control is modified to suit the proposed layout.

5.2.11 At Yuen Shin Road southbound, it is proposed to be widened to have total 5 traffic lanes with 2 lanes for right-turn traffic and 3 lanes for ahead traffic. The widening would setback the slope at Tai Po Waterfront Park and shift the central reserve and setback the slope at Yuen Shin Road northbound. The existing bus layby would be converted into on-street bus stop.

Proposed Junction Improvement Scheme – J4

5.2.12 The proposed improvement scheme of J4 is shown in **Drawing No. 5.4.**

5.2.13 It is proposed to widen Ting Kok Road eastbound to provide 3 traffic lanes in order to enhance the discharge capacity. The widening would setback the cycle track and footpath which the plants and the access point of the Hong Kong Institute of Horticultural will be affected. Also, the existing bus layby would also be converted into an on-street bus stop.

Proposed Junction Improvement Scheme – J5

5.2.14 The proposed improvement scheme of J5 is shown in **Drawing No. 5.5.**

5.2.15 It is anticipated that the traffic along Ting Kok Road is the critical part to the junction performance. It is proposed to widen Ting Kok Road eastbound to provide one lane for right turn traffic and widen Ting Kok Road westbound to provide a short lane for left turn traffic. Therefore, both eastbound and westbound would have 2 full lanes for ahead-traffic. The widening would setback the cycle track and footpath at Ting Kok Road eastbound AND would shift the pedestrian crossing to the left of the junction.

Proposed Junction Improvement Scheme – J6

5.2.16 The proposed improvement scheme of J6 is shown in **Drawing No. 5.6.**

5.2.17 As mentioned at **Section 3.3.2**, J6 is proposed to be connected with the access road to Site B to form a 4-arm junction. The Method of Control is modified to suit the proposed layout.

5.2.18 In order to improve the junction performance, it is proposed to widen the Ting Kok Road westbound traffic to provide 3 traffic lanes including 1 additional lane for right-turning traffic to Site B. The widening would require the setback of slope along Ting Kok Road eastbound.

Proposed Junction Improvement Scheme – J7

5.2.19 The proposed improvement scheme of J7 is shown in **Drawing No. 5.7.**

5.2.20 At Ting Kok Road eastbound, it is proposed to add a free flow left turn lane with setback of slope, footpath and central island at Lo Fai Road. A cautionary crossing is proposed to be added at the free flow lane. The staggered crossing is proposed to be converted into straight crossing. The Method of Control is modified to suit the proposed layout.

5.2.21 To enhance the junction capacity, it is proposed to widen Ting Kok Road westbound to provide 2 ahead traffic lanes and 1 right turn lane. The widening would setback the central island at Ting Kok Road westbound and the slope and footpath at Ting Kok Road eastbound.

5.2.22 To further enhance the safety along Lo Fai Road southbound downhill towards J7 with additional future Site A vehicular access, the warning traffic signs and road markings are reviewed with reference to Transport Planning and Design Manual (TPDM).

5.2.23 According to TPDM Volume 3 Chapter 2 Section 2.3.3.19 (ii), the radius the bending section along Lo Fai Road southbound downhill in advance of Site A which is in radius R2 (R=XXm), it is proposed to set up “Bend Left” Traffic Sign (TS410) at Lo Fai Road southbound in advance of the bending section to warn the motorists.

5.2.24 According to TPDM Volume 3 Chapter 2 Section 2.3.3.19 (ii) (c), a further warning that may be used at these locations particularly where an additional hazard such as the likelihood of pedestrians crossing the road in the vicinity of the bend, or a run-in occurs on or adjacent to the bend with less than the desirable sight distance, is the "Slow" road marking 1141 or 1142. Therefore it is proposed to add "SLOW" road marking (RM1141) along Lo Fai Road southbound in advance of the bending section to warn the motorists on the future Site A vehicular access after the bend section.

Proposed Junction Improvement Scheme – J8

5.2.25 The proposed improvement scheme of J8 is shown in **Drawing No. 5.8.**

5.2.26 Due to great traffic volume on Ting Kok Road westbound towards west, it is proposed to widen the road into 3 traffic lanes with 2 full lanes for ahead-traffic to enhance the discharge capacity. The widening would setback the cycle track and footpath along Ting Kok Road westbound.

5.2.27 To enhance the junction capacity, it is proposed to modify the junction Method of Control from 4 stages to 3 stages, with proposed conversion of the signal-controlled crossing across Fung Yuen Road and Ting Kok Road into staggered crossings, and to relocate the crossing at Ting Kok Road to the east of the junction to suit the proposed layout and Method of Control.

5.3 Junction Capacity Assessment (with Improvement Measures)

5.3.1 **Table 5-2** summarized the junction capacity assessment results with all the proposed improvement measures.

Table 5-2 Junction Capacity Assessment with Improvement Measures

JUNCTION NO.	JUNCTION LOCATION	2036 DESIGN (WITHOUT IMPROVEMENT)		2036 DESIGN (WITH IMPROVEMENT)	
		R.C.(1)		R.C.(1)	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	0%	-7%	17%	25%
J2	Yuen Shin Road / Dai Fat Street	-4%	15%	35%	35%
J3	Tai Po Tai Wo Road / Yuen Shin Road	-8%	1%	25%	43%
J4	Ting Kok Road / Dai Fat Street	-11%	3%	10%	29%
J5	Ting Kok Road / Dai Kwai Street	-4%	-6%	16%	64%
J6	Ting Kok Road Access Road to Fortune Garden	-27%	-27%	44%	58%

JUNCTION NO.	JUNCTION LOCATION	2036 DESIGN (WITHOUT IMPROVEMENT)		2036 DESIGN (WITH IMPROVEMENT)	
		R.C.(1)		R.C.(1)	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J7	Ting Kok Road / Lo Fai Road	9%	14%	39%	23%
J8	Ting Kok Road / Fung Yuen Road	-19%	-16%	18%	27%

Note: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C.>15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.

5.3.2 As shown in **Table 5-2**, all of the junctions with the proposed junction improvement measures would be operating in desirable performance during both AM and PM peak period except J4 would still be operated beyond the acceptable criteria (i.e. RC < 15%) during AM peak period. In view of the site constraint and the surrounding area are limited to be further widened or set-back to provide additional traffic lane to cater the additional traffic capacity from the new developments. The RC of 10% for the junction of Ting Kok Road and Dai Fat Street (J4) is still tolerable from traffic view point.

5.3.3 Nevertheless, a further junction improvement scheme of J4 as the last resort besides other road improvement measures with possible set-back the private land area has been proposed as shown in **Drawing No. 5.9.**

5.3.4 With the widened Ting Kok Road eastbound to 3 traffic lanes, it is proposed to ban the right-turn of all vehicles except buses and public light buses from Ting Kok Road eastbound to Dai Fat Street southbound in order to further increase the lane capacity for ahead traffic. The diversion routing for the banned movement would be via Yuen Shin Road southbound / Yuen Shin Road northbound → Dai Fat Street eastbound → junction of Dai Fat Street / Dai Cheong Street as shown in **Drawing No. 5.10**. The junction of Dai Fat Street / Dai Cheong Street (JA) would also be assessed to ensure that the junction will still have adequate capacity to cater the diverted traffic. The results are shown in **Table 5-3.** The existing junction layout of JA is shown in **Drawing No. 5.11.**

Table 5-3 Junction Capacity Assessment with J4 Further Improvement Measures

JUNCTION NO.	JUNCTION LOCATION	2036 DESIGN (WITH IMPROVEMENT)		2036 DESIGN (WITH FURTHER IMPROVEMENT)	
		R.C.(1)		R.C.(1)	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J1	Ting Kok Road / Yuen Shin Road / Dai Fuk Street	17%	25%	26%	26%
J2	Yuen Shin Road / Dai Fat Street	35%	35%	32%	38%

JUNCTION NO.	JUNCTION LOCATION	2036 DESIGN (WITH IMPROVEMENT)		2036 DESIGN (WITH FURTHER IMPROVEMENT)	
		R.C.(1)		R.C.(1)	
		AM PEAK	PM PEAK	AM PEAK	PM PEAK
J4	Ting Kok Road / Dai Fat Street	10%	29%	18%	33%
J8	Ting Kok Road / Fung Yuen Road	18%	27%	34%	35%
JA	Dai Fat Street / Dai Cheong Street	33%	89%	30%	84%

Note: (1) Reserve Capacity ("R.C.") indicated in %, provides an indication of signal junction performance. R.C.>15% implies that it is operating satisfactorily, while a negative R.C. suggests that it is overloaded.

5.3.5 As shown in **Table 5-3**, J4 with the proposed further banning right turn would be operating in desirable performance during both AM and PM peak period. Having considered that inconvenience may be brought about to the road-users, it is suggested that the proposed right-turn ban will only be adopted if necessary. JA with the diverted traffic would also be operating in desirable performance during both AM and PM peak period.

5.3.6 In order to minimize the traffic impact during construction period, the construction traffic for both Sites A and B will only access during off peak period (i.e. 1000-1600), which is already align with Housing Department and Site B will also be followed. Due to the traffic conditions during off peak period is not critical and thus it is considered that the traffic impact causing from the construction traffic during off peak period is very minimal and acceptable from traffic view point.

5.4 Junction Capacity Assessment of Vehicular Ingress at Site A

5.4.1 As mentioned at **Section 3.3.1**, a right-turn pocket is proposed at Lo Fai Road Northbound for the ingress traffic. The assessment results of the vehicular ingress point as a priority junction is presented in **Table 5-4**.

Table 5-4 Junction Capacity of Vehicular Ingress at Site A

JUNCTION LOCATION	2036 DESIGN YEAR	
	D.F.C[1)]	
	AM PEAK	PM PEAK
Site A Vehicular Ingress	0.21	0.17

Note: (1) DFC: design flow/capacity ratio

5.4.2 As shown in **Table 5-4**, the results indicated that the proposed ingress arrangement would be operated at ample capacity for both AM and PM peak periods.

5.5 Queue Length Assessment

5.5.1 Queue length assessment along the approach arms at the most critical two signalised junctions with cycle time to 120 second during AM and PM peak hours have also been assessed, and the results are summarized in **Table 5-5.**

Table 5-5 Traffic Queue Length Assessment at 2036

INDEX	APPROACH ARM	TRAFFIC BOUND (MOVEMENT)	NO. OF LANES	2036 AVERAGE QUEUE LENGTH (M)	
				AM PEAK	PM PEAK
J1 Ting Kok Road / Yuen Shin Road					
Q1A	Ting Kok Road	Eastbound	5	55	45
Q1B	Ting Kok Road	Southbound	5	60	45
Q1C	Dai Fuk Street	Westbound	2	35	40
Q1D	Yuen Shin Road	Northbound	5	30	45
J2 Yuen Shin Road / Tai Fat Street					
Q2A	Yuen Shin Road	Northbound	2	90	80
Q2B	Yuen Shin Road	Southbound	2	50	55
J3 Tai Po Tai Wo Road / Yuen Shin Road					
Q3A	Yuen Shin Road	Northbound	2	35	70
Q3B	Yuen Shin Road	Southbound	2	30	60
J4 Ting Kok Road / Dai Fat Street					
Q4A	Ting Kok Road	Eastbound	3	50	50
Q4B	Ting Kok Road	Westbound	2	90	65
J5 Ting Kok Road / Dai Kwai Street					
Q5A	Ting Kok Road	Eastbound	3	50	55
Q5B	Ting Kok Road	Westbound	2	75	55
J6 Ting Kok Road outside Fortune Garden					
Q6A	Ting Kok Road	Eastbound	2	35	45
Q6B	Ting Kok Road	Westbound	2	65	45
J7 Ting Kok Road / Lo Fai Road					
Q7A	Ting Kok Road	Eastbound	2	55	65
Q7B	Ting Kok Road	Westbound	2	30	20
Q7C	Lo Fai Road	Southbound	2	50	40
J8 Ting Kok Road / Fung Yuen Road					
Q8A	Ting Kok Road	Eastbound	2	90	100
Q8B	Ting Kok Road	Westbound	2	60	45

5.5.2 According to the assessment results as shown in the above table, the assessed average queue at the most critical junction arms will not tail back to the adjacent junction during AM and PM peak hours period.

5.6 Public Transport Services

5.6.1 It is assumed that most of the residents from Sites A and B will take the franchised bus and Green Mini Bus in the vicinity of the sites and travel to Tai Po main center for further exchange Tai Po MTR Station or other bus routes to other destinations.

5.6.2 The mode of transport in Tai Po district from 2021 Population By-census could be broadly split into two group, namely to place of work and to place of study. The details are summarized and presented below in **Table 5-6**.

Table 5-6 Main Mode of Transport to Place of Work/ Place of Study

TRIP NATURE	MTR	BUS	PUBLIC LIGHT BUS	OTHER(1)	TOTAL
To place of work	41,869	26,831	6,495	36485	**111,680**
	37%	24%	6%	33%	**100%**
To place of study	8,420	6,819	2,994	23,807	**42,040**
	20%	16%	7%	57%	**100%**

Note:
(1) Include company bus/van, residential coach service, school bus and others

5.6.3 Assume an average 3 people per house hold for both Sites A & B, the total population for both sites are 1,750 x 3 = 5,250. Assume the adults and kids ratio in the both residential developments are approximately 2:1 and thus the number of pedestrian flows access along the footpath at the surrounding of Sites A and B and take franchised bus and Green Mini Bus are as follow:

- Adults (to work) = 5,250 x 2/3 = 3,500
- Assume 70% of Adults are going to works (remaining 30% are housewife and elderly) = 3,500 x 0.7 = 2,450
- Kids (to study) = 5,250 x 1/3 = 1,750

5.6.4 The estimated number of residents travel by different mode of transport are shown in **Table 5-7**.

Table 5-7 Estimated number of Residents from Sites A & B for Different Types of Transport to Work/ Study

TRIP NATURE	MTR	BUS	PUBLIC LIGHT BUS	TOTAL
To Work	970	630	160	**1,760**
To Study	350	280	125	**755**

5.6.5 For conservative purpose, all residents travel by MTR will also take into account in the additional passenger demand for travel the buses. As shown in the above table, total number of residents travel by MTR and Bus are 2,230 and by public light bus are 285. Assume these residents will mainly travel to Tai Po Market Station direction and exchange other public transports to other districts during AM peak period, and all these residents will also assumed travel to work/ study within one hour period.

5.6.6 According to the existing average occupancy at peak hours of the surveyed bus routes and GMB in **Table 2-1**, 4 bus routes will travel toward Tai Po Market Station during AM peak period. Assume each bus could cater maximum 100 passengers, 72C (42% average occupancy rate) will still have approximately 60 spare seats/ standing spaces to accommodate additional passengers demand during AM peak hour. For route 74K, assume the frequency during the AM peak is 10 min per service, with 35% average occupancy rate, 6 services during AM peak hour will have approximately 65 x 6 = 390 spare seats/ standing spaces to accommodate additional passengers demand. For route 75K, assume the frequency during the AM peak is also 10 min per service, with 77% average occupancy rate, 6 services during AM peak hour will have approximately 20 x 6 = 120 spare seats/ standing spaces to accommodate additional passengers demand.

5.6.7 Total spare seats/ standing spaces to accommodate additional passengers demand for bus routes 72C, 74K and 75K are 60 + 390 +120 = 570. As stated in Para. 5.7.5, 2,230 residents are estimated will travel to Tai Po Market direction during the AM peak hour. Thus, the existing remaining occupancy demand are not adequate to cater the future accommodate additional passengers demand from both Sites A and B. Thus, additional services or bus routes will be required. A preliminary proposal are shown in **Table 5-8**.

Table 5-8 Proposed Bus Route Services in 2036

ROUTE NO.	EXISTING FREQUENCY	AVERAGE OCCUPANCY RATE	REMAINING OCCUPANCY(1) (PASSENGERS)	PROPOSED FREQUENCY(2)	ESTIMATED OCCUPANCY RATE(3)	REMAINING OCCUPANCY(4) (PASSENGERS)
72C	6:55	42%	60	Every 10 mins	21%	480
74K	10 – 30 mins	35%	390	Every 6 mins	18%	820
75K	8 – 30 mins	77%	120	Every 6 mins	38%	620
1 New Route (Circular Route) (5)				Every 6 mins	30%	420

Notes:

(1) Assume each bus could cater maximum 100 passengers and the frequency during the AM peak is 10 mins per service for 74K and 75K.

(2) Proposed frequency for AM peak hour only.

(3) Assume half of the occupancy rate with the proposed additional frequency.

(4) For example, for route 72C, remaining occupancy = (max. 100 passenger – 21 occupied seats) x 6 service.

(5) Proposed 1 new bus route is preliminary proposal only and the actual demand in the future are subject to further review by Transport Department and Bus Company

5.6.8 As shown in **Table 5-8**, total remaining occupancy with the proposed frequency and number of new bus route are 2,340 which could accommodate the additional passengers demand (i.e. 2,230, assume all travelling in one direction within one hour for conversative purpose) from both Sites A & B.

5.6.9 With only providing additional frequency of the current bus routes and one additional bus routes as proposed in the above, the need of bus lay-by on either side or both sides of Lo Fai Road will not be necessary from traffic point view. The proposed preliminary routing and terminal location for the new route are presented in **Appendix H**.

5.6.10 By using the same logic for GMB routes, the proposed frequency and estimated remaining occupancy are shown in **Table 5-9**.

Table 5-9 Proposed GMB Route Services in 2036

ROUTE NO.	EXISTING FREQUENCY	AVERAGE OCCUPANCY RATE	REMAINING OCCUPANCY(1) (PASSENGERS)	PROPOSED FREQUENCY(2)	ESTIMATED OCCUPANCY RATE(3)	REMAINING OCCUPANCY(4) (PASSENGERS)
20B	12 – 20 mins	75%	20	Every 6 mins	38%	70
20C	4 – 10 mins	80%	36	Every 3 mins	40%	144
20K	3 – 20 mins	61%	84	Every 3 mins	31%	168

ROUTE NO.	EXISTING FREQUENCY	AVERAGE OCCUPANCY RATE	REMAINING OCCUPANCY(1) (PASSENGERS)	PROPOSED FREQUENCY(2)	ESTIMATED OCCUPANCY RATE(3)	REMAINING OCCUPANCY(4) (PASSENGERS)
26	6 – 9 mins	11%	160	Current frequency is adequate for future demand	-	160
26A	15 mins	100%	0	Every 10 mins	50%	18

Notes:
(1) Each GMB could cater maximum 19 passengers and the frequency during the AM peak is 12 mins per service for 20B and 5 mins per service for 20C and 20K and 6 mins per service for 26.
(2) Proposed frequency for AM peak hour only.
(3) Assume half of the occupancy rate with the proposed additional frequency.
(4) For example, for route 20B, remaining occupancy = (max. 19 passenger – 12 occupied seats) x 10 service.

5.6.11 As shown in **Table 5-9**, total remaining occupancy with the proposed frequency are 560 which could accommodate the additional passengers demand (i.e. 285, assume all travelling in one direction within one hour for conversative purpose) from both Sites A & B.

5.6.12 As shown in **Table 5-7**, there are total 1,320 number of residents will travel by MTR. According to the information from MTR webpage, the capacity of East Rail Line is approx. 62,500 passenger per hour. The ratio of additional demand / capacity = 1,320 / 62,500 = 2.1%. With 2.7 minutes per train in peak hour, there is total 23 trains per hour. Thus, the additional passenger from Sites A & B per train is 57 passengers per train. It is anticipated that the additional demand is relatively insignificant in comparison with the total future demand. Additional PT loading/unloading facilities near the rail stations for the proposed developments are also considered not necessary as there are only 1 new bus route proposed for the study. As mentioned, the proposed 1 new bus route are preliminary proposal only and the actual demand and frequency for both bus and GMB in the future are subject to further review by Transport Department and Bus Companies and GMB operator(s).

5.7 Pedestrian Assessment

5.7.1 The traffic impact of the proposed Sites A and B on the surrounding footpath have also been assessed during the operation stage in 2036 under the weekday during AM and PM peak hours.

5.7.2 The reference pedestrian flows in year 2036 (without developments) are derived by applying the adopted growth factor in **Table 4-5** to 2023 existing pedestrian flows as shown in **Table 5-10**. The design scenario (with developments) with the estimated population generated from the proposed Sites A and B, which according to the transport mode as stated in **Section 5.6** in Year 2036 will then be assessed as shown in **Table 5-11**.

Table 5-10 Pedestrian Assessment – Reference (without development) 2036

SECTION	EFFECTIVE WIDTH (M)	TWO-WAY PEDESTRIAN FLOW (PED/15-MIN)		TWO-WAY PEDESTRIAN RATE (PED/M/MIN)		LOS[1]	
		AM	PM	AM	PM	AM	PM
P1	1.6	6	11	0.2	0.5	A	A
P2	1.8	10	12	0.4	0.5	A	A
P3	1.9	0	0	0	0	A	A
P4	2.4	7	1	0.2	0	A	A
P5	1.9	4	6	0.2	0.2	A	A
P6	1.8	14	8	0.5	0.3	A	A
C1	2.5	7	1	0.2	0	A	A
C2	2.5	7	1	0.2	0	A	A
C3	2.5	4	6	0.1	0.1	A	A

Note: (1) Level of Service ("LOS") is the assessment criteria for walkways and sidewalks according to Chapter 18 Pedestrian Exhibit 18-3 in Highway Capacity Manual 2000 published from Transportation Research Board of U.S. National Research Council, and it is also referring to TPDM Volume 6 Chapter 10 Section 10.5.2. The LOS thresholds are summarized in **Appendix E** for reference.

Table 5-11 Pedestrian Assessment – Design (with development) 2036

SECTION	EFFECTIVE WIDTH (M)	TWO-WAY PEDESTRIAN FLOW (PED/15-MIN)		TWO-WAY PEDESTRIAN RATE (PED/M/MIN)		LOS[1]	
		AM	PM	AM	PM	AM	PM
P1	1.6	469	335	20	14	B	A
P2	1.8	473	336	18	12	B	A
P3	1.9	10	314	0	11	A	A
P4	2.4	460	11	13	0	A	A
P5	1.9	14	112	1	4	A	A
P6	1.8	169	18	6	1	A	A
C1	2.5	17	11	0	0	A	A
C2	2.5	460	11	12	0	A	A
C3	2.5	159	16	4	0	A	A

Note: (1) Level of Service ("LOS") is the assessment criteria for walkways and sidewalks according to Chapter 18 Pedestrian Exhibit 18-3 in Highway Capacity Manual 2000 published from Transportation Research Board of U.S. National Research Council, and it is also referring to TPDM Volume 6 Chapter 10 Section 10.5.2. The LOS thresholds are summarized in **Appendix E** for reference.

5.7.3 The results indicated that the existing operations of all pedestrian facilities are adequate.

6. SUMMARY AND CONCLUSION

6.1 Summary

6.1.1 MVA Hong Kong Ltd. has been commissioned by Kam Luk Investment Company Limited to conduct a consolidated TIA for the Land Sharing Pilot Scheme application for Site A and Site B in Tai Po, New Territories.

6.1.2 Site A is located near Lo Fai Road / Ting Kok Road and it is proposed to be public residential housing / Starter Homes ("SH") development with community and retail facilities. Site B is located opposite to Fortune Garden across Ting Kok Road and it is proposed to be private residential development. Both sites would provide adequate parking and service facilities based on the latest HKPSG's requirement.

6.1.3 A manual classified traffic surveys were conducted at the affected key junctions in the vicinity of the proposed residential developments from 07:30 to 09:30 and from 17:00 to 19:00 on a typical weekday in March 2023.

6.1.4 The two proposed residential developments are tentatively scheduled for completion by year 2033. Therefore design year 2036 is adopted for TIA.

6.1.5 According to TPDM, the traffic generation and attraction from the proposed development have been assessed. It is estimated that the proposed development will generate and attract about 180 pcu/hr and 145 pcu/hr in the AM peak hour, and generate and attract about 95 pcu/hr and 115 pcu/hr in the PM peak hour respectively.

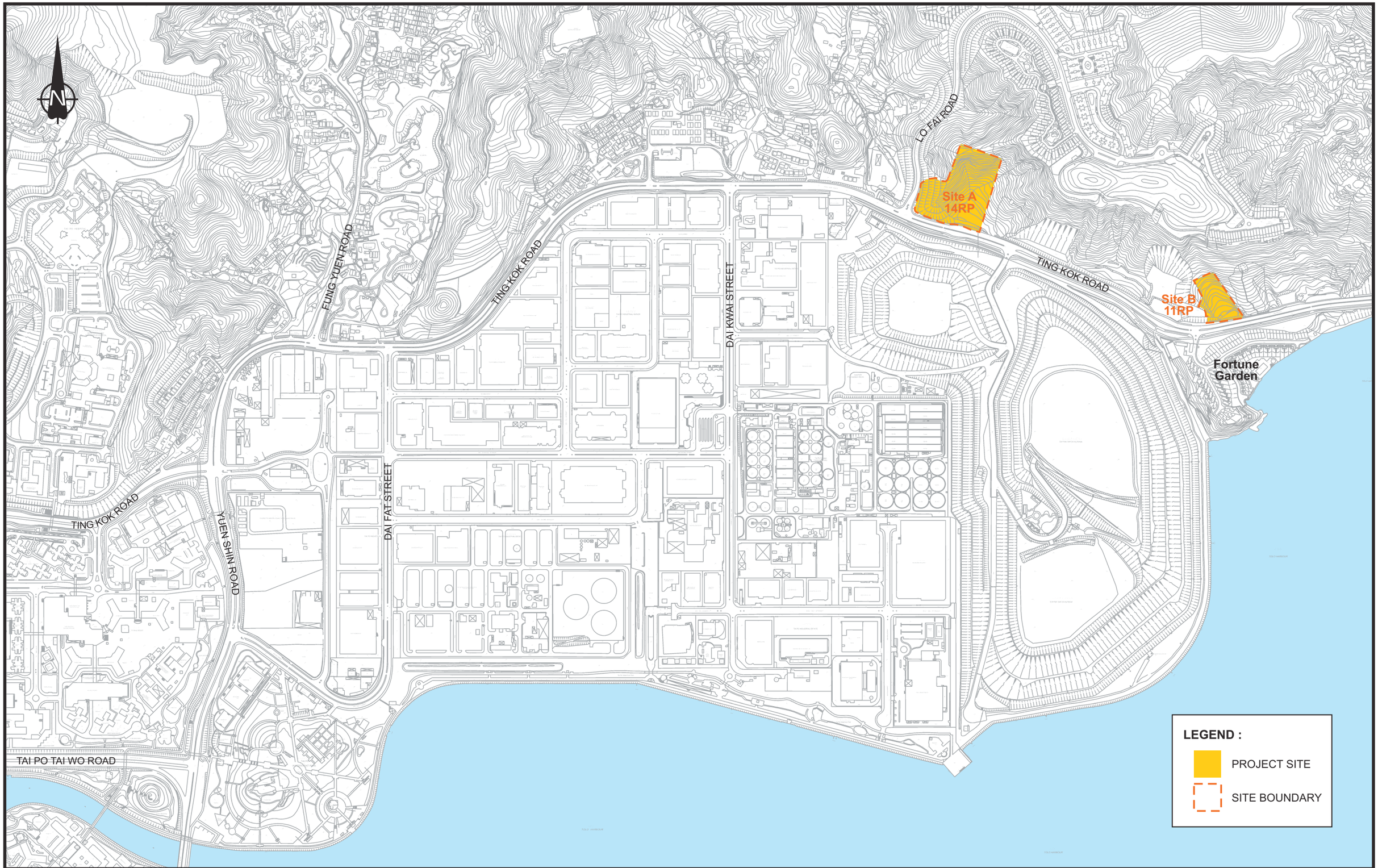
6.1.6 Junction capacity assessment of operational performance was carried out to determine the traffic impacts from the sites in design year 2036. All of the junctions with the proposed junction improvement measures would be operating in desirable performance during both AM and PM peak.

6.1.7 Junction improvement works as stated in this report will be carried out by the Applicant. The cost will be agreed with the Government as lump sum infrastructure cost to be reimbursed by land premium deduction.

6.1.8 With the proposed additional trips on existing bus and GMB routes, the future estimated occupancy could accommodate the additional passengers demand from both Sites A & B.

6.2 Conclusion

6.2.1 Based on the above findings, it is concluded that the two proposed residential developments at Site A and Site B are feasible and manageable from a traffic perspective and will not lead to adverse traffic impact to the surrounding road network.



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

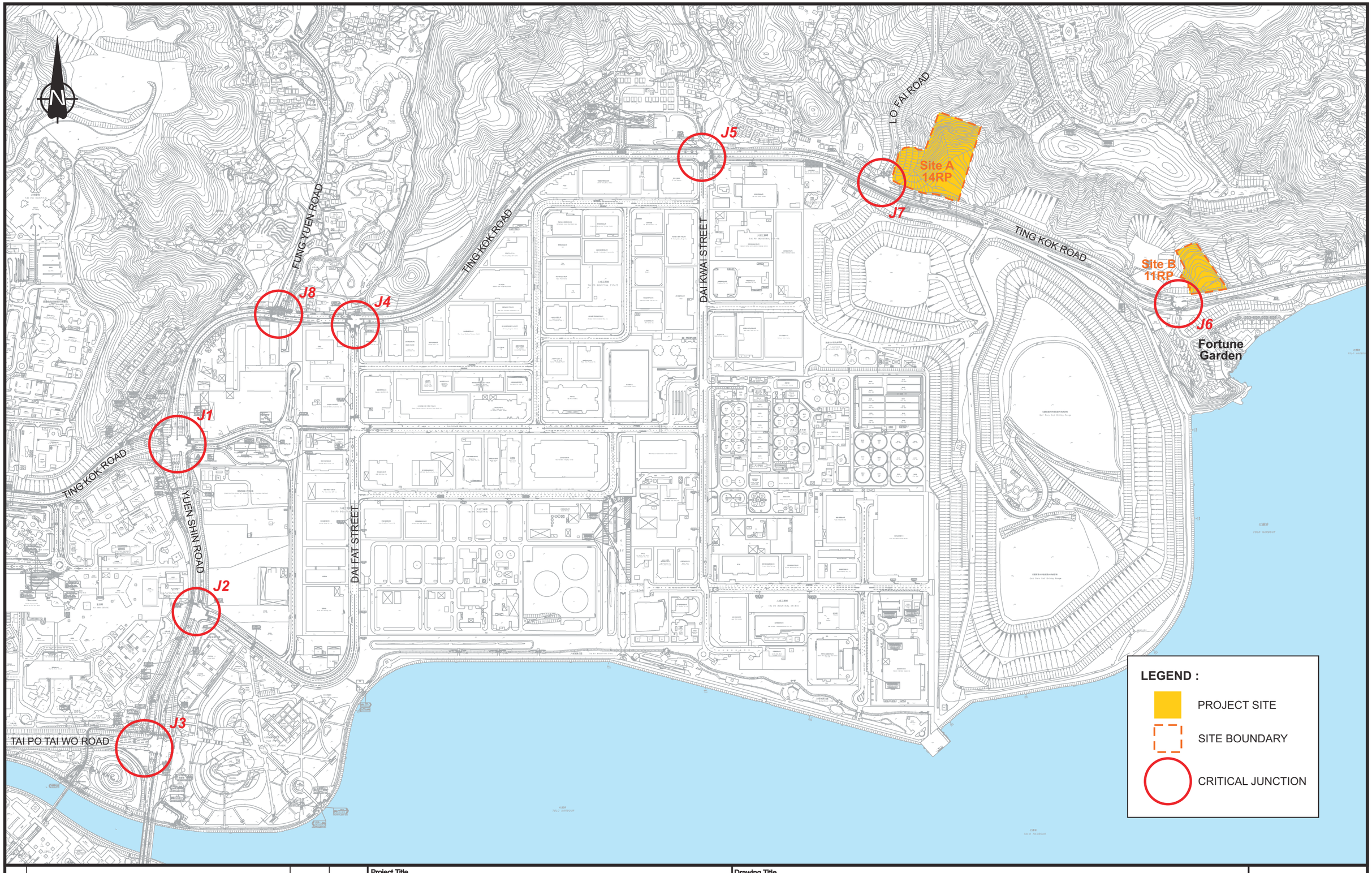
SITE LOCATION

Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	HWL	NTS	NOV 2024	1.1	-

SYSTRA MVA

CHK50539710/FRTIA/F11.CDR/LLH/18NOV24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

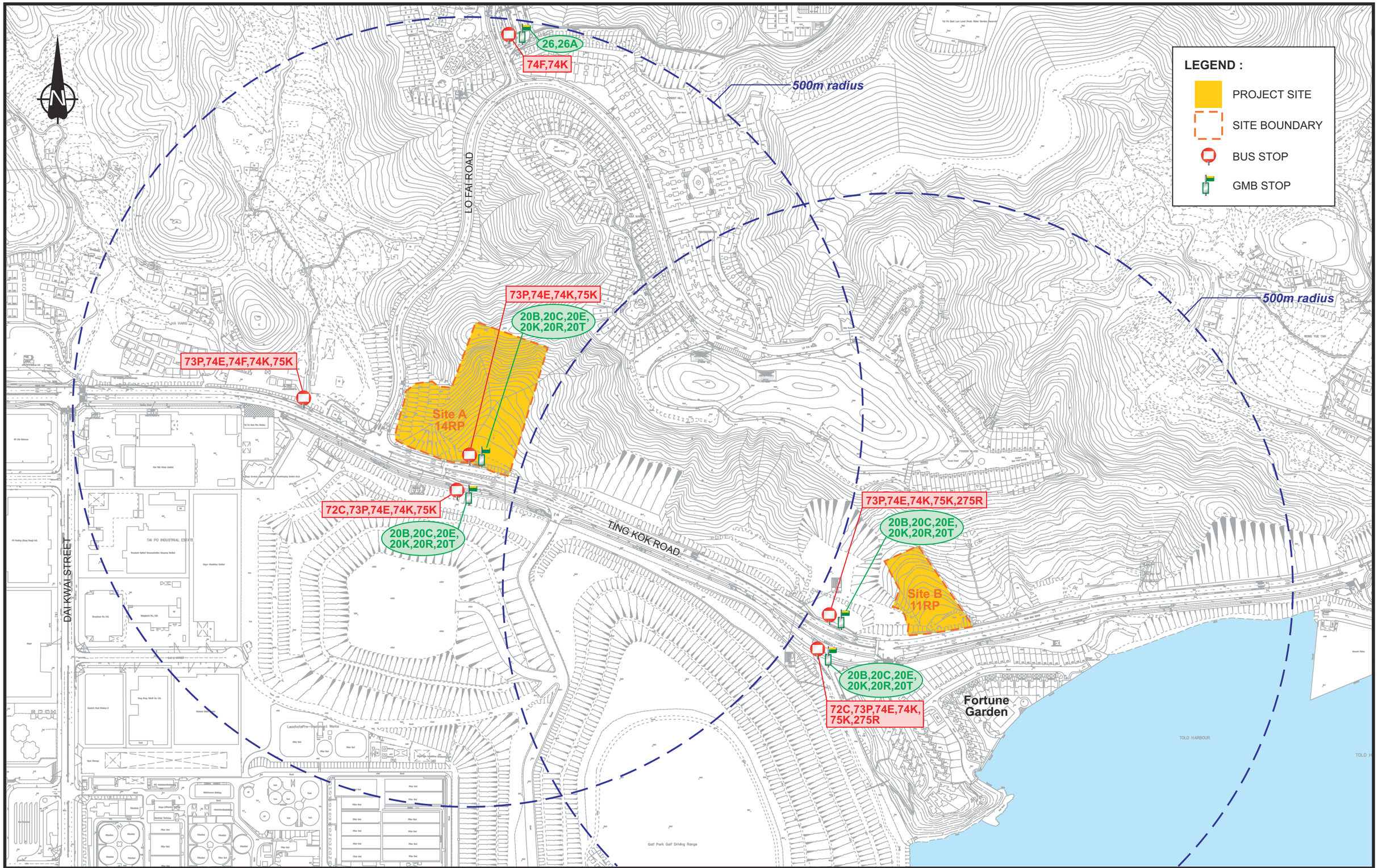
EXISTING ROAD NETWORK AND CRITICAL JUNCTIONS

Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	HWL	NTS	NOV 2024	2.1	-

SYSTRA MVA

CHK50539710/FRTIA/F21.CDR/LLH/18NOV24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

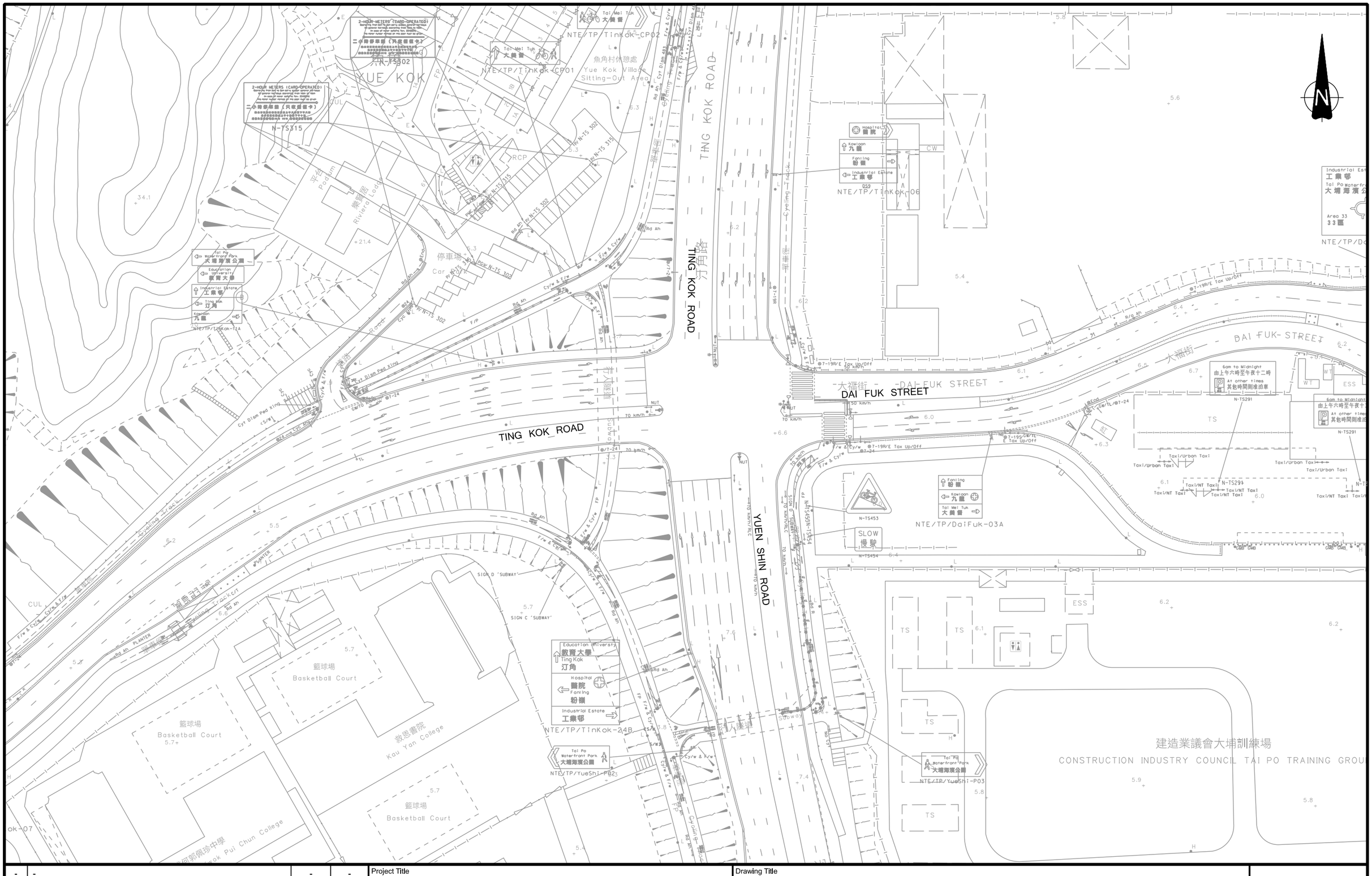
EXISTING PUBLIC TRANSPORT FACILITIES (WITHIN 500M RADIUS)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	HWL	NTS	NOV 2024	2.2	-

SYSTRA MVA

CHK50539710/FRTIA/F22.CDR/LLH/18NOV24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

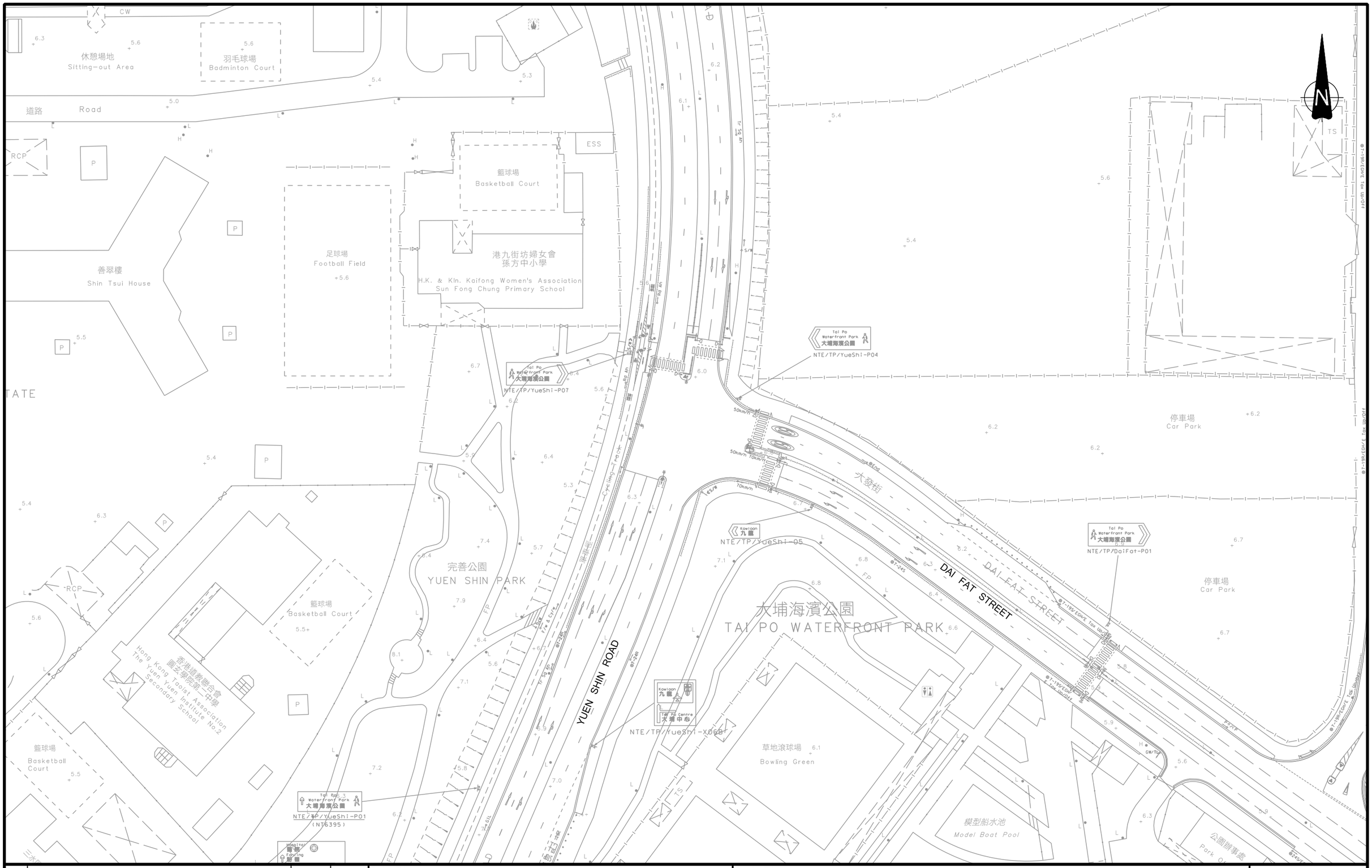
EXISTING JUNCTION LAYOUT OF TING KOK ROAD / YUEN SHIN ROAD / DAI FUK STREET (J1)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	APR 2023	2.3	A

SYSTRA MVA

CHK50539710/FRTIA/F23.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

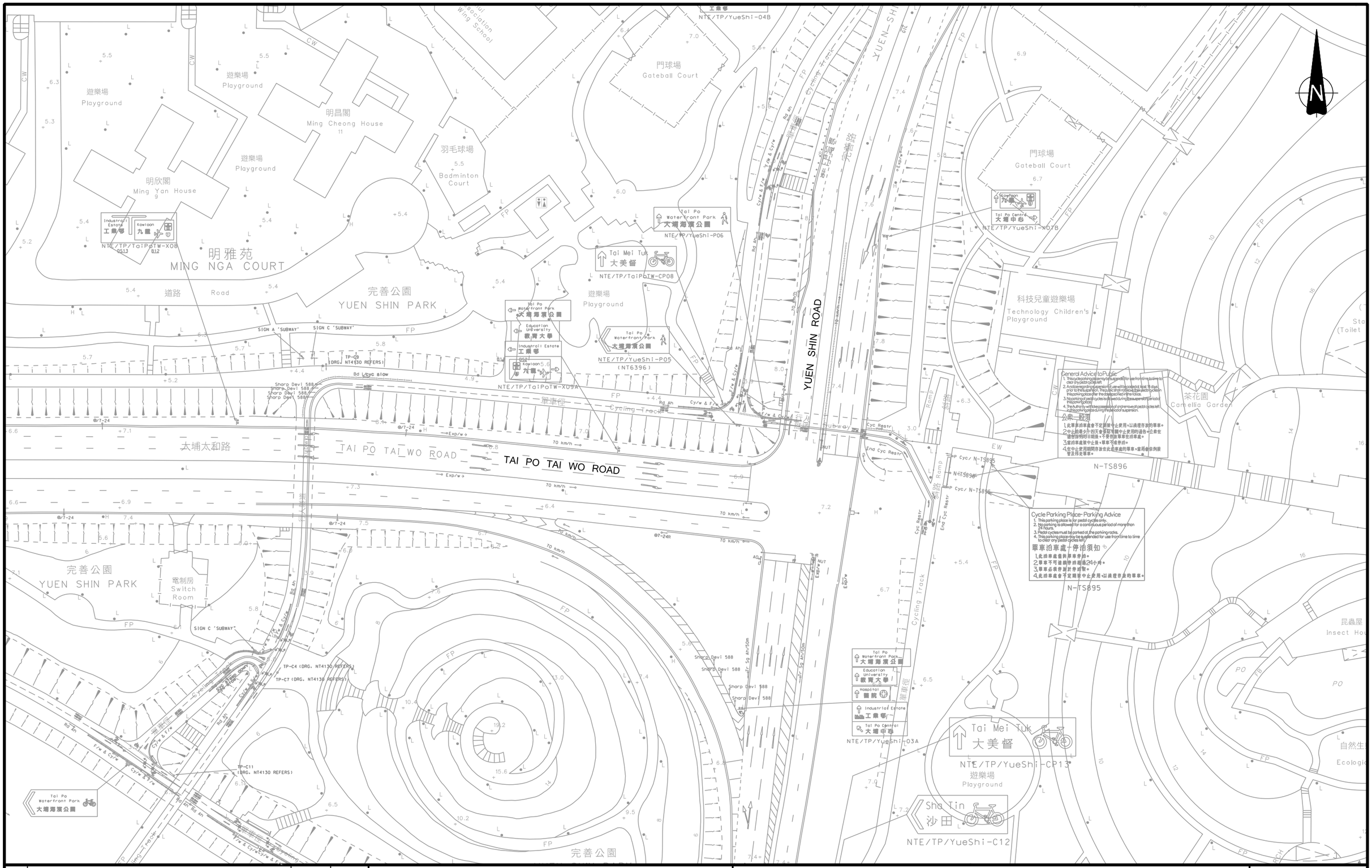
EXISTING JUNCTION LAYOUT OF YUEN SHIN ROAD / DAI FAT STREET (J2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	APR 2023	2.4	A

SYSTRA MVA

CHK50539710/FRTIA/F24-A.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

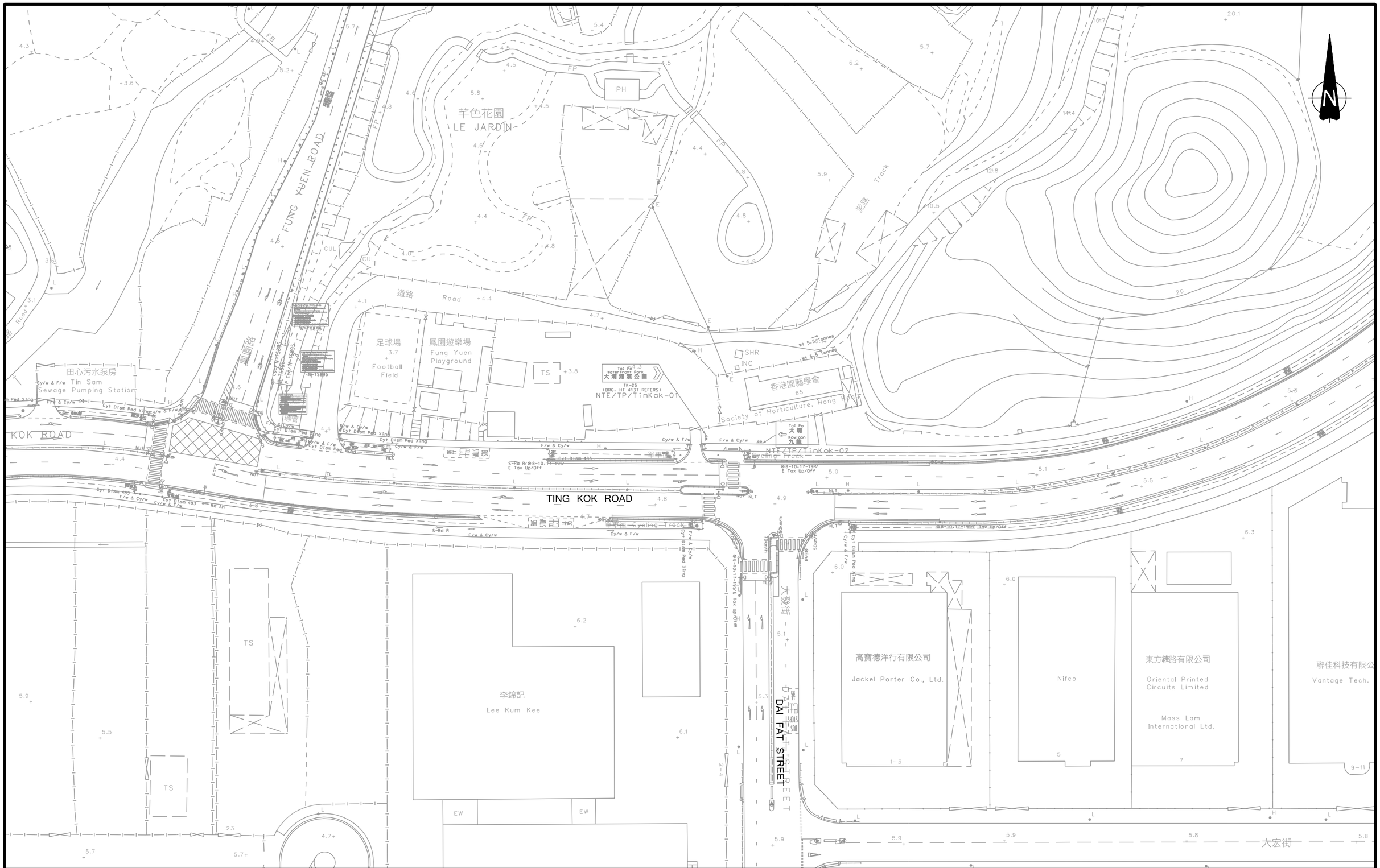
EXISTING JUNCTION LAYOUT OF TAI PO TAI WO ROAD / YUEN SHIN ROAD (J3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	APR 2023	**2.5**	A

SYSTRA MVA

CHK50539710/FRTIA/F25-A.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

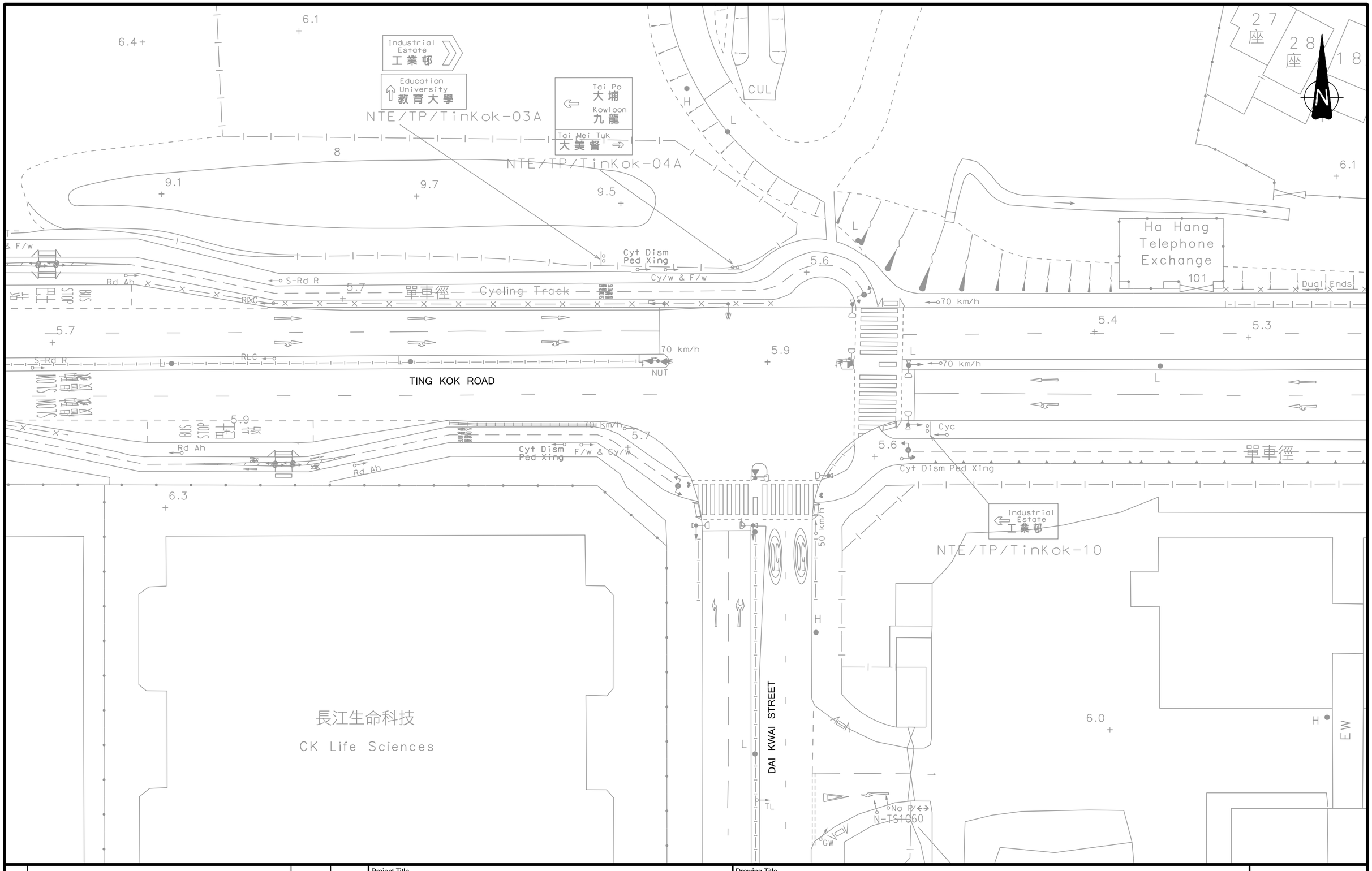
EXISTING JUNCTION LAYOUT OF TING KOK ROAD / DAI FAT STREET (J4)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	APR 2023	**2.6**	A

SYSTRA MVA

CHK50539710/FRTIA/F26-A.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

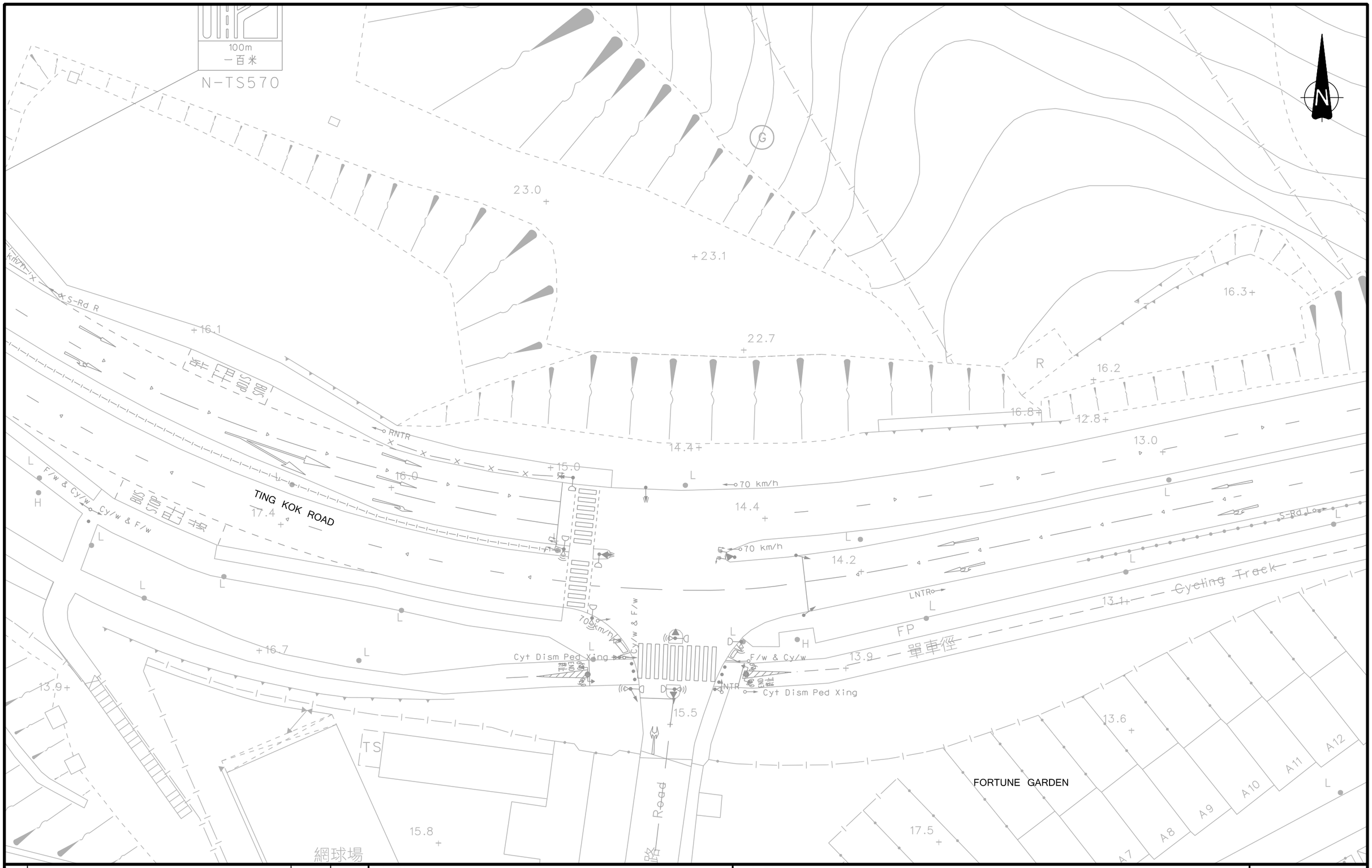
EXISTING JUNCTION LAYOUT OF TING KOK ROAD / DAI KWAI STREET (J5)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	2.7	A

SYSTRA MVA

CHK50539710/FRTIA/F27-A.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

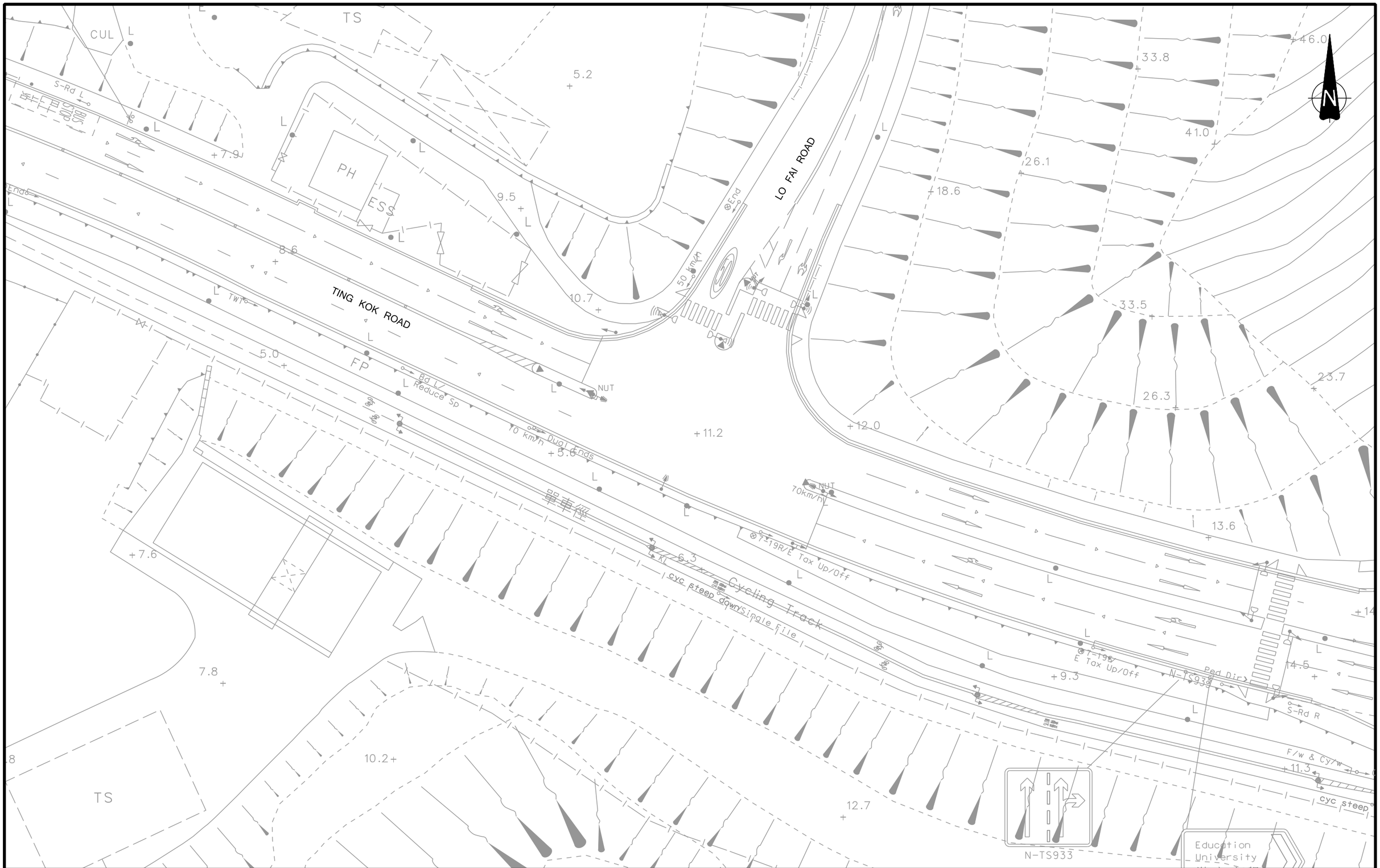
EXISTING JUNCTION LAYOUT OF TING KOK ROAD OUTSIDE FORTUNE GARDEN (J6)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	**2.8**	A

SYSTRA MVA

CHK50539710/FRTIA/F28-A.DGN/TKH/09SEP24

Original Size : A3



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-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24
Rev.	Description	Checked	Date

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

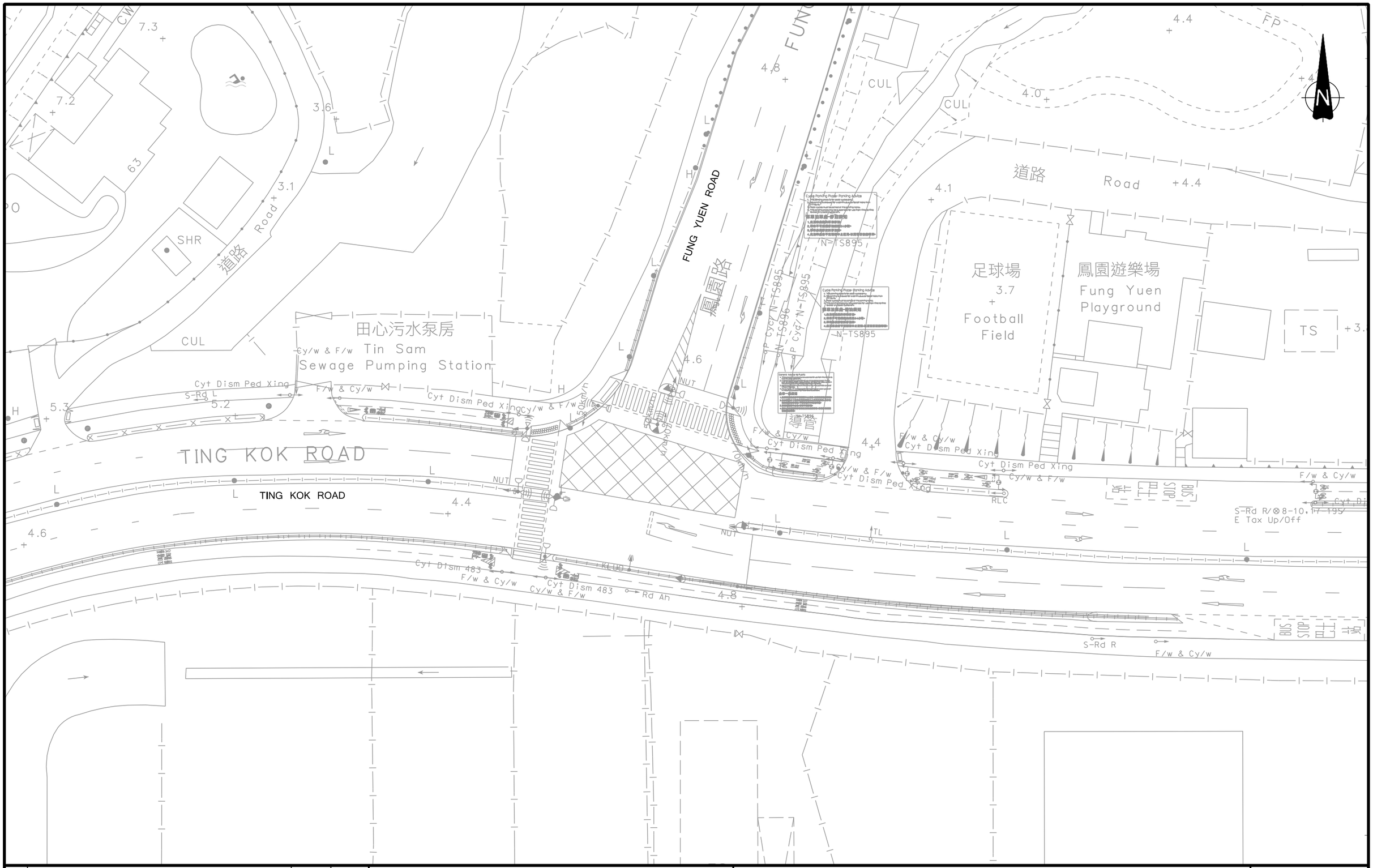
EXISTING JUNCTION LAYOUT OF TING KOK ROAD / LO FAI ROAD (J7)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	**2.9**	A

SYSTRA MVA

CHK50539710/FRTIA/F29-A.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

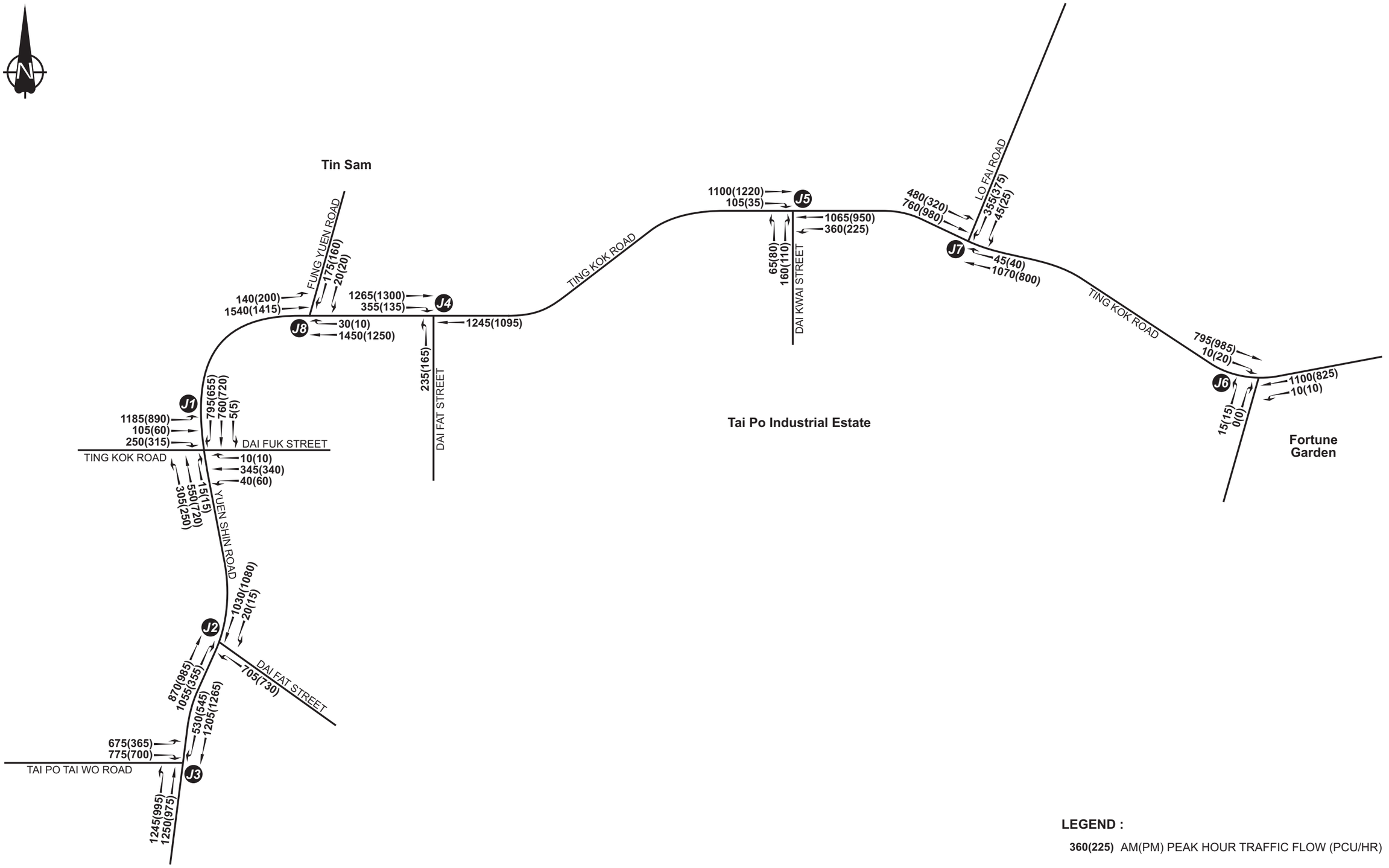
EXISTING JUNCTION LAYOUT OF TING KOK ROAD / FUNG YUEN ROAD (J8)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	**2.10**	A

SYSTRA MVA

CHK50539710/FRTIA/F210-A.DGN/TKH/09SEP24

Original Size : A3



LEGEND :

360(225) AM(PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

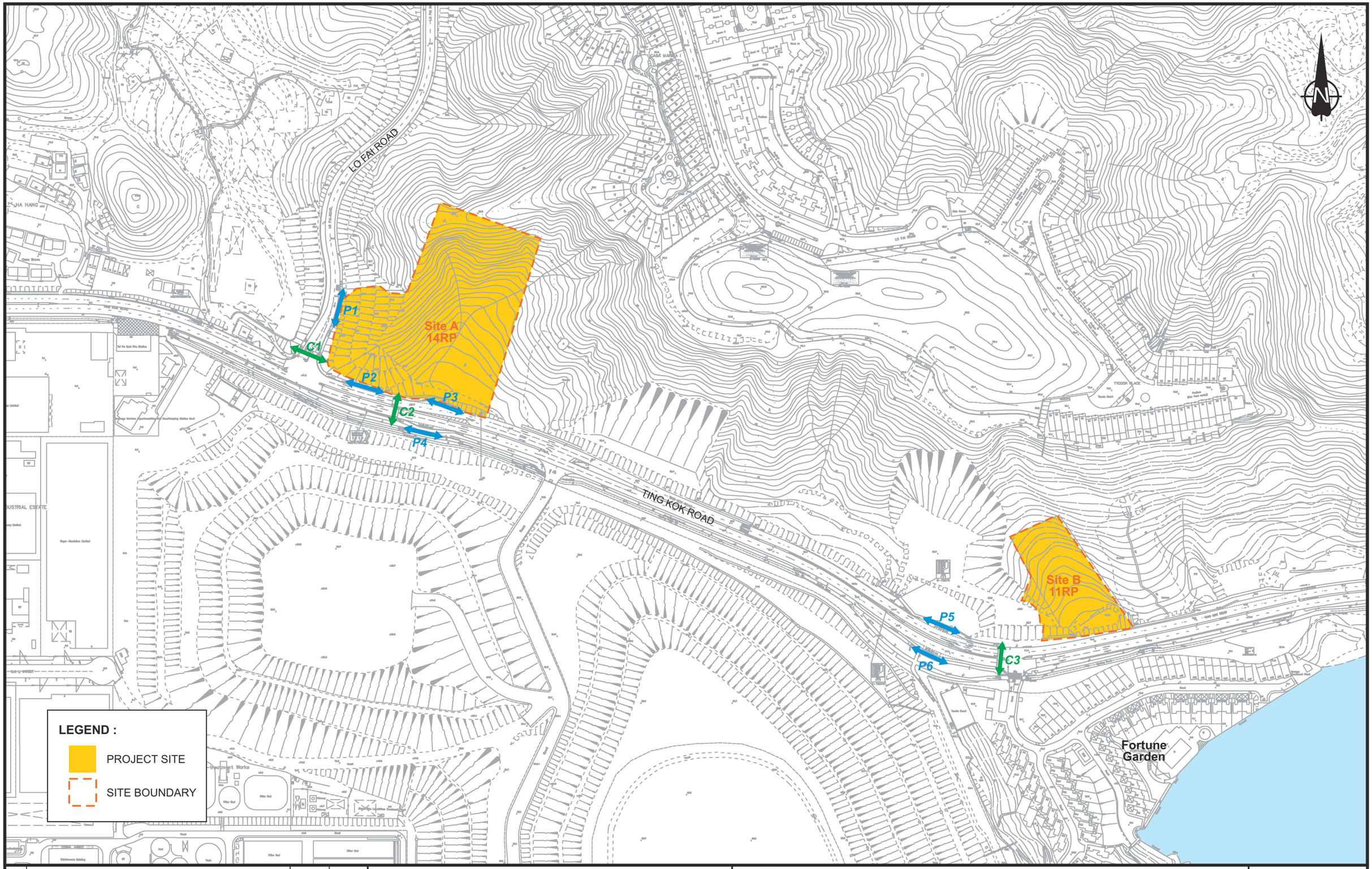
2023 OBSERVED TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	NTS	APR 2023	2.11	-

SYSTRA MVA

CHK50539710/FRTIA/F211.CDR/LLH/11APR23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

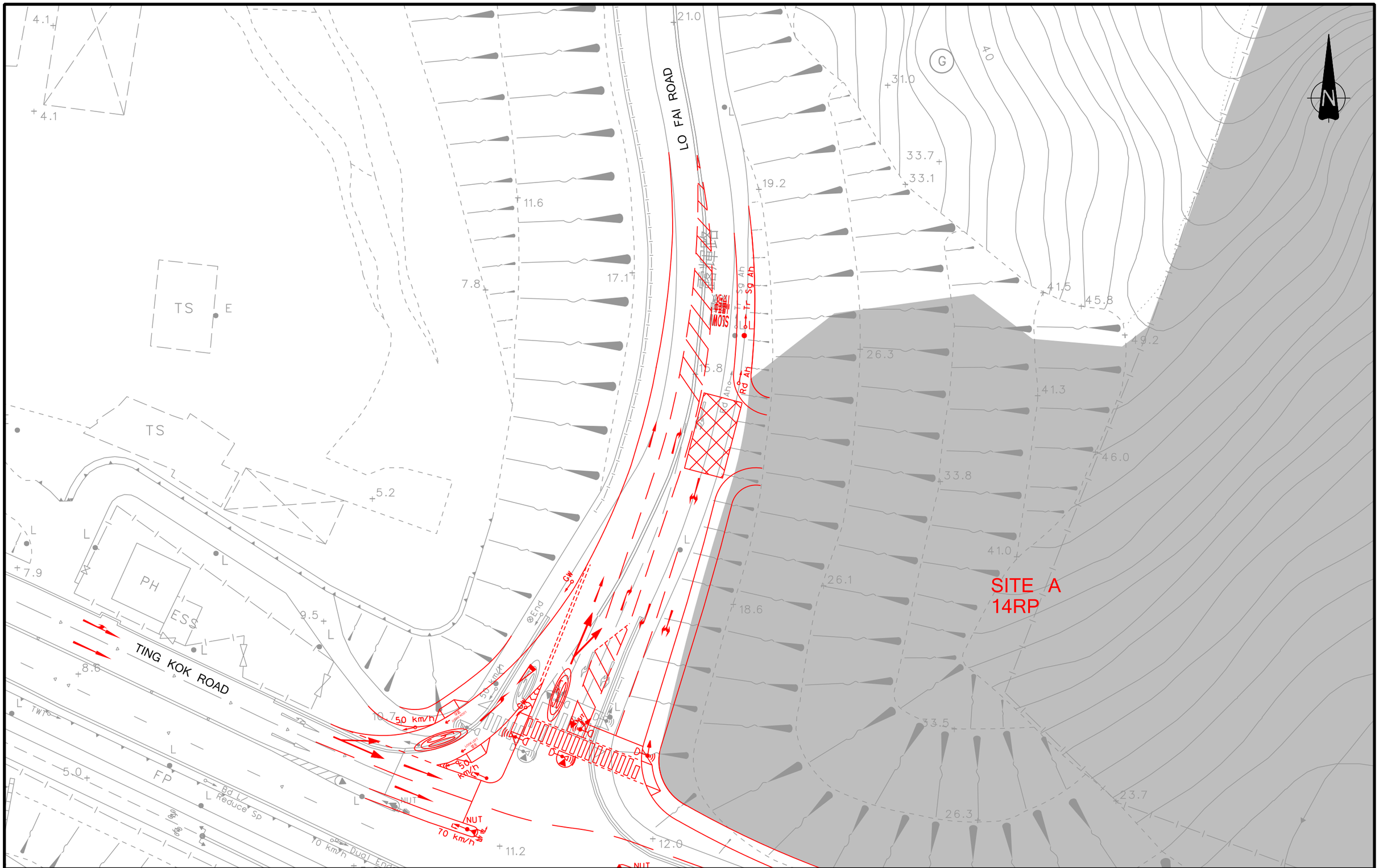
PEDESTRIAN SURVEY LOCATIONS

Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	HWL	NTS	NOV 2024	2.12	-

SYSTRA MVA

CHK50539710/FRTIA/F212.CDR/LLH/18NOV24

Original Size : A3



Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	11FEB25
C	EXISTING TRAFFIC AIDS UPDATED	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	31OCT23
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

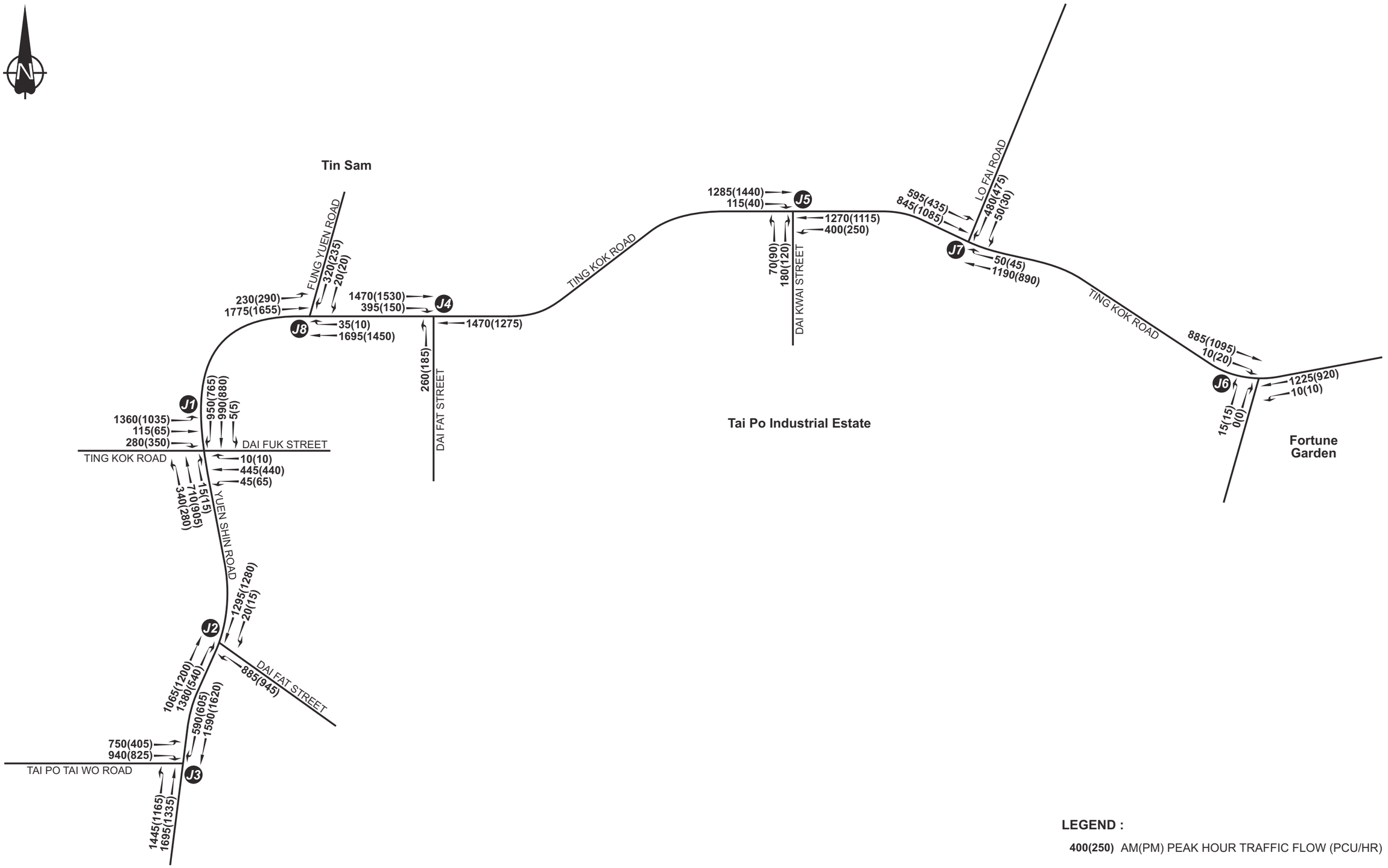
PROPOSED RIGHT TURN POCKET AT LO FAI ROAD

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	3.3	D

SYSTRA MVA

CHK50539710/FRTIA/F33-D.DGN/CKC/11FEB25

Original Size : A3



LEGEND :

400(250) AM(PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)

Rev.	Description	Checked	Date
-	-	-	-
C	REVISED TIA	TKM	9SEP24
B	RESPONSE TO COMMENTS	TKM	23NOV23
A	RESPONSE TO COMMENTS	TKM	4AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

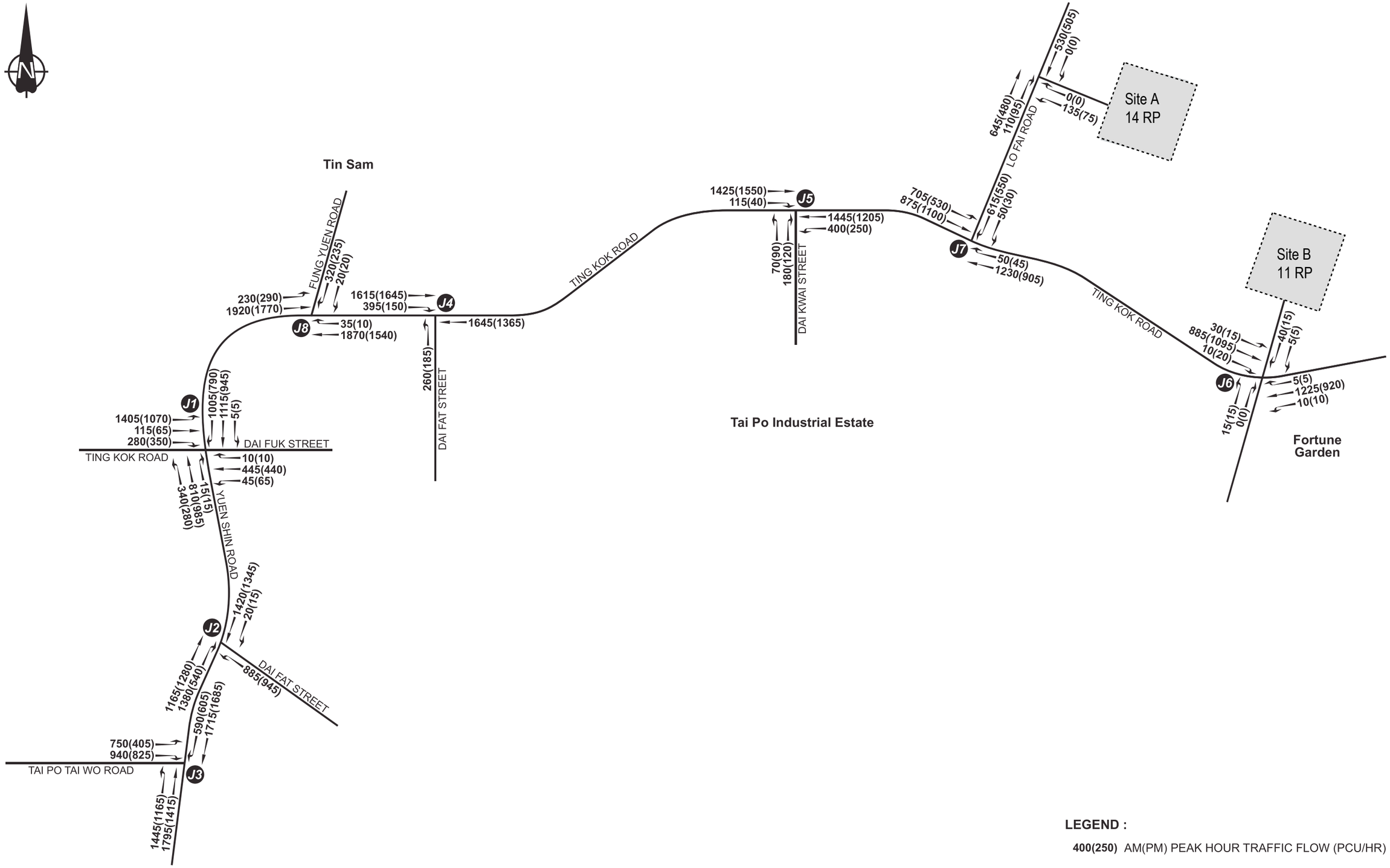
2036 REFERENCE TRAFFIC FLOWS (WITHOUT DEVELOPMENT)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	TKM	NTS	APR 2023	4.1	C

SYSTRA MVA

CHK50539710/FRTIA/F41-C.CDR/LLH/9SEP24

Original Size : A3



LEGEND :

400(250) AM(PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)

Rev.	Description	Checked	Date
-	-	-	-
C	REVISED TIA	TKM	11SEP24
B	RESPONSE TO COMMENTS	TKM	23NOV23
A	RESPONSE TO COMMENTS	TKM	4AUG23

Project Title: TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title: **2036 DESIGN TRAFFIC FLOWS (WITH DEVELOPMENT)**

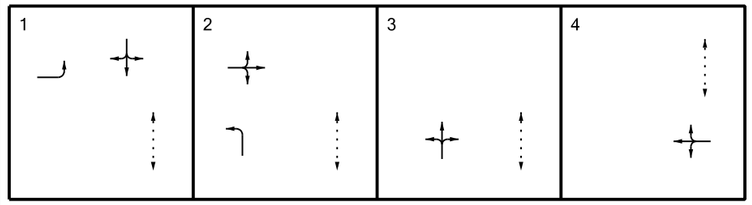
Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	TKM	NTS	APR 2023	4.2	C

SYSTRA MVA

CHK50539710/FRTIA/F42-C.CDR/LLH/11SEP24

Original Size : A3

EXISTING METHOD OF CONTROL



RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 200m

LEFT TURN RADIUS : 15 m

LEFT TURN RADIUS : 15 m

TING KOK ROAD

DAI FUK STREET

YUEN SHIN ROAD

香港建造學院大埔訓練場

Hong Kong Institute of Construction Tai Po Training Ground

Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	10JAN25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	RESPONSE TO COMMENTS	TKM	02SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / YUEN SHIN ROAD / DAI FUK STREET (J1)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TYL	TKM	1:1000(A3)	MAR 2023	5.1	D

SYSTRA MVA

CHK50539710/FRTIA/F51-D.DGN/CKC/10JAN25

Original Size : A3

LEFT TURN RADIUS : 20m

PROPOSED RELOCATION OF TRAFFIC CONTROLLER BOX

RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 200m

LEFT TURN RADIUS : 15m

YUEN SHIN ROAD

DAI FAT STREET

休憩場地 Sitting-out Area

羽毛球場 Badminton Court

道路 Road

籃球場 Basketball Court

善翠樓 Shin Tsui House

足球場 Football Field

港九街坊婦女會孫方中小學 H.K. & Kln. Kaifong Women's Association Sun Fong Chung Primary School

完善公園 YUEN SHIN PARK

香港道教聯合會圓玄學院第二中學 Hong Kong Taoist Association The Yuen Yuen Institute No.2 Secondary School

大埔海濱公園 TAI PO WATERFRONT PARK

草地滾球場 Bowling Green

模型船水池 Model Boat Pool

停車場 Car Park

NTE/TP/YueShi-P04

NTE/TP/YueShi-P07

NTE/TP/YueShi-P01 (NT6395)

NTE/TP/YueShi-X0691

NTE/TP/DaiFat-P01

EXISTING METHOD OF CONTROL

1	2	3 (DEMAND DEPENDENT STAGE)

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
B	RESPONSE TO COMMENTS	TKM	02SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

PROPOSED IMPROVEMENT SCHEME OF YUEN SHIN ROAD / DAI FAT STREET (J2)

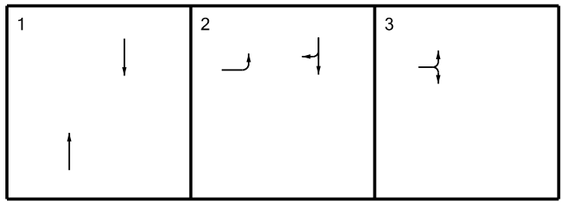
Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	MAR 2023	5.2	B

SYSTRA MVA

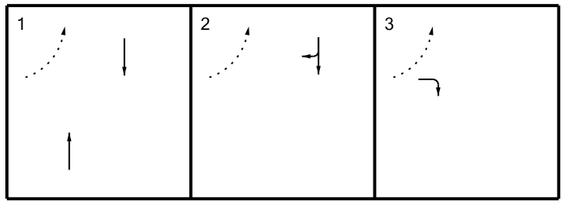
CHK50539710/FRTIA/F52-B.DGN/CKC/02SEP24

Original Size : A3

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL



LEFT TURN RADIUS : 40m

RIGHT TURN RADIUS : 20m

RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 200m

TAI PO TAI WO ROAD

YUEN SHIN ROAD

太埔太和路

完善公園
YUEN SHIN PARK

Cycle Parking Place- Parking Advice
1. This parking place is for pedal cycles only.
2. No parking is allowed for a continuous period of more than 24 hours.
3. Pedal cycles must be parked at the parking racks.
4. This parking place may be suspended for use from time to time to clear any pedal cycles left.
單車泊車處十停泊須知
1.此泊車處是供單車停泊。
2.單車不可連續停泊超過24小時。
3.單車必須停泊於停泊架。
4.此泊車處會不定期暫停使用以清理存放的單車。

General Advice to Public
1. This cycle parking place may be suspended for use from time to time to clear any pedal cycles left.
2. A notice regarding any suspension of use will be placed at least 14 days prior to the suspension. The notice will be displayed prominently on the parking place near the pedestrian access in the place.
3. No parking of pedal cycles is allowed during the suspension period at the parking place.
4. The Authority will dispose as scrap of any removed pedal cycles left in the parking place during the period of suspension.
公衆一般事項
1.此單車泊車處會不定期暫停使用，以清理存放的單車。
2.如擬暫停使用泊車處，會於暫停使用前最少14天在泊車處內顯眼地方張貼通告。
3.泊車處暫停使用期間，不得停放單車。
4.管理當局會將在泊車處內遺留的單車當作廢物處理。

Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	11FEB25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	RESPONSE TO COMMENTS	TKM	29AUG24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

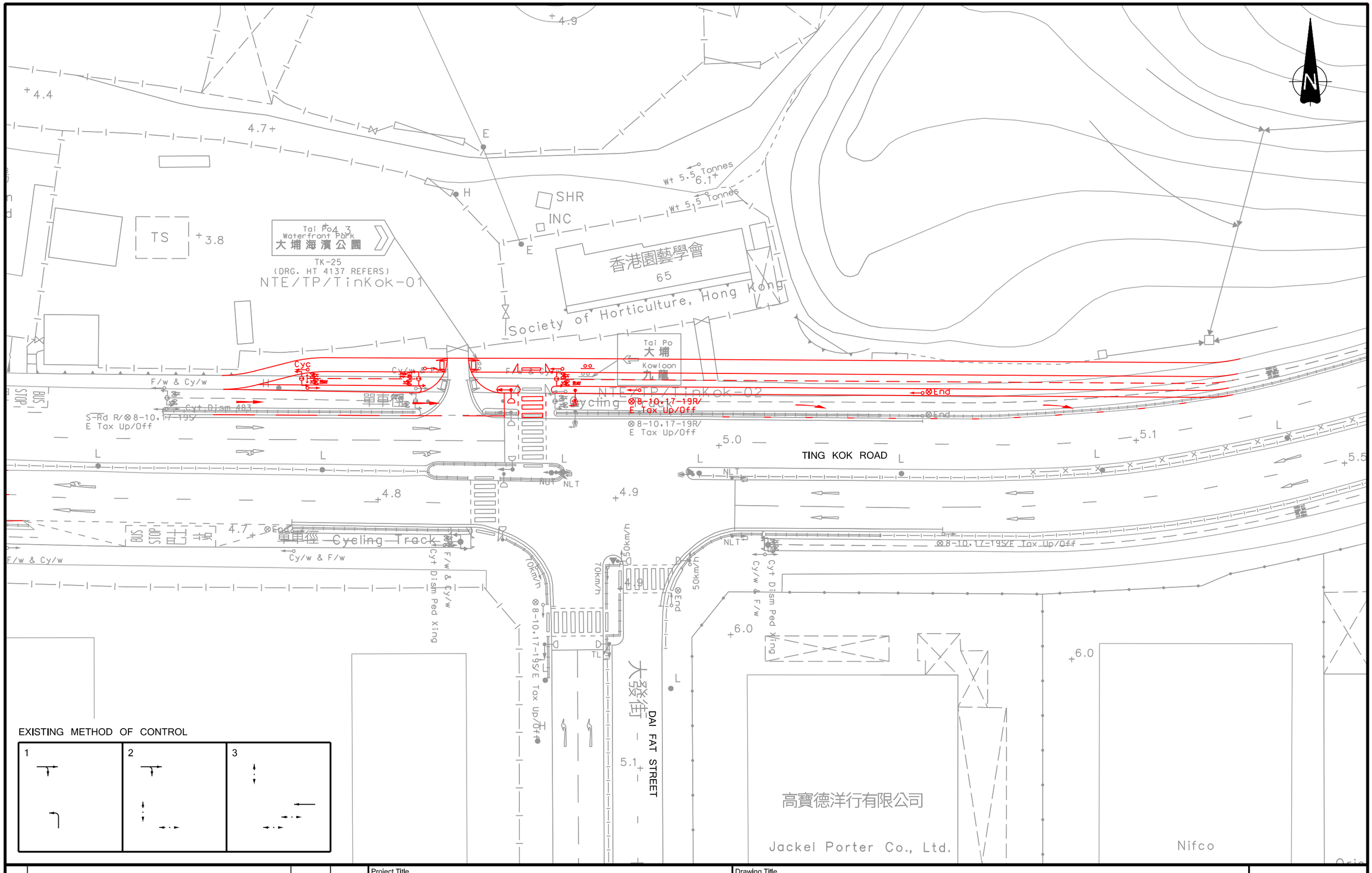
PROPOSED IMPROVEMENT SCHEME OF TAI PO TAI WO ROAD / YUEN SHIN ROAD (J3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:1000(A3)	MAR 2023	5.3	D

SYSTRA MVA

CHK50539710/FRTIA/F53-D.DGN/CKC/11FEB25

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
C	RESPONSE TO COMMENTS	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	06JUN24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

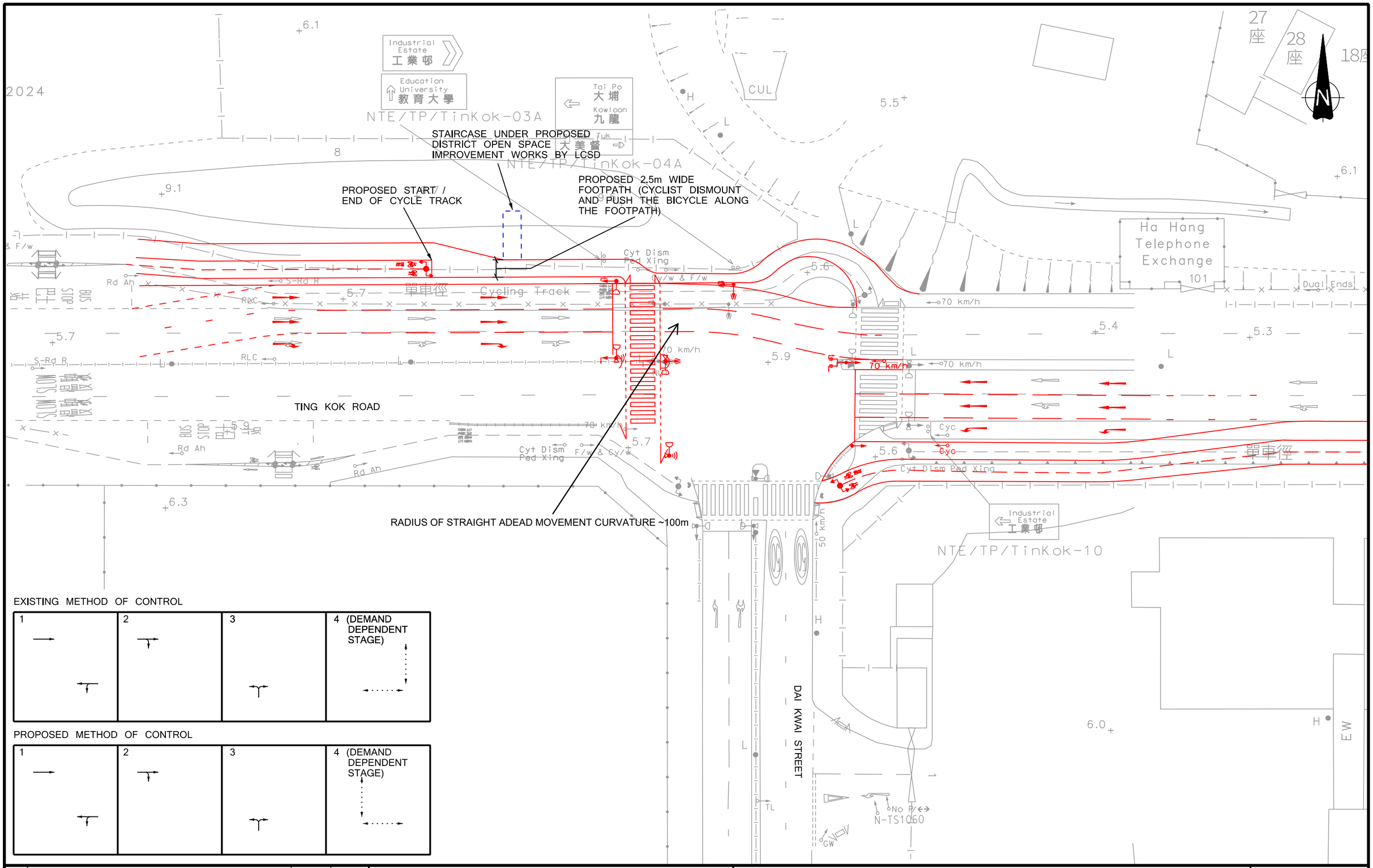
PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / DAI FAT STREET (J4)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	MAR 2023	5.4	C

SYSTRA MVA

CHK50539710/FRTIA/F54-C.DGN/CKC/10JAN25

Original Size : A3



EXISTING METHOD OF CONTROL

1	2	3	4 (DEMAND DEPENDENT STAGE)

PROPOSED METHOD OF CONTROL

1	2	3	4 (DEMAND DEPENDENT STAGE)

Rev.	Description	Checked	Date
D	MODIFIED JUNCTION SCHEME	TKM	11FEB25
C	RESPONSE TO COMMENTS	TKM	29AUG24
B	LCSD LAYOUT INCORPORATED	TKM	06JUN24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

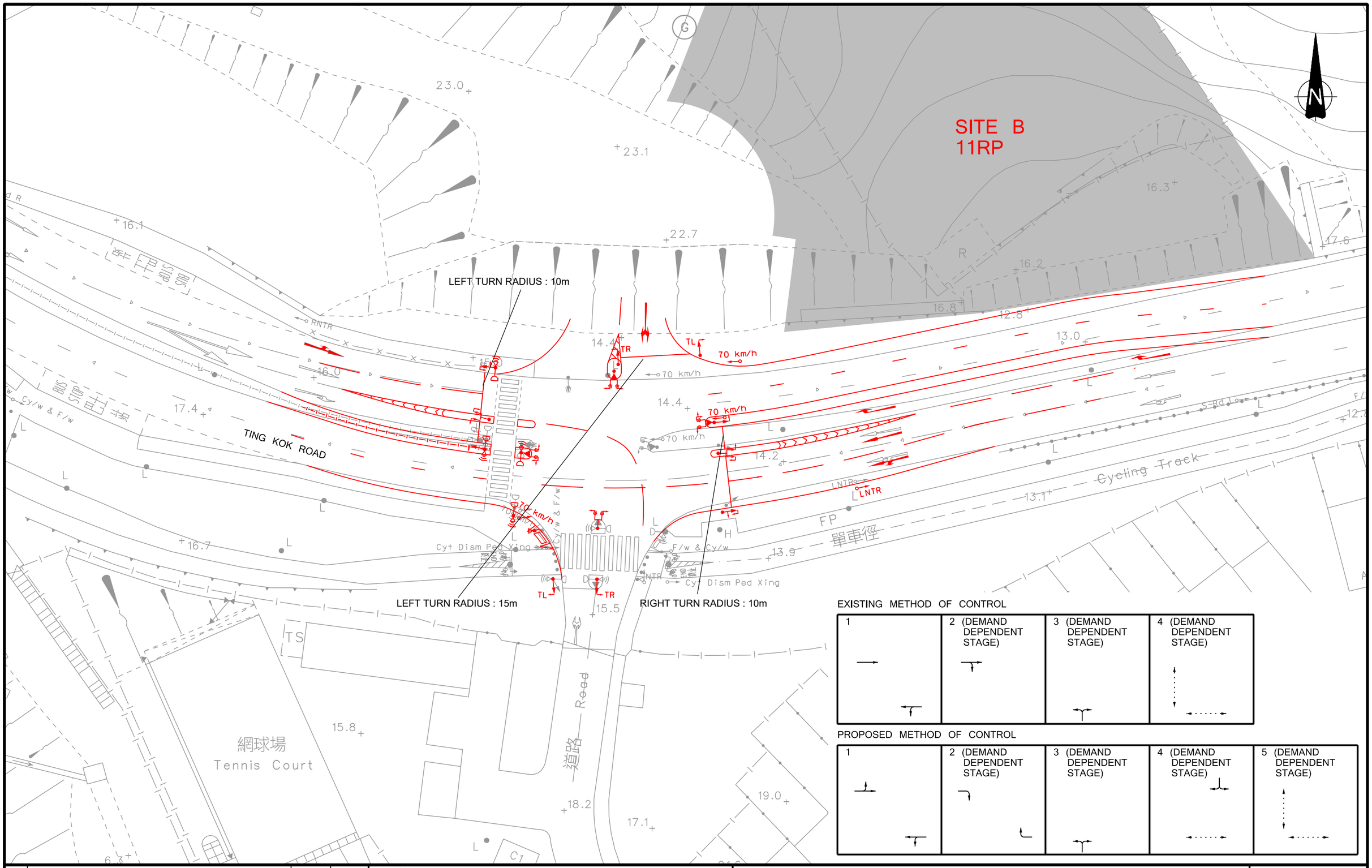
PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / DAI KWAI STREET (J5)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	JUN 2024	5.5	D

SYSTRA MVA

CHK50539710/FRTIA/F55A-A.DGN/CKC/02SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
C	MODIFIED IMPROVEMENT SCHEME	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	05SEP25
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD OUTSIDE FORTUNE GARDEN (J6)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	5.6	C

SYSTRA MVA

CHK50539710/FRTIA/F56-C.DGN/CKC/10JAN25

Original Size : A3

SITE A
14RP

LEFT TURN RADIUS : 25m

LEFT TURN RADIUS : 13m
RIGHT TURN RADIUS : 13m

PROPOSED RELOCATION OF TRAFFIC CONTROLLER BOX

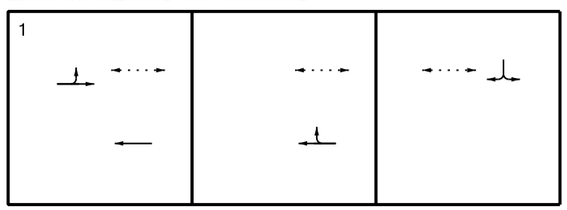
RADIUS OF STRAIGHT ADEAD MOVEMENT CURVATURE ~ 100m

RIGHT TURN RADIUS : 18m

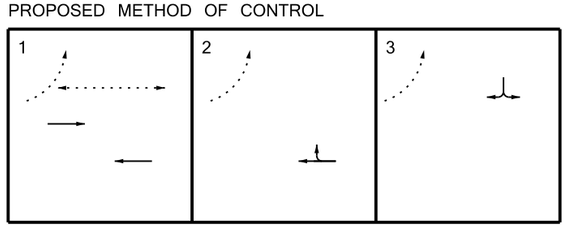
TING KOK ROAD

LO FAI ROAD

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL



Rev.	Description	Checked	Date
D		TKM	11FEB25
C	RESPONSE TO COMMENTS	TKM	10JAN25
B	RESPONSE TO COMMENTS	TKM	31OCT23
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

PROPOSED IMPROVEMENT SCHEME TING KOK ROAD / LO FAI ROAD (J7)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	5.7	D

SYSTRA MVA

CHK50539710/FRTIA/F57-D.DGN/CKC/11FEB25

Original Size : A3

PROPOSED "SLOW" ROAD MARKING (RM1141)

PROPOSED BEND LEFT TRAFFIC SIGN (TS410)

TS410

RADIUS OF BEND SECTION = 70m

PROPOSED RELOCATION OF TRAFFIC CONTROLLER BOX

SITE A
14RP

LO FAI ROAD

TING KOK ROAD

LEGEND:

PROPOSED JUNCTION IMPROVEMENT AT J7

PROPOSED IMPROVEMENT AT LO FAI ROAD

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	MODIFIED IMPROVEMENT SCHEME	TKM	11FEB25

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

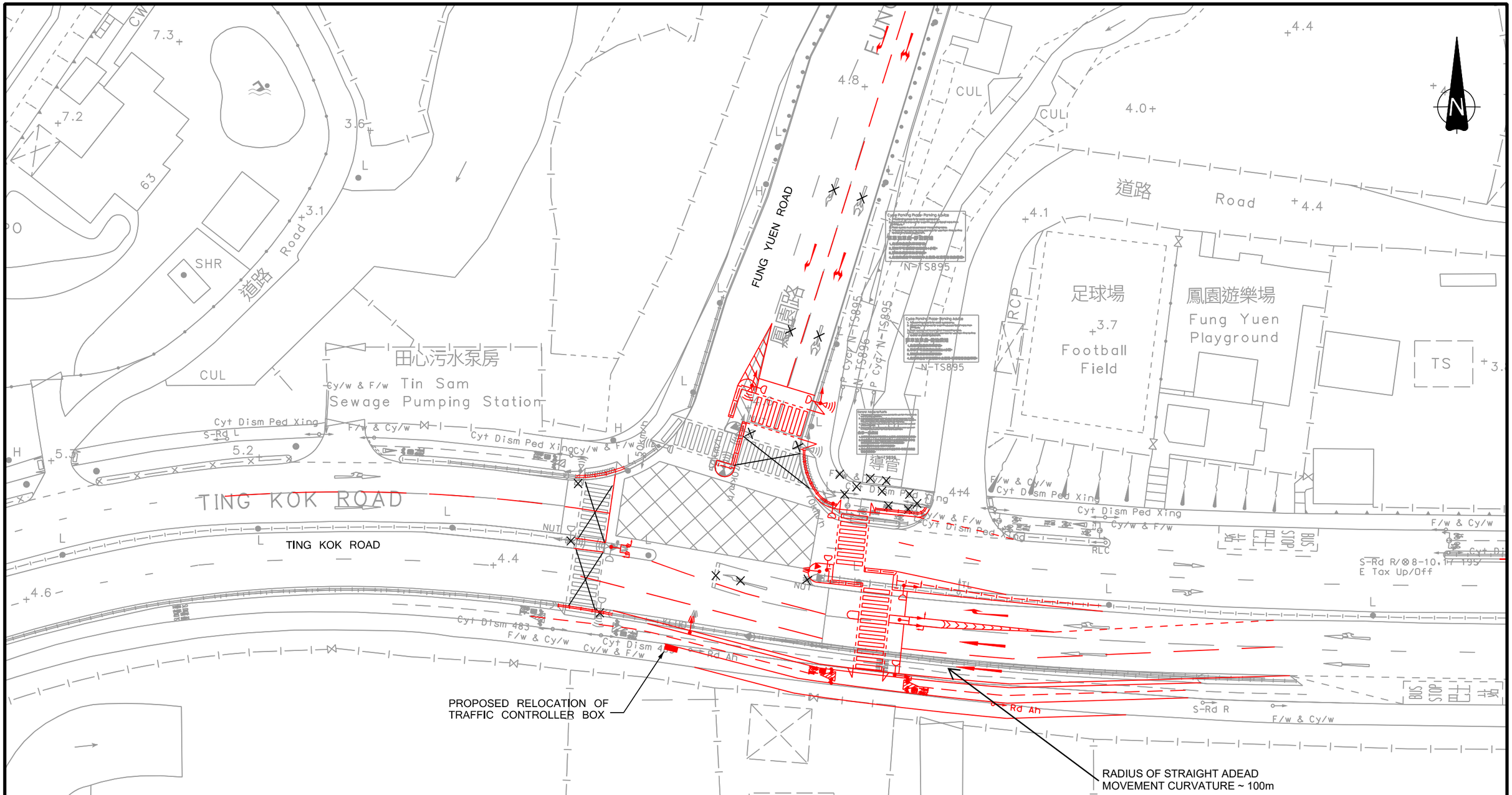
PROPOSED IMPROVEMENT SCHEME AT LO FAI ROAD

Designed	Checked	Scale	Date	Drawing No.	Rev.
TSO	TKM	1:1000(A3)	DEC 2024	5.7A	A

SYSTRA MVA

CHK50539710/FRTIA/F57A-A.DGN/CKC/11FEB25

Original Size : A3



EXISTING METHOD OF CONTROL

1	2	3 (DEMAND DEPENDENT STAGE)	4 (DEMAND DEPENDENT STAGE)

PROPOSED METHOD OF CONTROL

1	2	3

Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	06JAN25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	RESPONSE TO COMMENTS	TKM	02SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

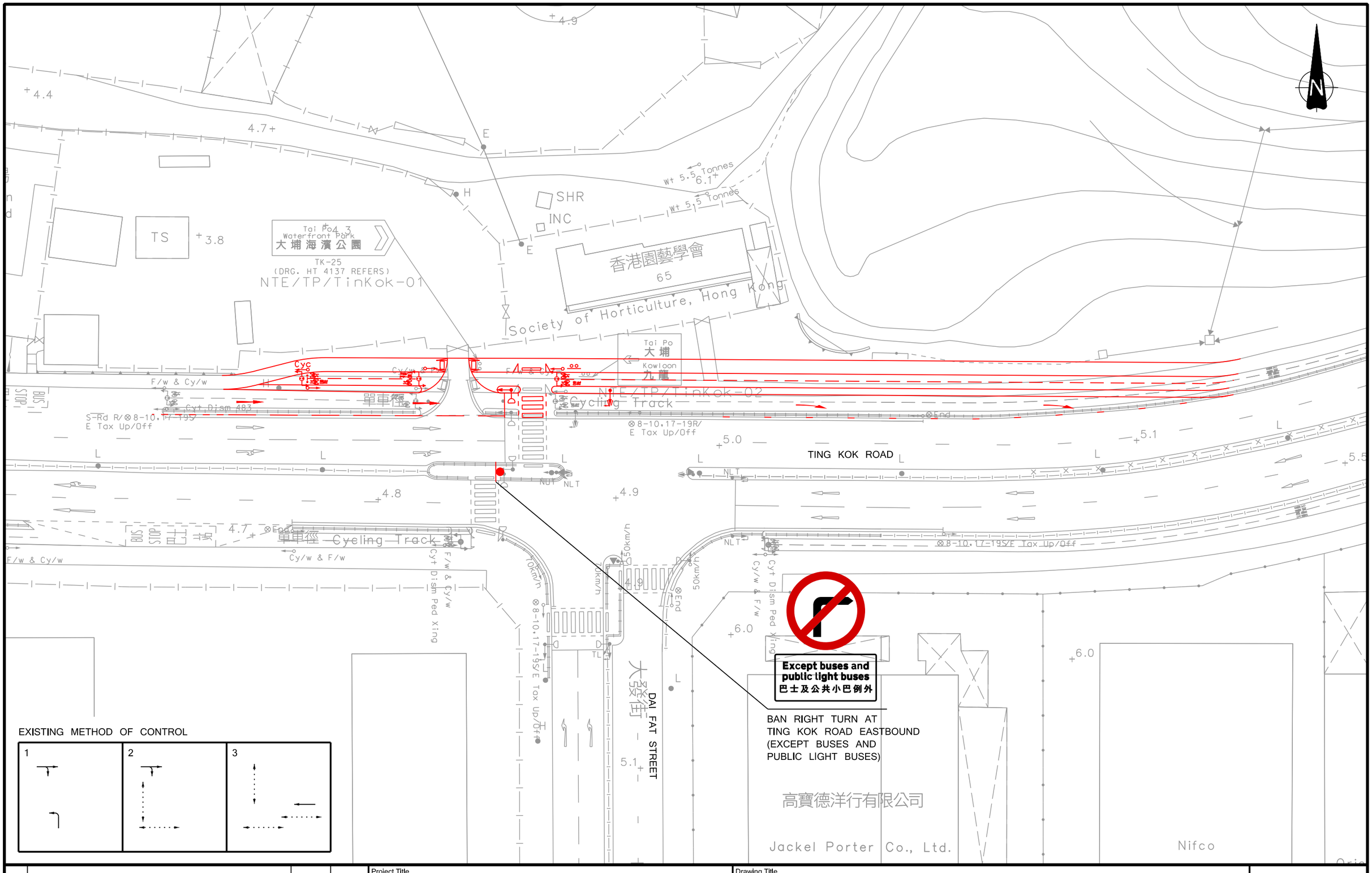
PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / FUNG YUEN ROAD (J8)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	MAR 2023	5.8	D

SYSTRA MVA

CHK50539710/FRTIA/F58-D.DGN/CKC/06JAN25

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
C	EXISTING TRAFFIC AIDS UPDATED	TKM	09SEP24
B	RESPONSE TO COMMENTS	TKM	06JUN24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

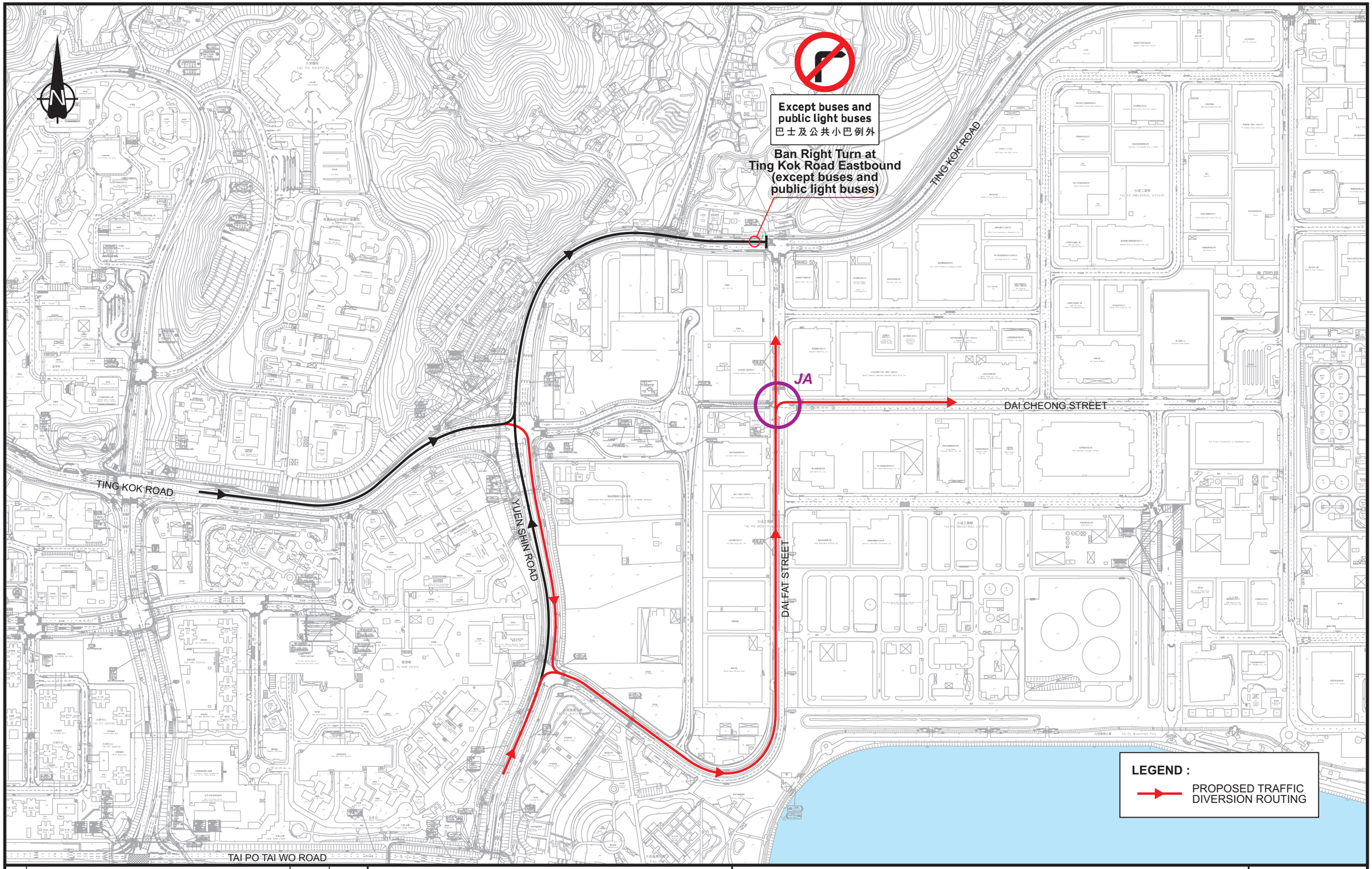
PROPOSED FURTHER IMPROVEMENT SCHEME OF TING KOK ROAD / DAI FAT STREET (J4)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	MAR 2023	5.9	C

SYSTRA MVA

CHK50539710/FRTIA/F59-C.DGN/TKH/09SEP24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	RESPONSE TO COMMENTS	TKM	7AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

PROPOSED TRAFFIC DIVERSION ROUTING FOR SCHEME OF J4

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	NTS	APR 2023	5.10	A

SYSTRA MVA

CHK50539710/FRTIA/F510-A.CDR/LLH/7AUG23

Original Size : A3

下午 0 一上午 7

N-TS740

TS

TS

合和滑模工程有限公司

Hopewell Slipform Engineering Ltd.

PGV/ N-TS740

DAI FAT STREET

NRT

NLT

R/a Ah/Rd Ah

⊗24R

⊗24S

OWT

DAI HUNG STREET

NUT

NLT

PGV/20-7/

DAI CHEONG STREET

Kowloon

九龍

NTE/TP/DaiChe-04

科企有限公司

Techno Enterprise Ltd.

ESS

Tai Po 大埔

Tai Mei Tuk 大尾督

TDS-1

DRG No NT8340 REFERS

NTE/TP/DaiFat-01B

Wah-01

大發街

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

EXISTING JUNCTION LAYOUT OF DAI CHEONG STREET / DAI FAT STREET (JA)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	**5.11**	-

SYSTRA MVA

CHK50539710/FRTIA/F511.DGN/KCM/12APR23

Original Size : A3

APPENDIX A

JUNCTION CALCULATIONS

2023 Junction Assessment

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

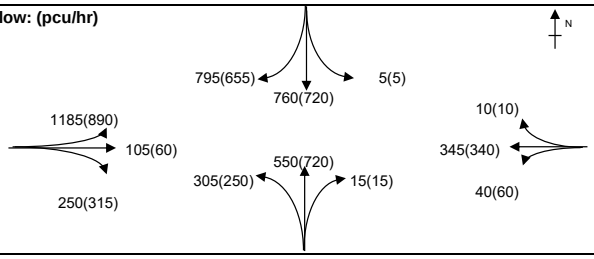
Junction: J1 Ting Kok Rd / Yuen Shin Rd (13791) Design Year: 2023

Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
		B	1,2	3.500	15					1785	1785	568	0.318		426	0.239	
Ting Kok Road		B	1,2	3.500	17.5					1940	1940	617	0.318		464	0.239	
(EB)		C	2	3.500						2105	2105	105	0.050		60	0.029	
		C	2	3.500		32.5				2010	2010	250	0.124	0.124	315	0.157	0.157
		A	1	3.600		25				1995	1995	397	0.199	0.199	327	0.164	
Ting Kok Road		A	1	3.600		27.5				2005	2005	398	0.199		328	0.164	
(SB)		A	1	3.600	12.5			1%	1%	1970	1970	369	0.187		350	0.178	0.178
		A	1	3.600						2115	2115	396	0.187		375	0.177	
Dai Fuk Street		F	4	3.650	15			21%	31%	1940	1920	189	0.097		195	0.102	
(WB)		F	4	3.650		22.5		5%	5%	2115	2115	206	0.097		215	0.102	
		D	2,3	3.500	15					1785	1785	305	0.171		250	0.140	
		E	3	3.500						2105	2105	183	0.087		240	0.114	0.114
Yuen Shin Road		E	3	3.500					2105	2105	2105	184	0.087	0.087	240	0.114	
(NB)		E	3	3.500						2105	2105	183	0.087		240	0.114	
		E	3	3.500		25				1985	1985	15	0.008		15	0.008	
Pedestrian Crossing		Gp	1,2,3	MIN GREEN + FLASH =			9	+	7	=	16						
		Hp	4	MIN GREEN + FLASH =			5	+	10	=	15			*			*

Notes:

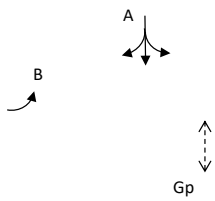
Flow: (pcu/hr)



Group	A,C,E,F	A,C,E,Hp	Group	A,C,E,F	A,C,E,Hp
y	0.508	0.411	y	0.550	0.448
L (sec)	25	40	L (sec)	25	40
C (sec)	100	100	C (sec)	96	96
y pract.	0.675	0.540	y pract.	0.666	0.525
R.C. (%)	33%	31%	R.C. (%)	21%	17%

Stage / Phase Diagrams

1.



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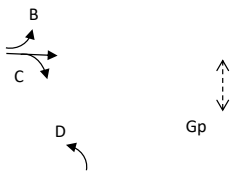

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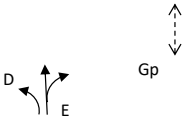

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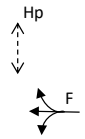


5.

I/G= 2		I/G= 7		I/G= 8		I/G= 11	15	I/G=	
I/G= 2		I/G= 7		I/G= 8		I/G= 11	15	I/G=	

Date: DEC, 2024 **Junction:** J1 Ting Kok Rd / Yuen Shin Rd (13791) (J1)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J2 Yuen Shin Rd / Dai Fat St (13081) Design Year: 2023

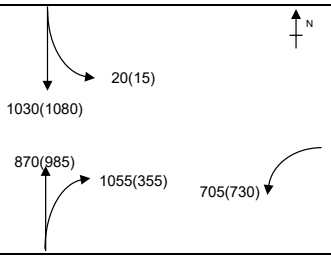
Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (NB)		A	1	3.500						1965	1965	636	0.324		476	0.242	0.242
		A	1	3.500		22.5		64%	0%	2020	2105	654	0.324		509	0.242	
		A	1	3.500		20				1960	1960	635	0.324	0.324	355	0.181	
Yuen Shin Road (SB)		B	2	3.300	15			4%	3%	1935	1940	506	0.261	0.261	528	0.272	0.272
		B	2	3.300						2085	2085	544	0.261		567	0.272	
Dai Fat Street (WB)		C	1	3.750	20					1850	1850	339	0.183		351	0.190	
		C	1	3.750	22.5					1995	1995	366	0.183		379	0.190	
Pedestrian Crossing		Dp	2,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Ep	3	MIN GREEN + FLASH =			5	+	8	=	13			*			*
		Fp	1,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Gp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

Based on site observation of existing situation in two weekdays, Stage 3 is demand dependent which is only activated from 15-30% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 3 has been prorated by 30% (highest) wihtin peak hour assessment.

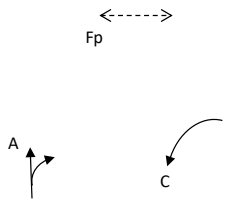
Flow: (pcu/hr)



Group	C,B,Ep	A,B,Ep	Group	C,B,Ep	A,B,Ep
y	0.445	0.585	y	0.462	0.514
L (sec)	18	16	L (sec)	18	16
C (sec)	100	100	C (sec)	96	96
y pract.	0.738	0.756	y pract.	0.731	0.750
R.C. (%)	66%	29%	R.C. (%)	58%	46%

Stage / Phase Diagrams

1.



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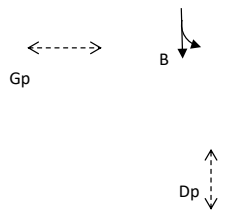

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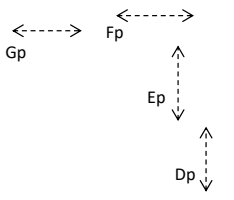


(Demand Dependant)

5.

I/G= 2		I/G= 7		I/G= 10	13	I/G=		I/G=	
I/G= 2		I/G= 7		I/G= 10	13	I/G=		I/G=	

Date: DEC, 2024 **Junction:** (J2) J2 Yuen Shin Rd / Dai Fat St (13081)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080) Design Year: 2023

Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

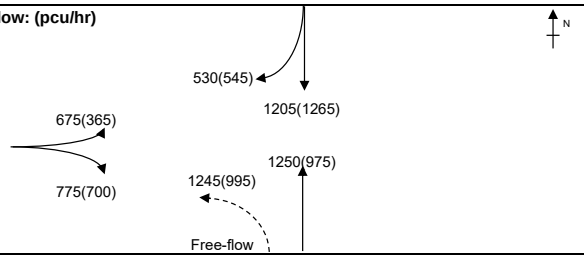
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (SB)	*	B	1,2	3.300						1875	1875	571	0.305		599	0.319	
		B	1,2	3.300						2085	2085	634	0.304		666	0.319	
		C	2	3.300		15				1895	1895	530	0.280	0.280	545	0.288	0.288
Tai Po Tai Wo Road (EB)		D	2,3	3.300	15					1895	1895	675	0.356		365	0.193	
		E	3	3.300		20				1940	1940	392	0.202		354	0.182	
		E	3	3.300		15				1895	1895	383	0.202	0.202	346	0.183	0.183
Yuen Shin Road (NB)	*	A	1	3.300						1875	1875	388	0.207	0.207	302	0.161	
		A	1	3.300						2085	2085	431	0.207		337	0.162	0.162
		A	1	3.300						2085	2085	431	0.207		336	0.161	

Pedestrian Crossing

Notes:

*Site factor = 0.9 (short lane)

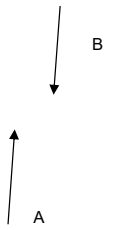
Flow: (pcu/hr)



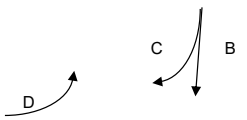
Group	A,D	A,C,E	Group	B,E	A,C,E
y	0.563	0.689	y	0.502	0.632
L (sec)	10	13	L (sec)	10	13
C (sec)	100	100	C (sec)	96	96
y pract.	0.810	0.783	y pract.	0.806	0.778
R.C. (%)	44%	14%	R.C. (%)	61%	23%

Stage / Phase Diagrams

1.



2.



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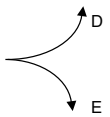


4.

5.

I/G= 5		I/G= 5		I/G= 6		I/G=	I/G=
I/G= 5		I/G= 5		I/G= 6		I/G=	I/G=

Date: DEC, 2024

Junction: (J3) J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

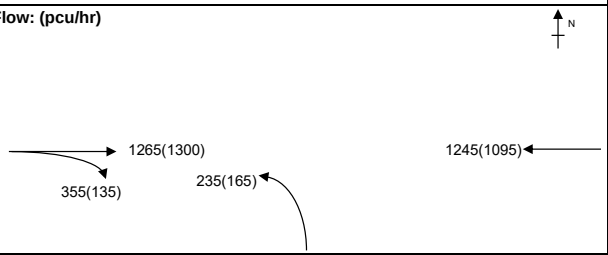
Junction: J4 Ting Kok Rd / Dai Fat St (13792) Design Year: 2023

Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road	→	A	1,2	3.400						1955	1955	808	0.413	0.413	702	0.359	
(EB)	↱	A	1,2	3.400		10		44%	18%	1965	2040	812	0.413		733	0.359	0.359
Ting Kok Road	←	C	3	3.650						1980	1980	601	0.304		529	0.267	0.267
(WB)	←	C	3	3.650						2120	2120	644	0.304	0.304	566	0.267	
Dai Fat Street	↰	B	1	3.650	10					1720	1720	112	0.065		79	0.046	
(NB)	↰	B	1	3.650	12.5					1895	1895	123	0.065		86	0.045	
Pedestrian Crossing		Dp	2	MIN GREEN + FLASH =			5	+	7	=	12						
		Ep	3	MIN GREEN + FLASH =			6	+	7	=	13						
		Fp	2,3	MIN GREEN + FLASH =			10	+	7	=	17						

Notes:

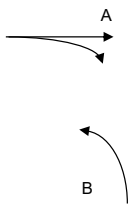
Flow: (pcu/hr)



Group	A,Ep	A,C	Group	A,Ep	A,C
y	0.413	0.717	y	0.359	0.626
L (sec)	25	10	L (sec)	25	10
C (sec)	100	100	C (sec)	96	96
y pract.	0.675	0.810	y pract.	0.666	0.806
R.C. (%)	63%	13%	R.C. (%)	85%	29%

Stage / Phase Diagrams

1.



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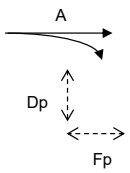
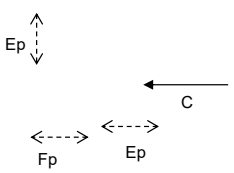


3.



4.

5.

I/G= 6		I/G=		I/G= 6		I/G=	I/G=
I/G= 6		I/G=		I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** (J4) J4 Ting Kok Rd / Dai Fat St (13792)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J5 Ting Kok Rd / Dai Kwai St (13811) Design Year: 2023

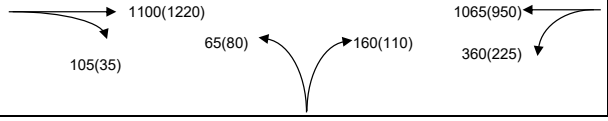
Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	→	B	1,2	3.350						1950	1950	980	0.503	0.503	940	0.482	
	↓	D	2	3.350		15		47%	11%	1995	2065	225	0.113		315	0.153	0.153
Ting Kok Road (WB)	↓	A	1	3.700	30			53%	40%	1935	1945	679	0.351		562	0.289	0.289
	←	A	1	3.700						2125	2125	746	0.351		613	0.288	
Dai Kwai Street (NB)	↰	E	3	3.500	15					1785	1785	65	0.036		80	0.045	
	↑	E	3	3.500	17.5	15		0% / 100%	0% / 100%	1915	1915	160	0.084	0.084	110	0.057	0.057
Pedestrian Crossing		Fp	4	MIN GREEN + FLASH =			12	+	8	=	20						
		Gp	4	MIN GREEN + FLASH =			5	+	9	=	14			*			*

Notes:

Based on site observation of existing situation in two weekdays, Stage 4 is demand dependent which is only activated from 50-60% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 4 has been prorated by 60% (highest) wihtin peak hour assessment.

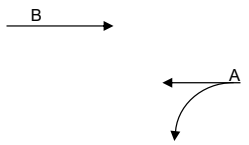
Flow: (pcu/hr)



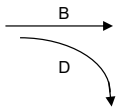
Group	A,D,E,Gp	B,E,Gp	Group	A,D,E,Gp	B,E,Gp
y	0.547	0.586	y	0.499	0.539
L (sec)	30	25	L (sec)	30	25
C (sec)	120	120	C (sec)	96	96
y pract.	0.677	0.714	y pract.	0.621	0.668
R.C. (%)	24%	22%	R.C. (%)	24%	24%

Stage / Phase Diagrams

1.

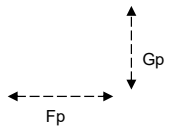


2.



3.

4.



(Demand Dependant)

5.

I/G= 4		I/G=		I/G= 6		I/G= 12	14	I/G=	
I/G= 4		I/G= 6		I/G= 6		I/G= 12	14	I/G=	

Date: DEC, 2024 **Junction:** (J5) J5 Ting Kok Rd / Dai Kwai St (13811)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J6 Ting Kok Rd / Access Rd to Fortune Garden (13813) Design Year: 2023

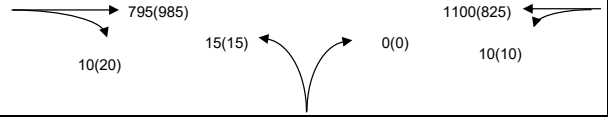
Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

Approach		Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)		→	B	1,2	3.000						1915	1915	383	0.200		475	0.248	
		→	B	1,2	3.000						2055	2055	412	0.200		510	0.248	0.248
	*	↴	C	2	3.000		15				1310	1310	10	0.008		20	0.015	
Ting Kok Road (WB)		↰	A	1	4.000	20			2%	2%	2010	2010	536	0.267	0.267	403	0.200	
		←	A	1	4.000						2155	2155	574	0.266		432	0.200	
Fortune Garden Access		↰→	D	3	3.650	15	15		100% / 0%	100% / 0%	1800	1800	15	0.008		15	0.008	
Pedestrian Crossing			Ep	4	MIN GREEN + FLASH =			5	+	8	=	13			*			*
			Fp	4	MIN GREEN + FLASH =			6	+	6	=	12						

Notes:

*Site factor = 0.7 (short lane)

Flow: (pcu/hr)

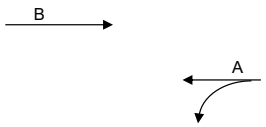


Group	A,C,D,Fp	A,C,D,Ep
y	0.267	0.267
L (sec)	40	45
C (sec)	100	100
y pract.	0.540	0.495
R.C. (%)	103%	86%

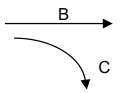
Group	A,C,D,Ep	B,D,Ep
y	0.200	0.248
L (sec)	45	34
C (sec)	96	96
y pract.	0.478	0.581
R.C. (%)	138%	134%

Stage / Phase Diagrams

1.



2.

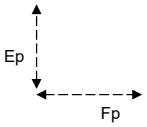


(Demand Dependant)

3.

(Demand Dependant)

4.



(Demand Dependant)

5.

I/G= 3		I/G= 6	5	I/G= 6	5	I/G= 8	13	I/G=	
I/G= 3		I/G=		I/G= 6	5	I/G= 8	13	I/G=	

Date: DEC, 2024

Junction: J6 Ting Kok Rd / Access Rd to Fortune Garden (13813)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J7 Ting Kok Rd / Lo Fai Rd (13812) Design Year: 2023

Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

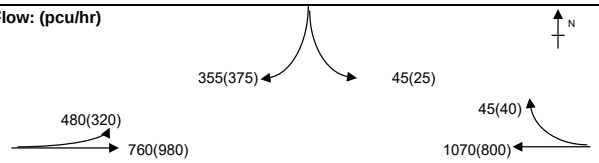
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	*	C	1	3.650	15			89%	56%	1635	1690	540	0.330		576	0.341	
		C	1	3.650						2120	2120	700	0.330		724	0.342	0.342
Lo Fai Road (SB)		B	3	3.400	22.5	15		21% / 79%	12% / 88%	1790	1785	214	0.120	0.120	213	0.119	
	**	B	3	3.400		20				1560	1560	186	0.119		187	0.120	0.120
Ting Kok Road (WB)		H	2	3.750		20		31%	21%	2080	2095	145	0.070		190	0.091	0.091
		A	1,2	3.750						1990	1990	970	0.487	0.487	650	0.327	

Pedestrian Crossing	Ep	3	MIN GREEN + FLASH =	5	+	7	=	12
	Fp	1,2	MIN GREEN + FLASH =	5	+	7	=	12
	Gp	3	MIN GREEN + FLASH =	5	+	8	=	13

Notes:

*Site factor = 0.9 (on-street bus stop)
**Site factor = 0.8 (short lane)

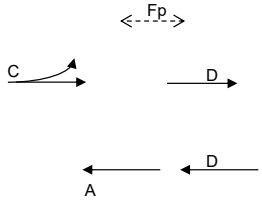
Flow: (pcu/hr)



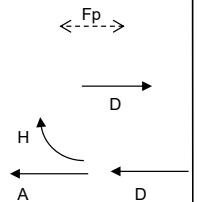
Group	C,H,B	A,B	Group	C,H,Ep	C,H,B
y	0.520	0.607	y	0.432	0.552
L (sec)	14	12	L (sec)	28	14
C (sec)	120	120	C (sec)	96	96
y pract.	0.795	0.810	y pract.	0.638	0.769
R.C. (%)	53%	33%	R.C. (%)	48%	39%

Stage / Phase Diagrams

1.



2.



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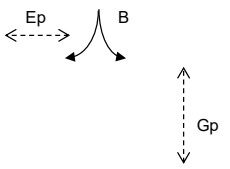


4.

5.

I/G= 8		I/G= 6		I/G=		I/G=	
I/G= 6		I/G= 5		I/G= 6		I/G=	

Date: DEC, 2024 **Junction:** J7 Ting Kok Rd / Lo Fai Rd (13812) (J7)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

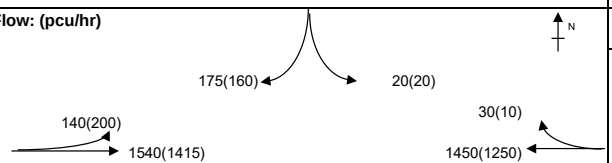
Junction: J8 Ting Kok Rd / Fung Yuen Rd (13810) Design Year: 2023

Description: 2023 Observed Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road		A	1	3.500	15			17%	26%	1930	1915	804	0.417	0.417	769	0.402	
EB		A	1	3.500						2105	2105	876	0.416		846	0.402	0.402
Fung Yuen Road		D	3	3.750	10					1730	1730	20	0.012		20	0.012	
SB		D	3	3.750		20				1980	1980	175	0.088	0.088	160	0.081	0.081
Ting Kok Road		B	1,2	3.500						1965	1965	759	0.386		645	0.328	
WB		B	1,2	3.500		15		4%	2%	1865	1870	721	0.387		615	0.329	
		Bp	2	GREEN TIME						=	5	sec		*			*
[Lost time for Stage 2 right turn]																	
Pedestrian Crossing		Ep	4	MIN GREEN + FLASH =			8	+	8	=	16	sec		*			*
		Fp	4	MIN GREEN + FLASH =			11	+	10	=	21	sec					

Notes:

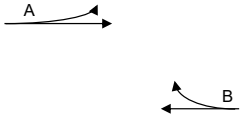
Flow: (pcu/hr)



Group	A,Bp,D,Fp	A,Bp,D,Ep	Group	A,Bp,D,Fp	A,Bp,D,Ep
y	0.505	0.505	y	0.483	0.483
L (sec)	42	44	L (sec)	42	44
C (sec)	100	100	C (sec)	96	96
y pract.	0.522	0.504	y pract.	0.506	0.488
R.C. (%)	3%	0%	R.C. (%)	5%	1%

Stage / Phase Diagrams

1.

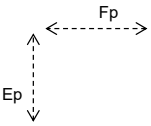


2.

3.

(Demand Dependant)

4.



(Demand Dependant)

5.

I/G= 4		I/G= 5	5	I/G= 6		I/G= 10	16	I/G=	
I/G= 4		I/G= 5	5	I/G= 6		I/G= 10	16	I/G=	

Date: DEC, 2024 **Junction:** J8 Ting Kok Rd / Fung Yuen Rd (13810)

2036 Junction Assessment (Reference)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

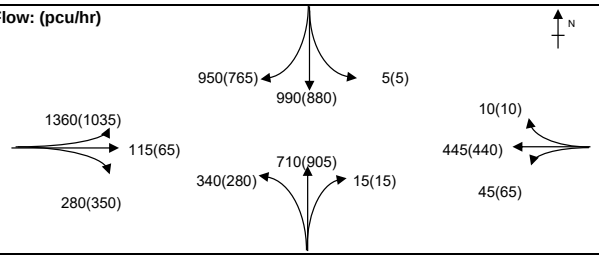
Junction: J1 Ting Kok Rd / Yuen Shin Rd (13791) Design Year: 2036

Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
		B	1,2	3.500	15					1785	1785	652	0.365		496	0.278	
Ting Kok Road		B	1,2	3.500	17.5					1940	1940	708	0.365		539	0.278	
(EB)		C	2	3.500						2105	2105	115	0.055		65	0.031	
		C	2	3.500		32.5				2010	2010	280	0.139	0.139	350	0.174	0.174
		A	1	3.600		25				1995	1995	474	0.238		382	0.191	
Ting Kok Road		A	1	3.600		27.5				2005	2005	476	0.237		383	0.191	
(SB)		A	1	3.600	12.5			1%	1%	1975	1970	480	0.243		427	0.217	0.217
		A	1	3.600						2115	2115	515	0.243	0.243	458	0.217	
Dai Fuk Street		F	4	3.650	15			19%	26%	1945	1930	239	0.123		246	0.127	
(WB)		F	4	3.650		22.5		4%	4%	2115	2115	261	0.123		269	0.127	
		D	2,3	3.500	15					1785	1785	340	0.190		280	0.157	
		E	3	3.500						2105	2105	237	0.113	0.113	302	0.143	0.143
Yuen Shin Road		E	3	3.500					2105	2105	2105	236	0.112		301	0.143	
(NB)		E	3	3.500						2105	2105	237	0.113		302	0.143	
		E	3	3.500		25				1985	1985	15	0.008		15	0.008	
Pedestrian Crossing		Gp	1,2,3	MIN GREEN + FLASH =			9	+	7	=	16						
		Hp	4	MIN GREEN + FLASH =			5	+	10	=	15			*			*

Notes:

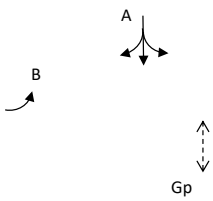
Flow: (pcu/hr)



Group	A,C,E,F	A,C,E,Hp	Group	A,C,E,F	A,C,E,Hp
y	0.619	0.495	y	0.662	0.534
L (sec)	25	40	L (sec)	25	40
C (sec)	100	100	C (sec)	96	96
y pract.	0.675	0.540	y pract.	0.666	0.525
R.C. (%)	9%	9%	R.C. (%)	1%	-2%

Stage / Phase Diagrams

1.



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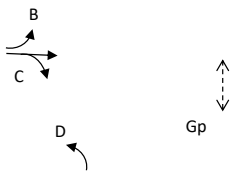
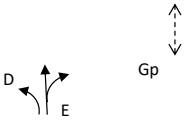


3.



4.

5.

I/G= 2		I/G= 7		I/G= 8		I/G= 11	15	I/G=	
I/G= 2		I/G= 7		I/G= 8		I/G= 11	15	I/G=	

Date: DEC, 2024 **Junction:** (J1) J1 Ting Kok Rd / Yuen Shin Rd (13791)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J2 Yuen Shin Rd / Dai Fat St (13081) Design Year: 2036

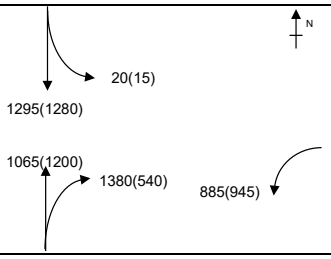
Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (NB)		A	1	3.500						1965	1965	809	0.412		579	0.295	
		A	1	3.500		22.5		69%	0%	2010	2105	829	0.412	0.412	621	0.295	0.295
		A	1	3.500		20				1960	1960	807	0.412		540	0.276	
Yuen Shin Road (SB)		B	2	3.300	15			3%	2%	1940	1940	634	0.327	0.327	624	0.322	
		B	2	3.300						2085	2085	681	0.327		671	0.322	0.322
Dai Fat Street (WB)		C	1	3.750	20					1850	1850	426	0.230		455	0.246	
		C	1	3.750	22.5					1995	1995	459	0.230		490	0.246	
Pedestrian Crossing		Dp	2,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Ep	3	MIN GREEN + FLASH =			5	+	8	=	13			*			*
		Fp	1,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Gp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

Based on site observation of existing situation in two weekdays, Stage 3 is demand dependent which is only activated from 15-30% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 3 has been prorated by 30% (highest) wihtin peak hour assessment.

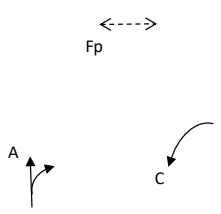
Flow: (pcu/hr)



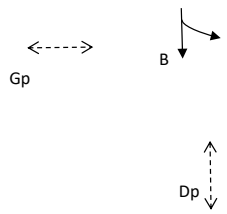
Group	C,B,Ep	A,B,Ep	Group	C,B,Ep	A,B,Ep
y	0.557	0.739	y	0.568	0.617
L (sec)	18	16	L (sec)	18	16
C (sec)	100	100	C (sec)	96	96
y pract.	0.738	0.756	y pract.	0.731	0.750
R.C. (%)	32%	2%	R.C. (%)	29%	22%

Stage / Phase Diagrams

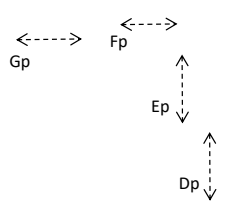
1.



2.



3.



(Demand Dependant)

5.

I/G= 2		I/G= 7		I/G= 10	13	I/G=		I/G=	
I/G= 2		I/G= 7		I/G= 10	13	I/G=		I/G=	

Date: DEC, 2024 **Junction:** (J2) J2 Yuen Shin Rd / Dai Fat St (13081)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080) Design Year: 2036

Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

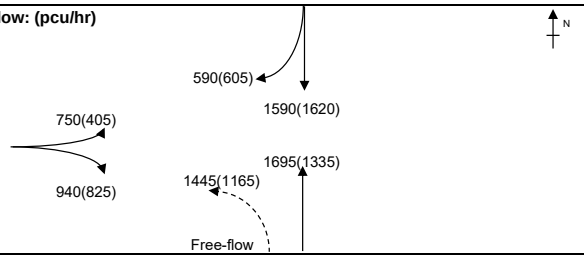
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (SB)	*	B	1,2	3.300						1875	1875	753	0.402		767	0.409	
		B	1,2	3.300						2085	2085	837	0.401		853	0.409	
		C	2	3.300		15				1895	1895	590	0.311	0.311	605	0.319	0.319
Tai Po Tai Wo Road (EB)		D	2,3	3.300	15					1895	1895	750	0.396		405	0.214	
		E	3	3.300		20				1940	1940	476	0.245	0.245	417	0.215	
		E	3	3.300		15				1895	1895	464	0.245		408	0.215	0.215
Yuen Shin Road (NB)	*	A	1	3.300						1875	1875	526	0.281		414	0.221	
		A	1	3.300						2085	2085	584	0.280		461	0.221	0.221
		A	1	3.300						2085	2085	585	0.281	0.281	460	0.221	

Pedestrian Crossing

Notes:

*Site factor = 0.9 (short lane)

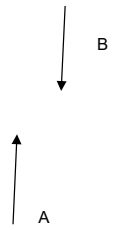
Flow: (pcu/hr)



Group	A,D	A,C,E	Group	B,E	A,C,E
y	0.676	0.837	y	0.624	0.756
L (sec)	10	13	L (sec)	10	13
C (sec)	100	100	C (sec)	96	96
y pract.	0.810	0.783	y pract.	0.806	0.778
R.C. (%)	20%	-6%	R.C. (%)	29%	3%

Stage / Phase Diagrams

1.



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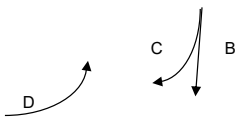
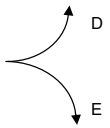


3.



4.

5.

I/G= 5		I/G= 5		I/G= 6		I/G=	I/G=
I/G= 5		I/G= 5		I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** (J3) J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J4 Ting Kok Rd / Dai Fat St (13792) Design Year: 2036

Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road	→	A	1,2	3.400						1955	1955	929	0.475	0.475	822	0.420	
(EB)	↱	A	1,2	3.400		10		42%	17%	1970	2040	936	0.475		858	0.421	0.421
Ting Kok Road	←	C	3	3.650						1980	1980	710	0.359	0.359	616	0.311	0.311
(WB)	←	C	3	3.650						2120	2120	760	0.358		659	0.311	
Dai Fat Street	↰	B	1	3.650	10					1720	1720	124	0.072		88	0.051	
(NB)	↰	B	1	3.650	12.5					1895	1895	136	0.072		97	0.051	
Pedestrian Crossing		Dp	2	MIN GREEN + FLASH =			5	+	7	=	12						
		Ep	3	MIN GREEN + FLASH =			6	+	7	=	13						
		Fp	2,3	MIN GREEN + FLASH =			10	+	7	=	17						

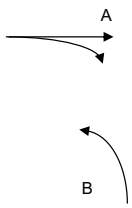
Notes:

Flow: (pcu/hr)

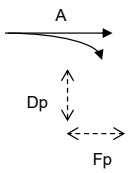
Group	A,Ep	A,C	Group	A,Ep	A,C
y	0.475	0.834	y	0.421	0.732
L (sec)	25	10	L (sec)	25	10
C (sec)	100	100	C (sec)	96	96
y pract.	0.675	0.810	y pract.	0.666	0.806
R.C. (%)	42%	-3%	R.C. (%)	58%	10%

Stage / Phase Diagrams

1.



2.



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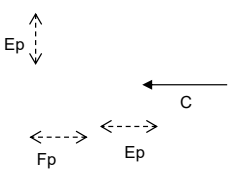


4.

5.

I/G= 6		I/G=		I/G= 6		I/G=	I/G=
I/G= 6		I/G=		I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** (J4) J4 Ting Kok Rd / Dai Fat St (13792)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J5 Ting Kok Rd / Dai Kwai St (13811) Design Year: 2036

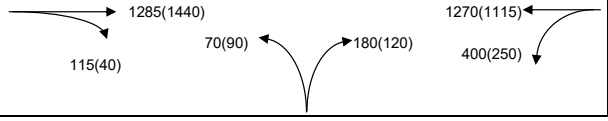
Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	→	B	1,2	3.350						1950	1950	1090	0.559		1110	0.569	0.569
	↓	D	2	3.350		15		37%	11%	2015	2070	310	0.154	0.154	370	0.179	
Ting Kok Road (WB)	↰	A	1	3.700	30			50%	38%	1935	1950	796	0.411	0.411	653	0.335	
	←	A	1	3.700						2125	2125	874	0.411		712	0.335	
Dai Kwai Street (NB)	↰	E	3	3.500	15					1785	1785	70	0.039		90	0.050	
	↑	E	3	3.500	17.5	15		0% / 100%	0% / 100%	1915	1915	180	0.094	0.094	120	0.063	0.063
Pedestrian Crossing		Fp	4	MIN GREEN + FLASH =			12	+	8	=	20						
		Gp	4	MIN GREEN + FLASH =			5	+	9	=	14			*			*

Notes:

Based on site observation of existing situation in two weekdays, Stage 4 is demand dependent which is only activated from 50-60% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 4 has been prorated by 60% (highest) wihtin peak hour assessment.

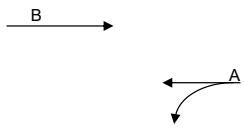
Flow: (pcu/hr)



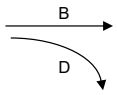
Group	A,D,E,Gp	B,E,Gp	Group	A,D,E,Gp	B,E,Gp
y	0.659	0.653	y	0.576	0.632
L (sec)	30	25	L (sec)	30	25
C (sec)	120	120	C (sec)	96	96
y pract.	0.677	0.714	y pract.	0.621	0.668
R.C. (%)	3%	9%	R.C. (%)	8%	6%

Stage / Phase Diagrams

1.



2.



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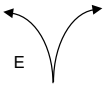

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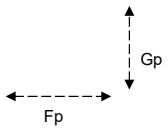


(Demand Dependant)

5.

I/G= 4		I/G= 6		I/G= 6		I/G= 12	14	I/G=	
I/G= 4		I/G=		I/G= 6		I/G= 12	14	I/G=	

Date: DEC, 2024 **Junction:** J5 Ting Kok Rd / Dai Kwai St (13811) (J5)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J6 Ting Kok Rd / Access Rd to Fortune Garden (13813) Design Year: 2036

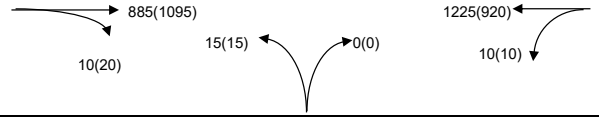
Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach		Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)		→	B	1,2	3.000						1915	1915	427	0.223		528	0.276	
		→	B	1,2	3.000						2055	2055	458	0.223		567	0.276	0.276
	*	↱	C	2	3.000		15				1310	1310	10	0.008		20	0.015	
Ting Kok Road (WB)		↰	A	1	4.000	20			2%	2%	2010	2010	596	0.297		449	0.223	
		←	A	1	4.000						2155	2155	639	0.297	0.297	481	0.223	
Fortune Garden Access		↰↱	D	3	3.650	15	15		100% / 0%	100% / 0%	1800	1800	15	0.008		15	0.008	
Pedestrian Crossing			Ep	4	MIN GREEN + FLASH =			5	+	8	=	13			*			*
			Fp	4	MIN GREEN + FLASH =			6	+	6	=	12						

Notes:

*Site factor = 0.7 (short lane)

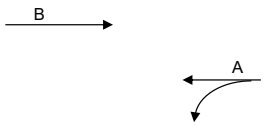
Flow: (pcu/hr)



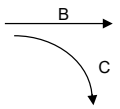
Group	A,C,D,Fp	A,C,D,Ep	Group	A,C,D,Ep	B,D,Ep
y	0.297	0.297	y	0.223	0.276
L (sec)	40	45	L (sec)	45	34
C (sec)	100	100	C (sec)	96	96
y pract.	0.540	0.495	y pract.	0.478	0.581
R.C. (%)	82%	67%	R.C. (%)	114%	111%

Stage / Phase Diagrams

1.



2.

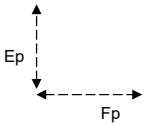


(Demand Dependant)

3.

(Demand Dependant)

4.



(Demand Dependant)

5.

I/G= 3		I/G= 6	5	I/G= 6	5	I/G= 8	13	I/G=	
I/G= 3		I/G=		I/G= 6	5	I/G= 8	13	I/G=	

Date: DEC, 2024

Junction: J6 Ting Kok Rd / Access Rd to Fortune Garden (13813)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J7 Ting Kok Rd / Lo Fai Rd (13812) Design Year: 2036

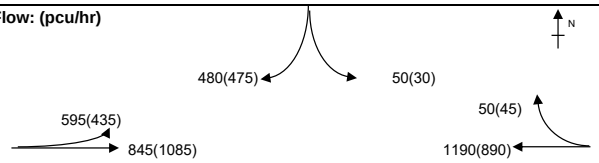
Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	*	C	1	3.650	15			95%	65%	1625	1675	625	0.385		671	0.401	0.401
		C	1	3.650						2120	2120	815	0.384		849	0.400	
Lo Fai Road (SB)		B	3	3.400	22.5	15		18% / 82%	11% / 89%	1785	1785	283	0.159	0.159	269	0.151	
	**	B	3	3.400		20				1560	1560	247	0.158		236	0.151	0.151
Ting Kok Road (WB)		H	2	3.750		20		23%	24%	2095	2090	221	0.105		185	0.089	0.089
		A	1,2	3.750						1990	1990	1019	0.512	0.512	750	0.377	
Pedestrian Crossing		Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						
		Fp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
		Gp	3	MIN GREEN + FLASH =			5	+	7	=	13						

Notes:

*Site factor = 0.9 (on-street bus stop)
**Site factor = 0.8 (short lane)

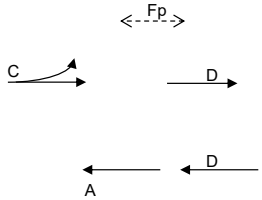
Flow: (pcu/hr)



Group	C,H,B	A,B	Group	C,H,Ep	C,H,B
y	0.649	0.671	y	0.489	0.640
L (sec)	14	12	L (sec)	28	14
C (sec)	120	120	C (sec)	96	96
y pract.	0.795	0.810	y pract.	0.638	0.769
R.C. (%)	23%	21%	R.C. (%)	30%	20%

Stage / Phase Diagrams

1.



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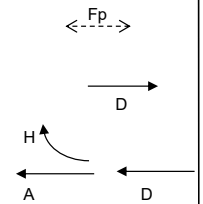
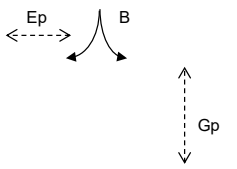


3.



4.

5.

I/G= 8		I/G= 6		I/G=		I/G=	
I/G= 6		I/G= 5		I/G= 6		I/G=	

Date: DEC, 2024

Junction: J7 Ting Kok Rd / Lo Fai Rd (13812) (J7)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

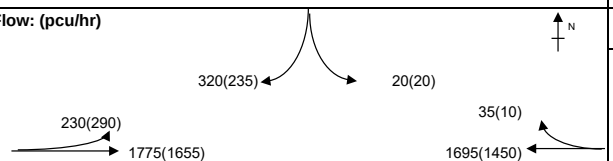
Junction: J8 Ting Kok Rd / Fung Yuen Rd (13810) Design Year: 2036

Description: 2036 Reference Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road		A	1	3.500	15			24%	31%	1920	1905	956	0.498		924	0.485	0.485
EB	→	A	1	3.500						2105	2105	1049	0.498	0.498	1021	0.485	
Fung Yuen Road		D	3	3.750	10	22.5		12% / 88%	16% / 84%	1850	1840	164	0.089		123	0.067	0.067
SB		D	3	3.750		20				1980	1980	176	0.089	0.089	132	0.067	
Ting Kok Road	←	B	1,2	3.500						1965	1965	887	0.451		748	0.381	
WB		B	1,2	3.500		15		4%	1%	1865	1870	843	0.452		712	0.381	
		Bp	2	GREEN TIME						=	5	sec		*			*
[Lost time for Stage 2 right turn]																	
Pedestrian Crossing		Ep	4	MIN GREEN + FLASH =			8	+	8	=	16	sec		*			*
		Fp	4	MIN GREEN + FLASH =			11	+	10	=	21	sec					

Notes:

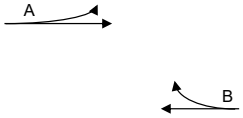
Flow: (pcu/hr)



Group	A,Bp,D,Fp	A,Bp,D,Ep	Group	A,Bp,D,Fp	A,Bp,D,Ep
y	0.587	0.587	y	0.552	0.552
L (sec)	42	44	L (sec)	42	44
C (sec)	100	100	C (sec)	96	96
y pract.	0.522	0.504	y pract.	0.506	0.488
R.C. (%)	-11%	-14%	R.C. (%)	-8%	-12%

Stage / Phase Diagrams

1.

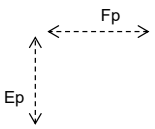


2.

3.

(Demand Dependant)

4.



(Demand Dependant)

5.

I/G= 4		I/G= 5	5	I/G= 6		I/G= 10	16	I/G=	
I/G= 4		I/G= 5	5	I/G= 6		I/G= 10	16	I/G=	

Date: DEC, 2024 **Junction:** J8 Ting Kok Rd / Fung Yuen Rd (13810)

2036 Junction Assessment (Design)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

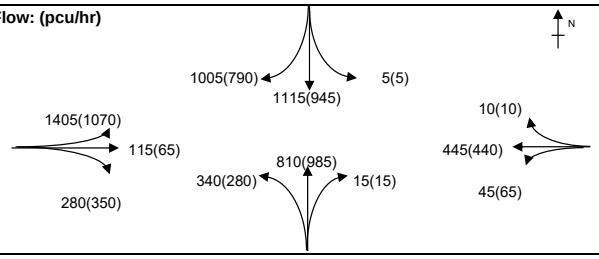
Junction: J1 Ting Kok Rd / Yuen Shin Rd (13791) Design Year: 2036

Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
		B	1,2	3.500	15					1785	1785	673	0.377		513	0.287	
Ting Kok Road		B	1,2	3.500	17.5					1940	1940	732	0.377		557	0.287	
(EB)		C	2	3.500						2105	2105	115	0.055		65	0.031	
		C	2	3.500		32.5				2010	2010	280	0.139	0.139	350	0.174	0.174
		A	1	3.600		25				1995	1995	501	0.251		394	0.197	
Ting Kok Road		A	1	3.600		27.5				2005	2005	504	0.251		396	0.198	
(SB)		A	1	3.600	12.5			1%	1%	1975	1970	541	0.274	0.274	458	0.232	
		A	1	3.600						2115	2115	579	0.274		492	0.233	0.233
Dai Fuk Street		F	4	3.650	15			19%	26%	1945	1930	239	0.123		246	0.127	
(WB)		F	4	3.650		22.5		4%	4%	2115	2115	261	0.123		269	0.127	
		D	2,3	3.500	15					1785	1785	340	0.190		280	0.157	
		E	3	3.500						2105	2105	270	0.128	0.128	328	0.156	
Yuen Shin Road		E	3	3.500					2105	2105	2105	270	0.128		329	0.156	0.156
(NB)		E	3	3.500						2105	2105	270	0.128		328	0.156	
		E	3	3.500		25				1985	1985	15	0.008		15	0.008	
Pedestrian Crossing		Gp	1,2,3	MIN GREEN + FLASH =			9	+	7	=	16						
		Hp	4	MIN GREEN + FLASH =			5	+	10	=	15			*			*

Notes:

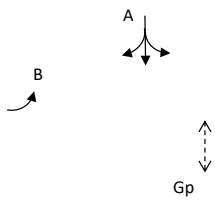
Flow: (pcu/hr)



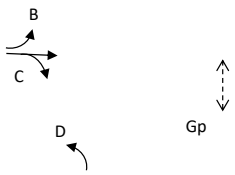
Group	A,C,E,F	A,C,E,Hp	Group	A,C,E,F	A,C,E,Hp
y	0.665	0.541	y	0.691	0.563
L (sec)	25	40	L (sec)	25	40
C (sec)	100	100	C (sec)	96	96
y pract.	0.675	0.540	y pract.	0.666	0.525
R.C. (%)	2%	0%	R.C. (%)	-4%	-7%

Stage / Phase Diagrams

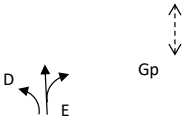
1.



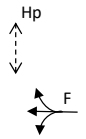
2.



3.



4.



5.

I/G= 2		I/G= 7		I/G= 8		I/G= 11	15	I/G=	
I/G= 2		I/G= 7		I/G= 8		I/G= 11	15	I/G=	

Date: DEC, 2024 **Junction:** (J1) J1 Ting Kok Rd / Yuen Shin Rd (13791)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

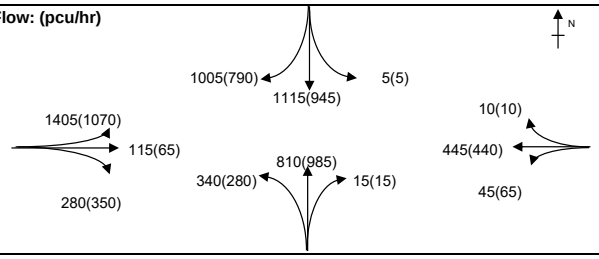
Junction: J1 Ting Kok Rd / Yuen Shin Rd (13791) Design Year: 2036

Description: 2036 Design Weekday (Improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)		B	1,2	3.500	15					1785	1785	673	0.377		513	0.287	
		B	1,2	3.500	17.5					1940	1940	732	0.377	0.377	557	0.287	
		C	2	3.500						2105	2105	115	0.055		65	0.031	
		C	2	3.500		32.5				2010	2010	141	0.070		176	0.088	
		C	2	3.300		30				1985	1985	139	0.070		174	0.088	0.088
Ting Kok Road (SB)		A	1	3.600		25				1995	1995	501	0.251		394	0.197	
		A	1	3.600		27.5				2005	2005	504	0.251		396	0.198	0.198
		A	1	3.300	12.5			1%	2%	1940	1940	352	0.181		299	0.154	
		A	1	3.600						2115	2115	384	0.182		326	0.154	
		A	1	3.600						2115	2115	384	0.182		325	0.154	
Dai Fuk Street (WB)		F	4	3.650	15			19%	26%	1945	1930	239	0.123		246	0.127	0.127
		F	4	3.650		22.5		4%	4%	2115	2115	261	0.123	0.123	269	0.127	
Yuen Shin Road (NB)		D	2,3	3.500	15					1785	1785	340	0.190		280	0.157	
		E	3	3.500						2105	2105	270	0.128	0.128	328	0.156	
		E	3	3.500					2105	2105	2105	270	0.128		329	0.156	0.156
		E	3	3.500						2105	2105	270	0.128		328	0.156	
		E	3	3.500		25				1985	1985	15	0.008		15	0.008	
Pedestrian Crossing		Gp	1,2,3	MIN GREEN + FLASH =			9	+	7	=	16						
		Hp	4	MIN GREEN + FLASH =			5	+	12	=	17						

Notes:

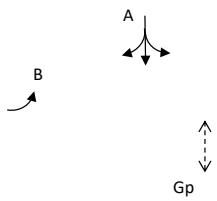
Flow: (pcu/hr)



Group	A,C,E,F	B,E,F	Group	B,E,F	A,C,E,F
y	0.573	0.629	y	0.571	0.569
L (sec)	25	22	L (sec)	22	25
C (sec)	120	120	C (sec)	120	120
y pract.	0.713	0.735	y pract.	0.735	0.713
R.C. (%)	24%	17%	R.C. (%)	29%	25%

Stage / Phase Diagrams

1.



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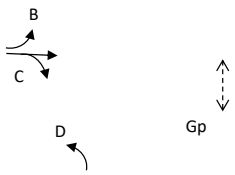

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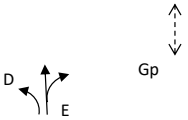

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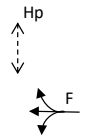


5.

I/G= 12		I/G=		I/G= 8		I/G= 5	I/G=
I/G= 9		I/G= 7		I/G= 8		I/G= 5	I/G=

Date: DEC, 2024 **Junction:** (J1) J1 Ting Kok Rd / Yuen Shin Rd (13791)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

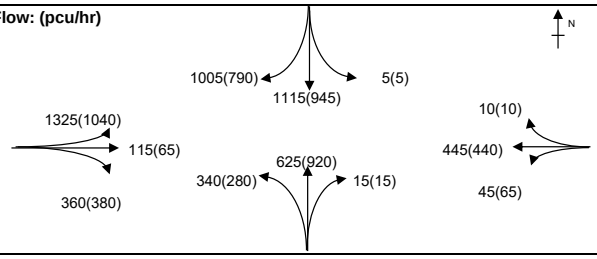
Junction: J1 Ting Kok Rd / Yuen Shin Rd (13791) Design Year: 2036

Description: 2036 Design Weekday (Improvement with J4 further improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)		B	1,2	3.500	15					1785	1785	635	0.356		498	0.279	
		B	1,2	3.500	17.5					1940	1940	690	0.356		542	0.279	
		C	2	3.500						2105	2105	115	0.055		65	0.031	
		C	2	3.500		32.5				2010	2010	181	0.090		191	0.095	
		C	2	3.300		30				1985	1985	179	0.090	0.090	189	0.095	0.095
Ting Kok Road (SB)		A	1	3.600		25				1995	1995	501	0.251		394	0.197	
		A	1	3.600		27.5				2005	2005	504	0.251	0.251	396	0.198	0.198
		A	1	3.300	12.5			1%	2%	1940	1940	352	0.181		299	0.154	
		A	1	3.600						2115	2115	384	0.182		326	0.154	
		A	1	3.600						2115	2115	384	0.182		325	0.154	
Dai Fuk Street (WB)		F	4	3.650	15			19%	26%	1945	1930	239	0.123		246	0.127	0.127
		F	4	3.650		22.5		4%	4%	2115	2115	261	0.123	0.123	269	0.127	
Yuen Shin Road (NB)		D	2,3	3.500	15					1785	1785	340	0.190		280	0.157	
		E	3	3.500						2105	2105	208	0.099		307	0.146	0.146
		E	3	3.500					2105	2105	2105	209	0.099	0.099	306	0.145	
		E	3	3.500						2105	2105	208	0.099		307	0.146	
		E	3	3.500		25				1985	1985	15	0.008		15	0.008	
Pedestrian Crossing		Gp	1,2,3	MIN GREEN + FLASH =			9	+	7	=	16						
		Hp	4	MIN GREEN + FLASH =			5	+	12	=	17						

Notes:

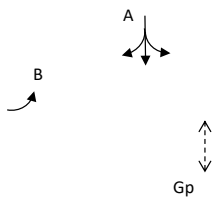
Flow: (pcu/hr)



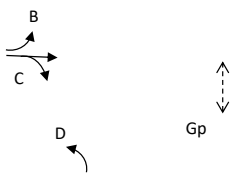
Group	B,E,F	A,C,E,F	Group	B,E,F	A,C,E,F
y	0.578	0.564	y	0.553	0.566
L (sec)	22	25	L (sec)	22	25
C (sec)	120	120	C (sec)	120	120
y pract.	0.735	0.713	y pract.	0.735	0.713
R.C. (%)	27%	26%	R.C. (%)	33%	26%

Stage / Phase Diagrams

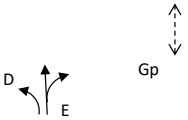
1.



2.



3.



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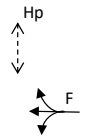


5.

I/G= 9		I/G= 7		I/G= 8		I/G= 5	I/G=
I/G= 9		I/G= 7		I/G= 8		I/G= 5	I/G=

Date: DEC, 2024 **Junction:** (J1) J1 Ting Kok Rd / Yuen Shin Rd (13791)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J2 Yuen Shin Rd / Dai Fat St (13081) Design Year: 2036

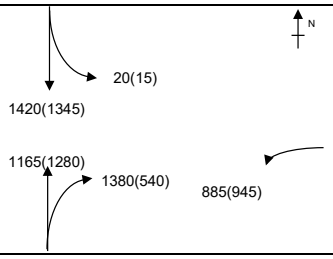
Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (NB)		A	1	3.500						1965	1965	841	0.428		618	0.315	0.315
		A	1	3.500		22.5		63%	0%	2020	2105	865	0.428	0.428	662	0.314	
		A	1	3.500		20				1960	1960	839	0.428		540	0.276	
Yuen Shin Road (SB)		B	2	3.300	15			3%	2%	1940	1940	694	0.358		656	0.338	0.338
		B	2	3.300						2085	2085	746	0.358	0.358	704	0.338	
Dai Fat Street (WB)		C	1	3.750	20					1850	1850	426	0.230		455	0.246	
		C	1	3.750	22.5					1995	1995	459	0.230		490	0.246	
Pedestrian Crossing		Dp	2,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Ep	3	MIN GREEN + FLASH =			5	+	8	=	13			*			*
		Fp	1,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Gp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

Based on site observation of existing situation in two weekdays, Stage 3 is demand dependent which is only activated from 15-30% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 3 has been prorated by 30% (highest) wihtin peak hour assessment.

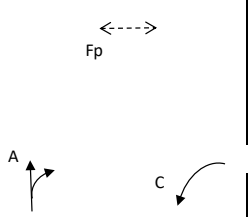
Flow: (pcu/hr)



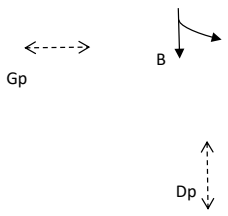
Group	C,B,Ep	A,B,Ep	Group	C,B,Ep	A,B,Ep
y	0.588	0.786	y	0.584	0.653
L (sec)	18	16	L (sec)	18	16
C (sec)	100	100	C (sec)	96	96
y pract.	0.738	0.756	y pract.	0.731	0.750
R.C. (%)	25%	-4%	R.C. (%)	25%	15%

Stage / Phase Diagrams

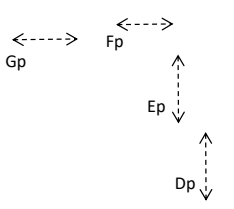
1.



2.



3.



(Demand Dependant)

5.

I/G= 2		I/G= 7		I/G= 10	13	I/G=		I/G=	
I/G= 2		I/G= 7		I/G= 10	13	I/G=		I/G=	

Date: DEC, 2024 **Junction:** (J2) J2 Yuen Shin Rd / Dai Fat St (13081)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J2 Yuen Shin Rd / Dai Fat St (13081) Design Year: 2036

Description: 2036 Design Weekday (Improvement) Designed By: TLY Checked By: TKM

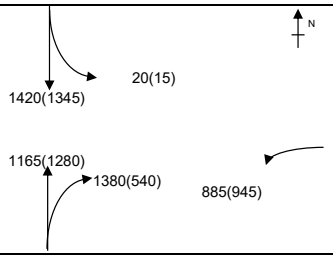
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (NB)	*	A	1	3.300						1555	1555	523	0.336		547	0.352	0.352
		A	1	3.300		25		8%	0%	2075	2085	698	0.336		733	0.352	
		A	1	3.500		22.5				1975	1975	665	0.337	0.337	271	0.137	
		A	1	3.500		20				1960	1960	659	0.336		269	0.137	
Yuen Shin Road (SB)		B	2	3.300	12.5			4%	3%	1935	1935	456	0.236		431	0.223	
		B	2	3.300						2085	2085	492	0.236	0.236	465	0.223	0.223
		B	2	3.300						2085	2085	492	0.236		464	0.223	
Dai Fat Street (WB)		C	1	3.750	20					1850	1850	426	0.230		455	0.246	
		C	1	3.750	22.5					1995	1995	459	0.230		490	0.246	
Pedestrian Crossing		Dp	2,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Ep	3	MIN GREEN + FLASH =			5	+	10	=	15			*			*
		Fp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						
		Gp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

Based on site observation of existing situation in two weekdays, Stage 3 is demand dependent which is only activated from 15-30% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 3 has been prorated by 30% (highest) wihtin peak hour assessment.

*Site factor = 0.8 (short lane)

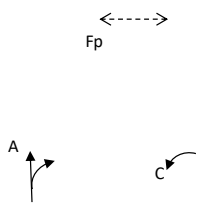
Flow: (pcu/hr)



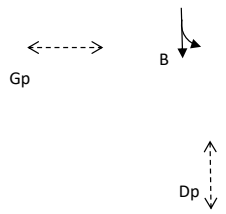
Group	C,B,Ep	A,B,Ep	Group	C,B,Ep	A,B,Ep
y	0.466	0.573	y	0.469	0.575
L (sec)	19	17	L (sec)	19	17
C (sec)	120	120	C (sec)	120	120
y pract.	0.761	0.776	y pract.	0.761	0.776
R.C. (%)	63%	35%	R.C. (%)	62%	35%

Stage / Phase Diagrams

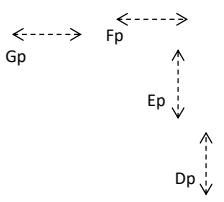
1.



2.



3.



(Demand Dependant)

5.

I/G= 2		I/G= 7		I/G= 10	15	I/G=		I/G=	
I/G= 2		I/G= 7		I/G= 10	15	I/G=		I/G=	

Date: DEC, 2024 **Junction:** (J2) J2 Yuen Shin Rd / Dai Fat St (13081)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J2 Yuen Shin Rd / Dai Fat St (13081) Design Year: 2036

Description: 2036 Design Weekday (Improvement with J4 further improvement) Designed By: TLY Checked By: TKM

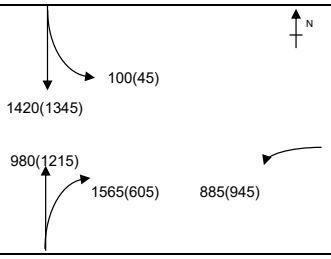
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (NB)	*	A	1	3.300		25		34%	0%	1555	1555	526	0.338	0.338	519	0.334	
		A	1	3.300						2045	2085	691	0.338		696	0.334	0.334
		A	1	3.500		22.5				1975	1975	667	0.338		304	0.154	
		A	1	3.500		20				1960	1960	661	0.337		301	0.154	
Yuen Shin Road (SB)		B	2	3.300	12.5			21%	10%	1895	1920	475	0.251		438	0.228	
		B	2	3.300						2085	2085	523	0.251	0.251	476	0.228	0.228
		B	2	3.300						2085	2085	522	0.250		476	0.228	
Dai Fat Street (WB)		C	1	3.750	20					1850	1850	426	0.230		455	0.246	
		C	1	3.750	22.5					1995	1995	459	0.230		490	0.246	
Pedestrian Crossing		Dp	2,3	MIN GREEN + FLASH =			5	+	6	=	11						
		Ep	3	MIN GREEN + FLASH =			5	+	10	=	15			*			*
		Fp	1,3	MIN GREEN + FLASH =			5	+	10	=	15						
		Gp	2,3	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

Based on site observation of existing situation in two weekdays, Stage 3 is demand dependent which is only activated from 15-30% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 3 has been prorated by 30% (highest) wihtin peak hour assessment.

*Site factor = 0.8 (short lane)

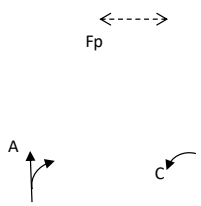
Flow: (pcu/hr)



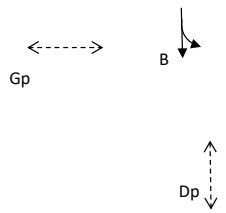
Group	C,B,Ep	A,B,Ep	Group	C,B,Ep	A,B,Ep
y	0.481	0.589	y	0.474	0.562
L (sec)	19	17	L (sec)	19	17
C (sec)	120	120	C (sec)	120	120
y pract.	0.761	0.776	y pract.	0.761	0.776
R.C. (%)	58%	32%	R.C. (%)	60%	38%

Stage / Phase Diagrams

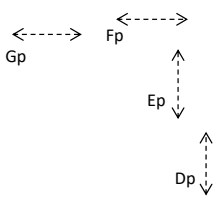
1.



2.



3.



(Demand Dependant)

5.

I/G= 2		I/G= 7		I/G= 10	15	I/G=	I/G=
I/G= 2		I/G= 7		I/G= 10	15	I/G=	I/G=

Date: DEC, 2024 **Junction:** (J2) J2 Yuen Shin Rd / Dai Fat St (13081)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080) Design Year: 2036

Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

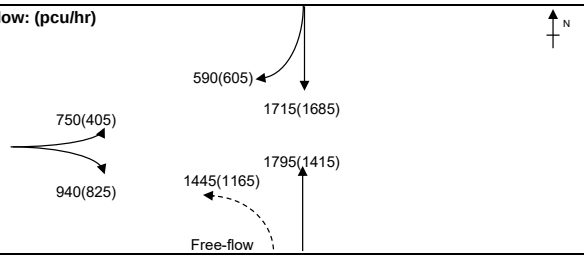
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (SB)	*	B	1,2	3.300						1875	1875	812	0.433		798	0.426	
		B	1,2	3.300						2085	2085	903	0.433		887	0.425	
		C	2	3.300		15				1895	1895	590	0.311	0.311	605	0.319	0.319
Tai Po Tai Wo Road (EB)		D	2,3	3.300	15					1895	1895	750	0.396		405	0.214	
		E	3	3.300		20				1940	1940	476	0.245	0.245	417	0.215	
		E	3	3.300		15				1895	1895	464	0.245		408	0.215	0.215
Yuen Shin Road (NB)	*	A	1	3.300						1875	1875	557	0.297	0.297	439	0.234	0.234
		A	1	3.300						2085	2085	619	0.297		488	0.234	
		A	1	3.300						2085	2085	619	0.297		488	0.234	

Pedestrian Crossing

Notes:

*Site factor = 0.9 (short lane)

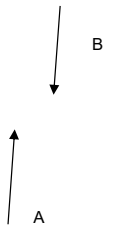
Flow: (pcu/hr)



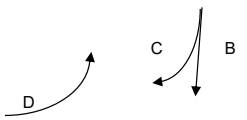
Group	A,D	A,C,E	Group	B,E	A,C,E
y	0.693	0.854	y	0.641	0.769
L (sec)	10	13	L (sec)	10	13
C (sec)	100	100	C (sec)	96	96
y pract.	0.810	0.783	y pract.	0.806	0.778
R.C. (%)	17%	-8%	R.C. (%)	26%	1%

Stage / Phase Diagrams

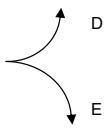
1.



2.



3.



4.

5.

I/G= 5		I/G= 5		I/G= 6		I/G=	I/G=
I/G= 5		I/G= 5		I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** J3 — J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080) Design Year: 2036

Description: 2036 Design Weekday (Improvement) Designed By: TLY Checked By: TKM

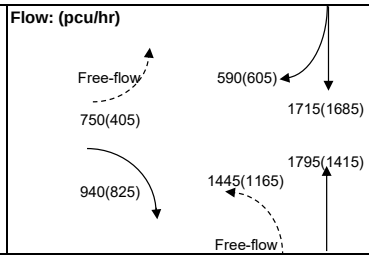
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Yuen Shin Road (SB)	*	B	1,2	3.300						1875	1875	532	0.284		523	0.279	
		B	1,2	3.300						2085	2085	591	0.283		581	0.279	
		B	1,2	3.300						2085	2085	592	0.284		581	0.279	
		C	2	3.300		17.5				1920	1920	312	0.163		320	0.167	
	*	C	2	3.300		15				1705	1705	278	0.163	0.163	285	0.167	0.167
Yuen Shin Road (NB)	*	A	1	3.300						1875	1875	557	0.297	0.297	439	0.234	0.234
		A	1	3.300						2085	2085	619	0.297		488	0.234	
		A	1	3.300						2085	2085	619	0.297		488	0.234	
Tai Po Tai Wo Road (EB)	*	E	3	3.300		22.5				1760	1760	296	0.168	0.168	260	0.148	0.148
		E	3	3.300		20				1940	1940	326	0.168		286	0.147	
		E	3	3.300		15				1895	1895	318	0.168		279	0.147	

Pedestrian Crossing

Notes:

*Site factor = 0.9 (short lane)

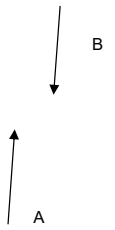
Flow: (pcu/hr)



Group	B,E	A,C,E	Group	B,E	A,C,E
y	0.452	0.628	y	0.427	0.549
L (sec)	10	15	L (sec)	10	15
C (sec)	120	120	C (sec)	120	120
y pract.	0.825	0.788	y pract.	0.825	0.788
R.C. (%)	82%	25%	R.C. (%)	93%	43%

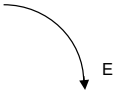
Stage / Phase Diagrams

1.



2.

3.



4.

5.

I/G= 5		I/G= 8		I/G= 5		I/G=	I/G=
I/G= 5		I/G= 8		I/G= 5		I/G=	I/G=

Date: DEC, 2024

Junction: (J3) J3 Tai Po Tai Wo Rd / Yuen Shin Rd (13080)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

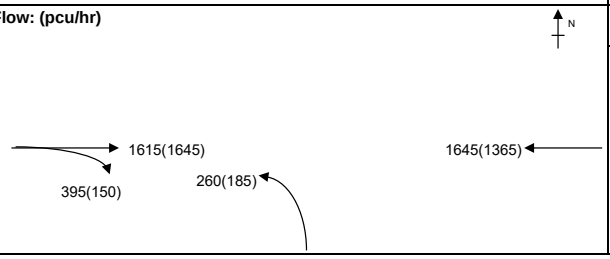
Junction: J4 Ting Kok Rd / Dai Fat St (13792) Design Year: 2036

Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road	→	A	1,2	3.400						1955	1955	999	0.511	0.511	877	0.449	
(EB)	↱	A	1,2	3.400		10		39%	16%	1980	2045	1011	0.511		918	0.449	0.449
Ting Kok Road	←	C	3	3.650						1980	1980	794	0.401		659	0.333	
(WB)	←	C	3	3.650						2120	2120	851	0.401	0.401	706	0.333	0.333
Dai Fat Street	↰	B	1	3.650	10					1720	1720	124	0.072		88	0.051	
(NB)	↰	B	1	3.650	12.5					1895	1895	136	0.072		97	0.051	
Pedestrian Crossing		Dp	2	MIN GREEN + FLASH =			5	+	7	=	12						
		Ep	3	MIN GREEN + FLASH =			6	+	7	=	13						
		Fp	2,3	MIN GREEN + FLASH =			10	+	7	=	17						

Notes:

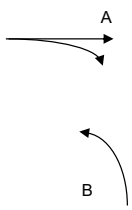
Flow: (pcu/hr)



Group	A,Ep	A,C	Group	A,Ep	A,C
y	0.511	0.912	y	0.449	0.782
L (sec)	25	10	L (sec)	25	10
C (sec)	100	100	C (sec)	96	96
y pract.	0.675	0.810	y pract.	0.666	0.806
R.C. (%)	32%	-11%	R.C. (%)	48%	3%

Stage / Phase Diagrams

1.



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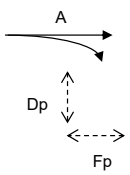
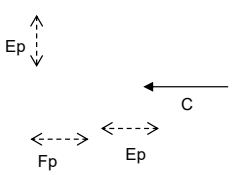


3.



4.

5.

I/G= 6		I/G=		I/G= 6		I/G=	I/G=
I/G= 6		I/G=		I/G= 6		I/G=	I/G=

Date: DEC, 2024

Junction: (J4) J4 Ting Kok Rd / Dai Fat St (13792)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J4 Ting Kok Rd / Dai Fat St (13792) Design Year: 2036

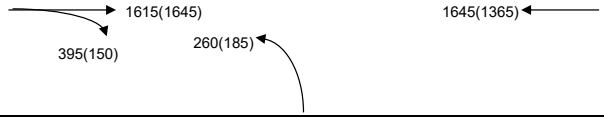
Description: 2036 Design Weekday (Improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	* →	A	1,2	3.300						1750	1750	610	0.349	0.349	536	0.306	0.306
	→	A	1,2	3.400						2095	2095	730	0.348		641	0.306	
	→↓	A	1,2	3.400		10		59%	24%	1925	2020	670	0.348		618	0.306	
Ting Kok Road (WB)	←	C	3	3.650						1980	1980	794	0.401		659	0.333	
	←	C	3	3.650						2120	2120	851	0.401	0.401	706	0.333	0.333
Dai Fat Street (NB)	↰	B	1	3.650	10					1720	1720	124	0.072		88	0.051	
	↰	B	1	3.650	12.5					1895	1895	136	0.072		97	0.051	
Pedestrian Crossing		Dp	2	MIN GREEN + FLASH =			5	+	7	=	12						
		Ep	3	MIN GREEN + FLASH =			6	+	9	=	15						
		Fp	2,3	MIN GREEN + FLASH =			10	+	7	=	17						

Notes:

*Site factor = 0.9 (on-street bus stop)

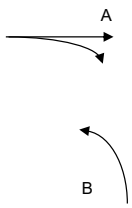
Flow: (pcu/hr)



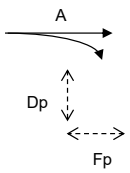
Group	B,Dp,C	A,C	Group	B,Dp,C	A,C
y	0.474	0.750	y	0.384	0.639
L (sec)	28	10	L (sec)	28	10
C (sec)	120	120	C (sec)	120	120
y pract.	0.690	0.825	y pract.	0.690	0.825
R.C. (%)	46%	10%	R.C. (%)	80%	29%

Stage / Phase Diagrams

1.



2.



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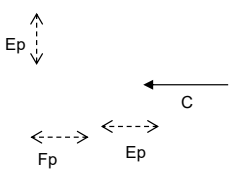


4.

5.

I/G= 6		I/G=		I/G= 6		I/G=	I/G=
I/G= 6		I/G=		I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** (J4) J4 Ting Kok Rd / Dai Fat St (13792)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J4 Ting Kok Rd / Dai Fat St (13792) Design Year: 2036

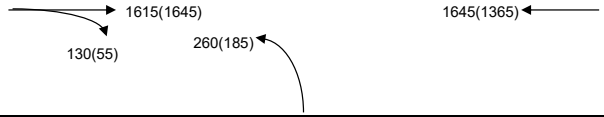
Description: 2036 Design Weekday (Further Improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	* →	A	1,2	3.300						1750	1750	520	0.297	0.297	503	0.287	
	→	A	1,2	3.400						2095	2095	622	0.297		603	0.288	0.288
	→↓	A	1,2	3.400		10		22%	9%	2030	2065	603	0.297		594	0.288	
Ting Kok Road (WB)	←	C	3	3.650						1980	1980	794	0.401		659	0.333	
	←	C	3	3.650						2120	2120	851	0.401	0.401	706	0.333	0.333
Dai Fat Street (NB)	↰	B	1	3.650	10					1720	1720	124	0.072		88	0.051	
	↰	B	1	3.650	12.5					1895	1895	136	0.072		97	0.051	
Pedestrian Crossing		Dp	2	MIN GREEN + FLASH =			5	+	7	=	12						
		Ep	3	MIN GREEN + FLASH =			6	+	9	=	15						
		Fp	2,3	MIN GREEN + FLASH =			10	+	7	=	17						

Notes:

*Site factor = 0.9 (on-street bus stop)

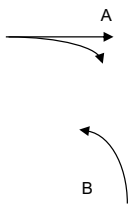
Flow: (pcu/hr)



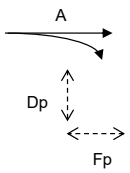
Group	B,Dp,C	A,C	Group	B,Dp,C	A,C
y	0.474	0.699	y	0.384	0.621
L (sec)	28	10	L (sec)	28	10
C (sec)	120	120	C (sec)	120	120
y pract.	0.690	0.825	y pract.	0.690	0.825
R.C. (%)	46%	18%	R.C. (%)	80%	33%

Stage / Phase Diagrams

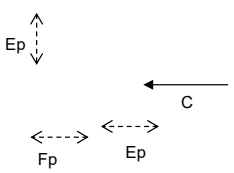
1.



2.



3.



4.

5.

I/G= 6		I/G=		I/G= 6		I/G=	I/G=
I/G= 6		I/G=		I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** (J4) J4 Ting Kok Rd / Dai Fat St (13792)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J5 Ting Kok Rd / Dai Kwai St (13811) Design Year: 2036

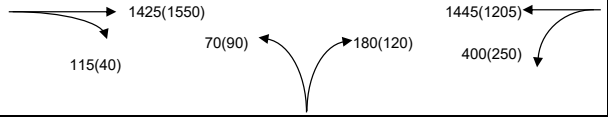
Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	→	B	1,2	3.350						1950	1950	1227	0.629		1190	0.610	0.610
	↓	D	2	3.350		15		37%	10%	2015	2070	313	0.155	0.155	400	0.193	
Ting Kok Road (WB)	↰	A	1	3.700	30			45%	36%	1940	1950	881	0.454	0.454	696	0.357	
	←	A	1	3.700						2125	2125	964	0.454		759	0.357	
Dai Kwai Street (NB)	↰	E	3	3.500	15					1785	1785	70	0.039		90	0.050	
	↑	E	3	3.500	17.5	15		0% / 100%	0% / 100%	1915	1915	180	0.094	0.094	120	0.063	
Pedestrian Crossing		Fp	4	MIN GREEN + FLASH =			12	+	8	=	20						
		Gp	4	MIN GREEN + FLASH =			5	+	9	=	14			*			*

Notes:

Based on site observation of existing situation in two weekdays, Stage 4 is demand dependent which is only activated from 50-60% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 4 has been prorated by 60% (highest) wihtin peak hour assessment.

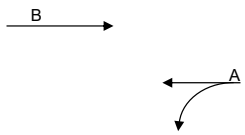
Flow: (pcu/hr)



Group	A,D,E,Gp	B,E,Gp	Group	A,D,E,Gp	B,E,Gp
y	0.703	0.723	y	0.613	0.673
L (sec)	30	25	L (sec)	33	28
C (sec)	120	120	C (sec)	96	96
y pract.	0.677	0.714	y pract.	0.587	0.634
R.C. (%)	-4%	-1%	R.C. (%)	-4%	-6%

Stage / Phase Diagrams

1.



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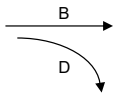
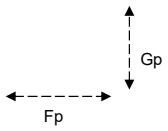


3.

4.



(Demand Dependant)

5.

I/G= 4		I/G= 6		I/G= 6		I/G= 12	14	I/G=	
I/G= 4		I/G=		I/G= 6	5	I/G= 12	14	I/G=	

Date: DEC, 2024 **Junction:** J5 Ting Kok Rd / Dai Kwai St (13811) (J5)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J5 Ting Kok Rd / Dai Kwai St (13811) Design Year: 2036

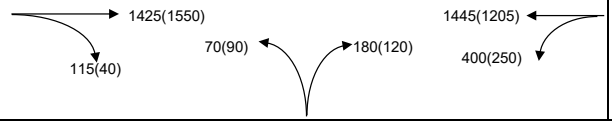
Description: 2036 Design Weekday (Improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	→	B	1,2	3.400						1955	1955	688	0.352		748	0.383	
	→	B	1,2	3.400						2095	2095	737	0.352		802	0.383	0.383
	↴	D	2	3.400		15				1905	1905	115	0.060	0.060	40	0.021	
Dai Kwai Street (NB)	↰	E	3	3.500	15					1785	1785	70	0.039		90	0.050	
	↰↑	E	3	3.500	17.5	15		0% / 100%	0% / 100%	1915	1915	180	0.094	0.094	120	0.063	0.063
Ting Kok Road (WB)	←	A	1	3.400						2095	2095	723	0.345		603	0.288	
	←	A	1	3.400						2095	2095	722	0.345		602	0.287	
	* ↙	A	1	3.400	30					930	930	400	0.430	0.430	250	0.269	
Pedestrian Crossing		Fp	4	MIN GREEN + FLASH =			12	+	8	=	20						
		Gp	4	MIN GREEN + FLASH =			5	+	10	=	15			*			*

Notes:

*Site factor = 0.5 (short lane)
Based on site observation of existing situation in two weekdays, Stage 4 is demand dependent which is only activated from 50-60% of all cycles in peak hour recorded. To reflect the actual situation, the lost time in Stage 4 has been prorated by 60% (highest) wihtin peak hour assessment.

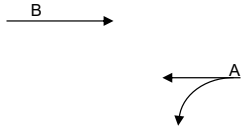
Flow: (pcu/hr)



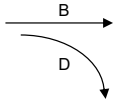
Group	A,D,E,Gp	B,E,Gp	Group	A,D,E,Gp	B,E,Gp
y	0.584	0.446	y	0.350	0.445
L (sec)	30	23	L (sec)	36	23
C (sec)	120	120	C (sec)	120	120
y pract.	0.678	0.731	y pract.	0.633	0.731
R.C. (%)	16%	64%	R.C. (%)	81%	64%

Stage / Phase Diagrams

1.

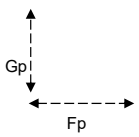


2.



3.

4.



(Demand Dependant)

5.

I/G= 5		I/G= 8		I/G= 5		I/G= 8	15	I/G=	
I/G= 5		I/G=		I/G= 5		I/G= 8	15	I/G=	

Date: DEC, 2024 **Junction:** J5 Ting Kok Rd / Dai Kwai St (13811) (J5)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J6 Ting Kok Rd / Access Rd to Fortune Garden (13813) Design Year: 2036

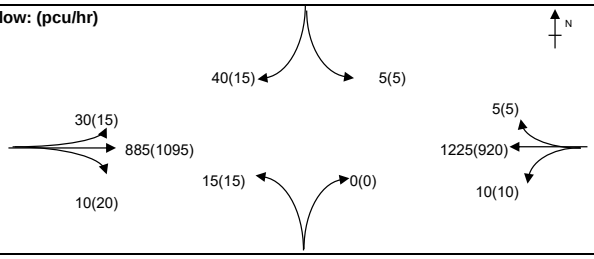
Description: 2036 Design Weekday (5 stages MOC with existing cycle time) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Site B		C	4	3.300	15	15		11% / 89%	25% / 75%	1770	1770	45	0.025		20	0.011	
Ting Kok Road (WB)		A	2	4.000	20			2%	2%	2010	2010	596	0.297		449	0.223	0.223
		A	2	4.000		15		0%	0%	2155	2155	639	0.297	0.297	481	0.223	
Fortune Garden Access		D	3	3.650	15	15		100% / 0%	100% / 0%	1800	1800	15	0.008		15	0.008	
Ting Kok Road (EB)		B	1	3.000	15			7%	3%	1900	1910	440	0.232	0.232	535	0.280	0.280
		B	1	3.000						2055	2055	475	0.231		575	0.280	
	*	B	1	3.000		15				1310	1310	10	0.008		20	0.015	
Pedestrian Crossing		Ep	5	MIN GREEN + FLASH =			5	+	9	=	14			*			*
		Fp	4,5	MIN GREEN + FLASH =			6	+	6	=	12						

Notes:

*Site factor = 0.7 (short lane)

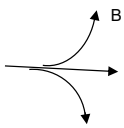
Flow: (pcu/hr)



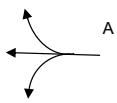
Group	B,A,D,Fp	B,A,D,C,Ep	Group	B,A,D,Fp	B,A,D,C,Ep
y	0.528	0.528	y	0.503	0.503
L (sec)	37	57	L (sec)	37	57
C (sec)	100	100	C (sec)	96	96
y pract.	0.567	0.387	y pract.	0.553	0.366
R.C. (%)	7%	-27%	R.C. (%)	10%	-27%

Stage / Phase Diagrams

1.



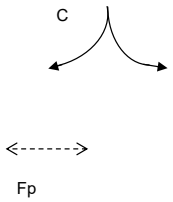
2.



3.

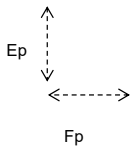
(Demand Dependant)

4.



(Demand Dependant)

5.



(Demand Dependant)

I/G= 5		I/G= 6		I/G= 6	5	I/G= 9	5	I/G= 9	14
I/G= 5		I/G= 6		I/G= 6	5	I/G= 9	5	I/G= 9	14

Date: DEC, 2024 **Junction:** J6 Ting Kok Rd / Access Rd to Fortune Garden (13813)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J6 Ting Kok Rd / Access Rd to Fortune Garden (13813) Design Year: 2036

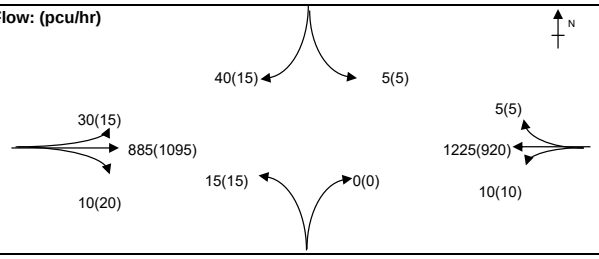
Description: 2036 Design Weekday (5 Stages MOC with Improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Site B		H	4	3.300	15	15		11% / 89%	25% / 75%	1770	1770	45	0.025		20	0.011	
Ting Kok Road (WB)		G	2	3.300		15				1895	1895	0	0.000		0	0.000	
		A	1	3.300	20			2%	2%	1945	1940	596	0.306		448	0.231	
		A	1	3.300						2085	2085	639	0.306	0.306	482	0.231	
Fortune Garden Access		D	3	3.650	15	15		100% / 0%	100% / 0%	1800	1800	15	0.008		15	0.008	
Ting Kok Road (EB)		B	1	3.000	15			7%	3%	1900	1910	440	0.232		535	0.280	0.280
		B	1	3.000						2055	2055	475	0.231		575	0.280	
	*	C	2	3.000		15				1310	1310	10	0.008		20	0.015	
Pedestrian Crossing		Ep	5	MIN GREEN + FLASH =			5	+	9	=	14			*			*
		Fp	4,5	MIN GREEN + FLASH =			6	+	6	=	12						

Notes:

*Site factor = 0.7 (short lane)

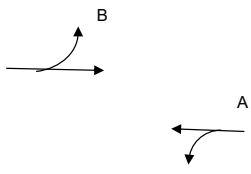
Flow: (pcu/hr)



Group	A,G,D,H,Ep	A,C,D,H,Ep	Group	B,G,D,H,Ep	B,C,D,H,Ep
y	0.306	0.306	y	0.280	0.280
L (sec)	56	61	L (sec)	57	61
C (sec)	120	120	C (sec)	120	120
y pract.	0.480	0.443	y pract.	0.473	0.443
R.C. (%)	57%	44%	R.C. (%)	69%	58%

Stage / Phase Diagrams

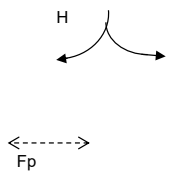
1.



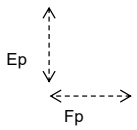
2.

3.

4.



5.



I/G= 5		I/G= 5	5	I/G= 5	5	I/G= 9	5	I/G= 9	14		
I/G= 5		I/G= 5	5	I/G= 5	5	I/G= 9	5	I/G= 9	14		
1		2	3	4	5	**Date:** DEC, 2024		**Junction:** (J6) J6 Ting Kok Rd / Access Rd to Fortune Garden (13813)			

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J7 Ting Kok Rd / Lo Fai Rd (13812) Design Year: 2036

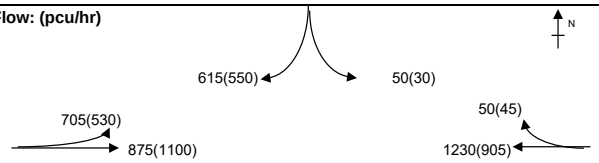
Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road (EB)	*	C	1	3.650	15			100%	74%	1620	1660	705	0.435	0.435	716	0.431	0.431
		C	1	3.650						2120	2120	875	0.413		914	0.431	
Lo Fai Road (SB)		B	3	3.400	22.5	15		14% / 86%	10% / 90%	1785	1785	355	0.199	0.199	309	0.173	
	**	B	3	3.400		20				1560	1560	310	0.199		271	0.174	0.174
Ting Kok Road (WB)		H	2	3.750		20		25%	30%	2090	2085	200	0.096	0.096	150	0.072	0.072
		A	1,2	3.750						1990	1990	1080	0.543		800	0.402	
Pedestrian Crossing		Ep	3	MIN GREEN + FLASH =			5	+	7	=	12						
		Fp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
		Gp	3	MIN GREEN + FLASH =			5	+	7	=	13						

Notes:

*Site factor = 0.9 (on-street bus stop)
**Site factor = 0.8 (short lane)

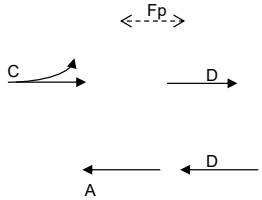
Flow: (pcu/hr)



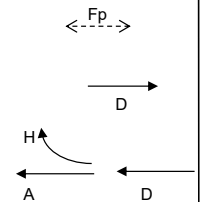
Group	A,B	C,H,B	Group	C,H,Ep	C,H,B
y	0.742	0.730	y	0.503	0.677
L (sec)	12	14	L (sec)	28	14
C (sec)	120	120	C (sec)	96	96
y pract.	0.810	0.795	y pract.	0.638	0.769
R.C. (%)	9%	9%	R.C. (%)	27%	14%

Stage / Phase Diagrams

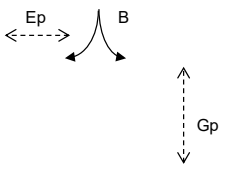
1.



2.



3.



4.

5.

I/G= 6		I/G= 5		I/G= 6		I/G=	I/G=
I/G= 6		I/G= 5		I/G= 6		I/G=	I/G=

Date: DEC, 2024

Junction: J7 Ting Kok Rd / Lo Fai Rd (13812) (J7)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J7 Ting Kok Rd / Lo Fai Rd (13812) Design Year: 2036

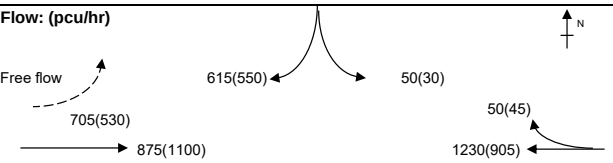
Description: 2036 Design Weekday (Improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Lo Fai Road (SB)	↓→	B	3	3.500	22.5	15		15% / 85%	10% / 90%	1795	1790	336	0.187	0.187	293	0.164	0.164
	* ↓	B	3	3.500		20				1760	1760	329	0.187		287	0.163	
Ting Kok Road (WB)	* ↑←	H	2	3.300		20				1745	1745	50	0.029		45	0.026	
	←	A	1,2	3.300						2085	2085	636	0.305		468	0.224	
	←	A	1,2	3.300						1945	1945	594	0.305		437	0.225	
Ting Kok Road (EB)	** →	C	1	3.300						390	390	138	0.354	0.354	173	0.444	
	→	C	1	3.300						2085	2085	737	0.353		927	0.445	0.445
Pedestrian Crossing		Ep	1,3	MIN GREEN + FLASH =			5	+	7	=	12						
		Fp	1,2	MIN GREEN + FLASH =			5	+	7	=	12						
		Gp	3	MIN GREEN + FLASH =			5	+	8	=	13						

Notes:

*Site factor = 0.9 (short lane)
**Site factor = 0.2 (short lane and on-street bus stop)

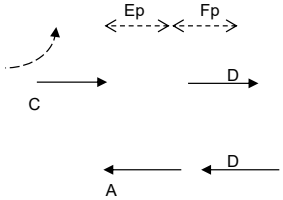
Flow: (pcu/hr)



Group	A,B	C,H,B	Group	C,H,Gp	C,H,B
y	0.493	0.541	y	0.445	0.608
L (sec)	10	20	L (sec)	30	20
C (sec)	120	120	C (sec)	120	120
y pract.	0.825	0.750	y pract.	0.675	0.750
R.C. (%)	67%	39%	R.C. (%)	52%	23%

Stage / Phase Diagrams

1.



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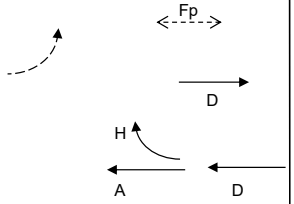
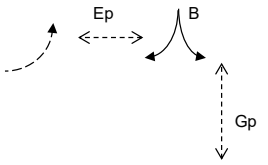


3.



4.

5.

I/G= 5		I/G= 6	5	I/G= 6		I/G=	I/G=
I/G= 5		I/G= 6	5	I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** J7 Ting Kok Rd / Lo Fai Rd (13812) (J7)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

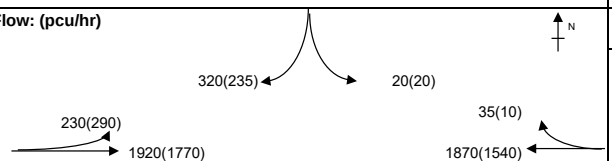
Junction: J8 Ting Kok Rd / Fung Yuen Rd (13810) Design Year: 2036

Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road		A	1	3.500	15			22%	30%	1920	1910	1026	0.534	0.534	980	0.513	0.513
EB	→	A	1	3.500						2105	2105	1124	0.534		1080	0.513	
Fung Yuen Road		D	3	3.750	10	22.5		12% / 88%	16% / 84%	1850	1840	164	0.089		123	0.067	
SB		D	3	3.750		20				1980	1980	176	0.089	0.089	132	0.067	
Ting Kok Road	←	B	1,2	3.500						1965	1965	977	0.497		794	0.404	
WB		B	1,2	3.500		15		4%	1%	1870	1875	928	0.496		756	0.403	
		Bp	2	GREEN TIME						=	5	sec		*			*
[Lost time for Stage 2 right turn]																	
Pedestrian Crossing		Ep	4	MIN GREEN + FLASH =			8	+	8	=	16			*			*
		Fp	4	MIN GREEN + FLASH =			11	+	10	=	21						

Notes:

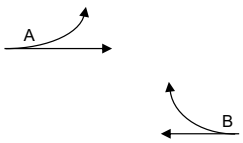
Flow: (pcu/hr)



Group	A,Bp,D,Fp	A,Bp,D,Ep	Group	A,Bp,D,Fp	A,Bp,D,Ep
y	0.623	0.623	y	0.580	0.513
L (sec)	42	44	L (sec)	42	50
C (sec)	100	100	C (sec)	96	96
y pract.	0.522	0.504	y pract.	0.506	0.431
R.C. (%)	-16%	-19%	R.C. (%)	-13%	-16%

Stage / Phase Diagrams

1.

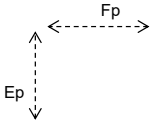


2.

3.

(Demand Dependant)

4.



(Demand Dependant)

5.

I/G= 4		I/G= 5	5	I/G= 6		I/G= 10	16	I/G=	
I/G= 4		I/G= 5	5	I/G= 6	5	I/G= 10	16	I/G=	

Date: DEC, 2024 **Junction:** J8 Ting Kok Rd / Fung Yuen Rd (13810)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J8 Ting Kok Rd / Fung Yuen Rd (13810) Design Year: 2036

Description: 2036 Design Weekday (with improvement) Designed By: TLY Checked By: TKM

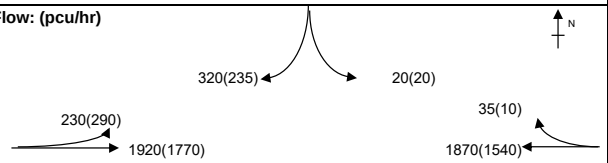
Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road EB		A	1	3.500	15			22%	30%	1920	1910	1026	0.534	0.534	980	0.513	0.513
	→	A	1	3.500						2105	2105	1124	0.534		1080	0.513	
Fung Yuen Road SB		D	3	3.750	10	22.5		12% / 88%	16% / 84%	1850	1840	164	0.089		123	0.067	0.067
		D	3	3.750		20				1980	1980	176	0.089	0.089	132	0.067	
* Ting Kok Road WB		G	2	GREEN TIME						=	5	sec		*			*
	←	B	1,2	3.300						2085	2085	967	0.464		797	0.382	
	←	B	1,2	3.300						1945	1945	903	0.464		743	0.382	

Pedestrian Crossing	Hp	1,2	MIN GREEN + FLASH =	11	+	10	=	21	
	Ip	3	MIN GREEN + FLASH =	5	+	5	=	10	
	Jp	2	MIN GREEN + FLASH =	6	+	6	=	12	
	Kp	3	MIN GREEN + FLASH =	9	+	9	=	18	

Notes:

*Site factor = 0.6 (short lane)

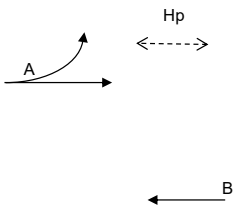
Flow: (pcu/hr)



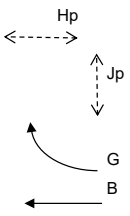
Group	A,G,Kp	A,G,D	Group	A,G,Kp	A,G,D
y	0.534	0.623	y	0.513	0.580
L (sec)	33	22	L (sec)	33	22
C (sec)	120	120	C (sec)	120	120
y pract.	0.653	0.735	y pract.	0.653	0.735
R.C. (%)	22%	18%	R.C. (%)	27%	27%

Stage / Phase Diagrams

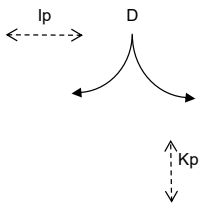
1.



2.



3.



4.

5.

I/G= 6		I/G= 5	5	I/G= 8		I/G=	I/G=
I/G= 6		I/G= 5	5	I/G= 8		I/G=	I/G=

Date: DEC, 2024 **Junction:** J8 Ting Kok Rd / Fung Yuen Rd (13810)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

Junction: J8 Ting Kok Rd / Fung Yuen Rd (13810) Design Year: 2036

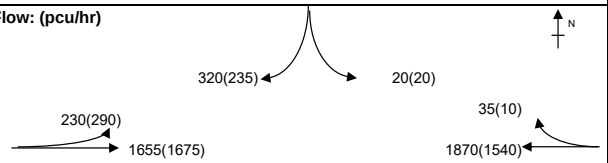
Description: 2036 Design Weekday (with J4 further improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Ting Kok Road EB		A	1	3.500	15			26%	31%	1915	1905	898	0.469	0.469	934	0.490	0.490
		A	1	3.500						2105	2105	987	0.469		1031	0.490	
Fung Yuen Road SB		D	3	3.750	10	22.5		12% / 88%	16% / 84%	1850	1840	164	0.089		123	0.067	0.067
		D	3	3.750		20				1980	1980	176	0.089	0.089	132	0.067	
* Ting Kok Road WB		G	2	GREEN TIME						=	5	sec		*			*
		B	1,2	3.300						2085	2085	967	0.464		797	0.382	
		B	1,2	3.300						1945	1945	903	0.464		743	0.382	
Pedestrian Crossing		Hp	1,2	MIN GREEN + FLASH =			11	+	10	=	21						
		Ip	3	MIN GREEN + FLASH =			5	+	5	=	10						
		Jp	2	MIN GREEN + FLASH =			6	+	6	=	12						
		Kp	3	MIN GREEN + FLASH =			9	+	9	=	18						

Notes:

*Site factor = 0.6 (short lane)

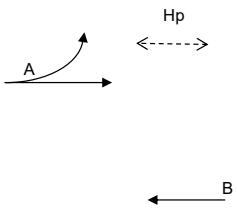
Flow: (pcu/hr)



Group	A,G,Ip	A,G,D	Group	A,G,Ip	A,G,D
y	0.469	0.558	y	0.490	0.557
L (sec)	29	20	L (sec)	29	20
C (sec)	120	120	C (sec)	120	120
y pract.	0.683	0.750	y pract.	0.683	0.750
R.C. (%)	46%	34%	R.C. (%)	39%	35%

Stage / Phase Diagrams

1.



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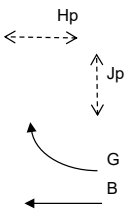

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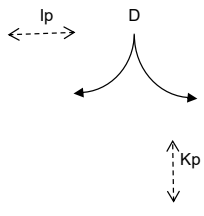


4.

5.

I/G= 6		I/G= 5	5	I/G= 6		I/G=	I/G=
I/G= 6		I/G= 5	5	I/G= 6		I/G=	I/G=

Date: DEC, 2024 **Junction:** J8 Ting Kok Rd / Fung Yuen Rd (13810)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

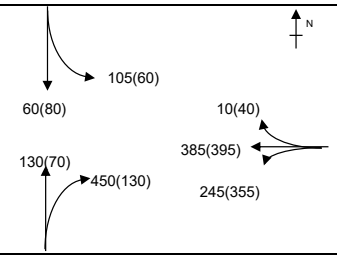
Junction: JA Dai Fat St / Dai Cheong St (13793) Design Year: 2036

Description: 2036 Design Weekday Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Dai Fat Street (SB)	↓	C	3	3.300						2085	2085	60	0.029		80	0.038	0.038
	↳	C	3	3.300	20					1810	1810	105	0.058	0.058	60	0.033	
Dai Cheong Street (WB)	↰	A	1	3.125		25		3%	9%	1925	1915	395	0.205	0.205	435	0.227	0.227
	↰	A	1	3.125	20					1795	1795	245	0.136		355	0.198	
Dai Fat Street (NB)	↑	B	2	3.600						1975	1975	130	0.066		70	0.035	
	↱	B	2	3.600		25				1995	1995	450	0.226	0.226	130	0.065	0.065
Pedestrian Crossing		Dp	4	MIN GREEN + FLASH =			7	+	7	=	14			*			*
		Ep	2,3,4	MIN GREEN + FLASH =			5	+	7	=	12						
		Fp	2,3,4	MIN GREEN + FLASH =			5	+	7	=	12						
		Gp	1,4	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

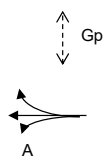
Flow: (pcu/hr)



Group	Gp,B,C	A,B,C,Dp	Group	A,Ep	A,B,C,Dp
y	0.284	0.489	y	0.227	0.331
L (sec)	30	31	L (sec)	22	31
C (sec)	112	112	C (sec)	102	102
y pract.	0.659	0.651	y pract.	0.706	0.626
R.C. (%)	132%	33%	R.C. (%)	211%	89%

Stage / Phase Diagrams

1.



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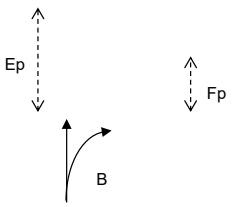

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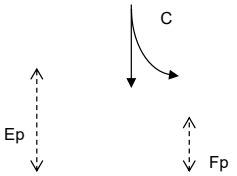

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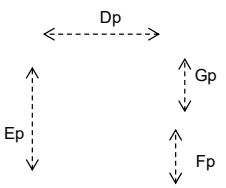


5.

I/G= 2		I/G= 7		I/G= 6		I/G= 5	14	I/G=	
I/G= 2		I/G= 7		I/G= 6		I/G= 5	14	I/G=	

Date: DEC, 2024 **Junction:** JA Dai Fat St / Dai Cheong St (13793) (JA)

TRAFFIC SIGNALS CALCULATION

Job No.: CHK50539710 **MVA HONG KONG LIMITED**

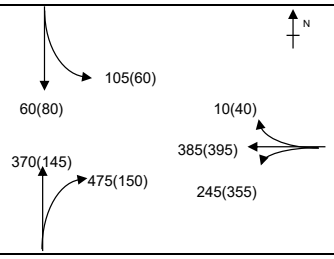
Junction: JA Dai Fat St / Dai Cheong St (13793) Design Year: 2036

Description: 2036 Design Weekday (with J4 improvement) Designed By: TLY Checked By: TKM

Approach	Movements	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Gradient (%)	Pro. Turning (%) AM	Pro. Turning (%) PM	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Dai Fat Street (SB)	↓	C	3	3.300						2085	2085	60	0.029		80	0.038	0.038
	↳	C	3	3.300	20					1810	1810	105	0.058	0.058	60	0.033	
Dai Cheong Street (WB)	↱	A	1	3.125		25		3%	9%	1925	1915	395	0.205	0.205	435	0.227	0.227
	←	A	1	3.125	20					1795	1795	245	0.136		355	0.198	
Dai Fat Street (NB)	↑	B	2	3.600						1975	1975	370	0.187		145	0.073	
	↱	B	2	3.600		25				1995	1995	475	0.238	0.238	150	0.075	0.075
Pedestrian Crossing		Dp	4	MIN GREEN + FLASH =			7	+	7	=	14			*			*
		Ep	2,3,4	MIN GREEN + FLASH =			5	+	7	=	12						
		Fp	2,3,4	MIN GREEN + FLASH =			5	+	7	=	12						
		Gp	1,4	MIN GREEN + FLASH =			5	+	7	=	12						

Notes:

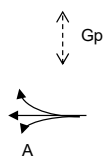
Flow: (pcu/hr)



Group	Gp,B,C	A,B,C,Dp	Group	A,Ep	A,B,C,Dp
y	0.296	0.501	y	0.227	0.341
L (sec)	30	31	L (sec)	22	31
C (sec)	112	112	C (sec)	102	102
y pract.	0.659	0.651	y pract.	0.706	0.626
R.C. (%)	123%	30%	R.C. (%)	211%	84%

Stage / Phase Diagrams

1.



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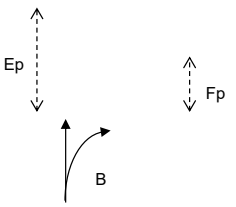

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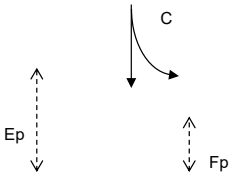

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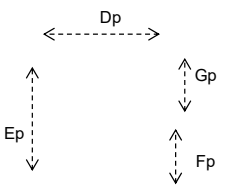


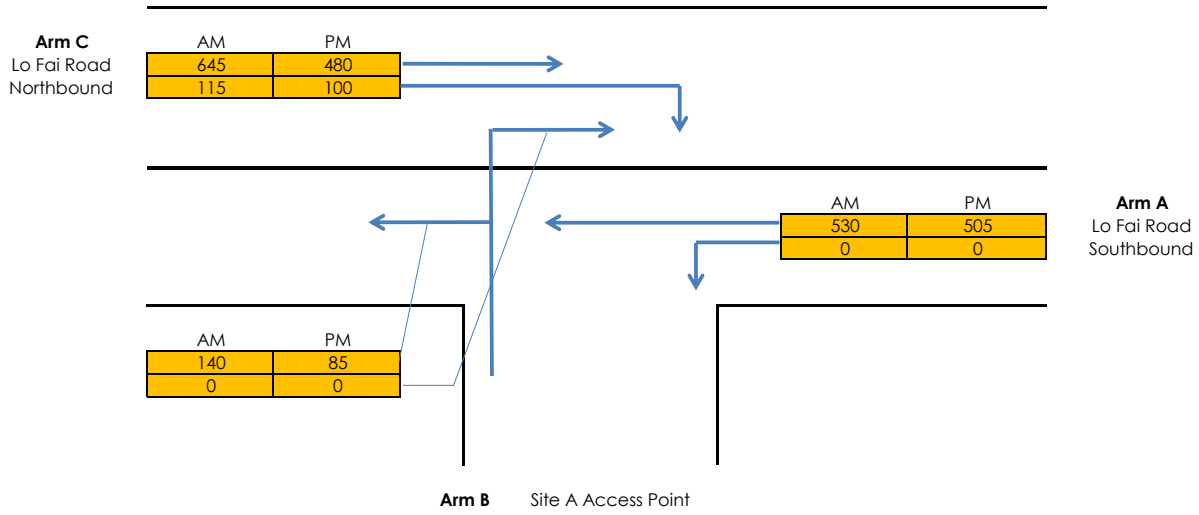
5.

I/G= 2		I/G= 7		I/G= 6		I/G= 5	14	I/G=	
I/G= 2		I/G= 7		I/G= 6		I/G= 5	14	I/G=	

Date: DEC, 2024 **Junction:** JA Dai Fat St / Dai Cheong St (13793) (JA)

Simplified Priority Junction Capacity Calculation

Job Title:	Wong Yue Tan TIA		
Junction:	Right Turn Pocket at Lo Fai Road		Designed by: TLY
Scheme:	2036 Design Weekday		Checked by: TKM
Design Year 2036		Job No.: CHK50539710	Date: DEC, 2024
Arm A:	Lo Fai Road Southbound		
Arm B:	Site A Access Point		
Arm C:	Lo Fai Road Northbound		



GEOMETRY

Major Road Width (m)	W	9.00	Lane widths (m)	w(b-a)	5.00
Central Reserve Width (m)	Wcr	0.00		w(b-c)	5.00
Blockage of major road right turn	Y/N?	N		w(c-b)	3.50
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	60	Calculated Parameters	D	1.008
	Vl(b-a)	60		E	1.066
	Vr(b-c)	60		F	0.933
	Vr(c-b)	60		Y	0.69

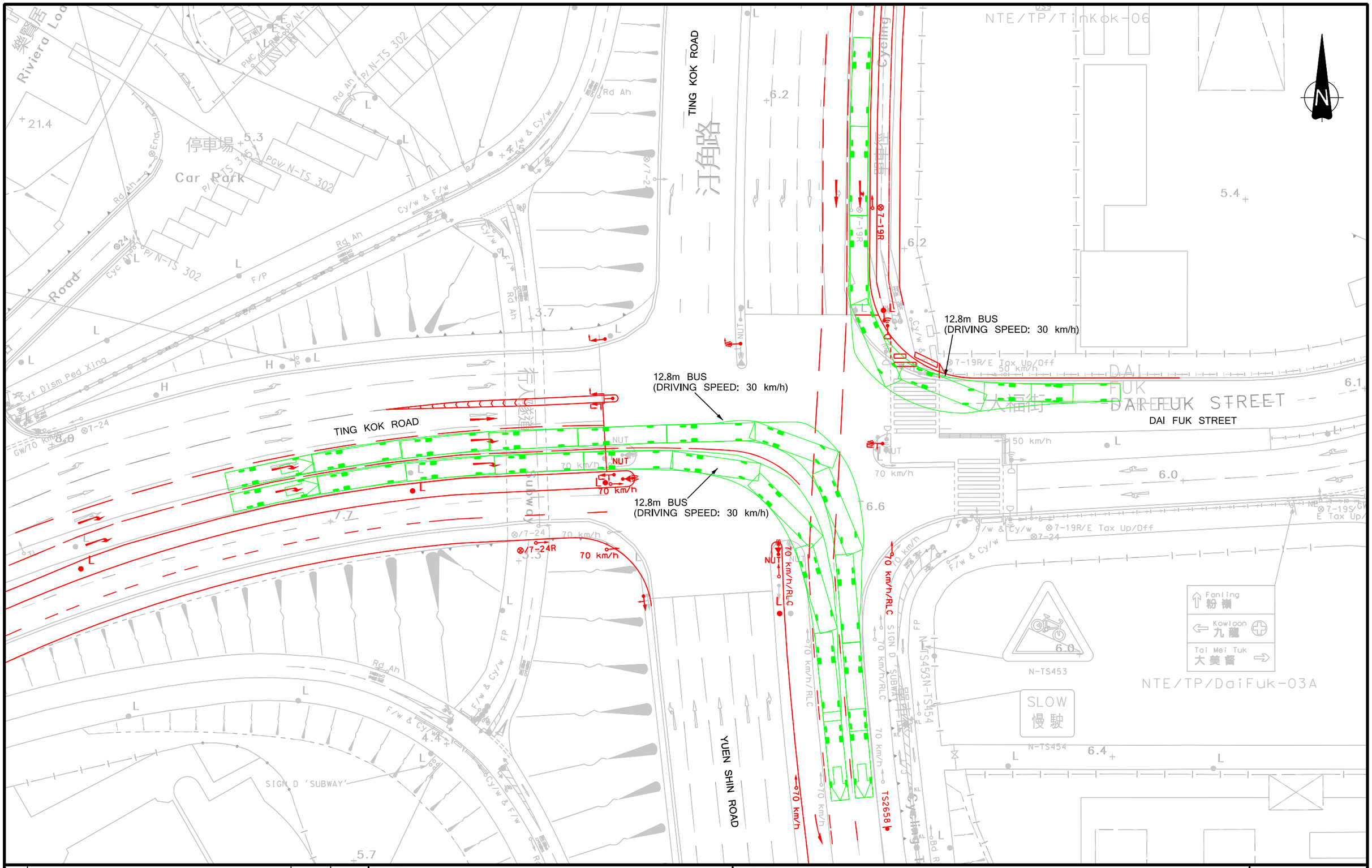
ANALYSIS		**SAT PEAK**	**SUN PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	645	480
	q(c-b)	115	100
	q(a-b)	0	0
	q(a-c)	530	505
	q(b-a)	0	0
	q(b-c)	140	85
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	652.4 652.401	659.1
	Q(c-b)	570.772	576.6
RFC's	c-b	0.20	0.17
	b-ac	0.21	0.13
RFC		**0.21**	**0.17**

Where Vl and Vr are visibility distances to the left or right of the respective streams
D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))
E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))
F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))
Y = 1-0.0345W
f = proportion of minor traffic turning left
Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. V.2.4 Appendix 1

APPENDIX B

SWEPT PATH ANALYSIS



Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	13JAN25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	EXISTING TRAFFIC AIDS UPDATED	TKM	12SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

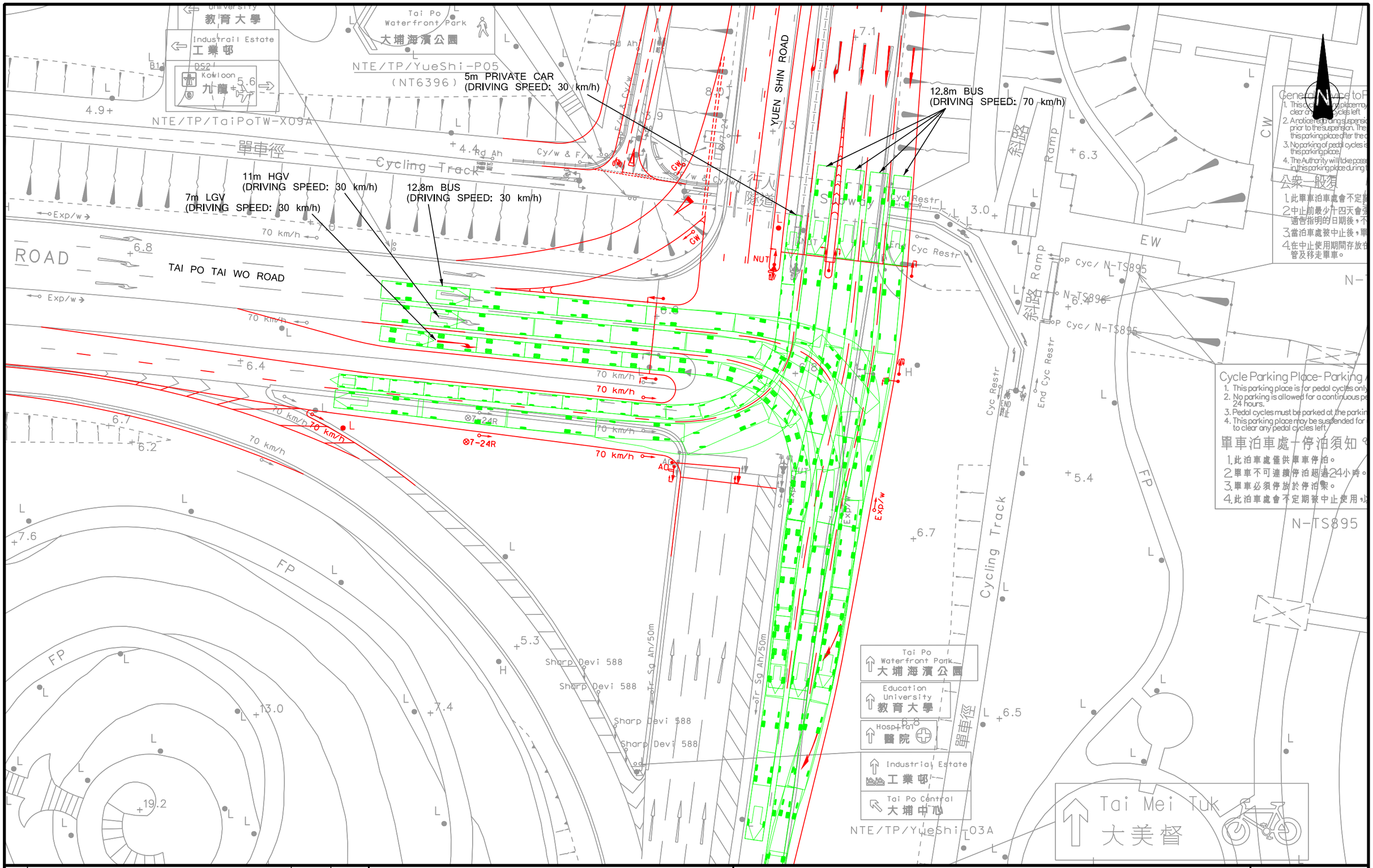
SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / YUEN SHIN ROAD / DAI FUK STREET (J1)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TYL	TKM	1:500(A3)	APR 2023	B1	D

SYSTRA MVA

CHK50539710/FRTIA/FB1-D.DGN/CKC/13JAN25

Original Size : A3



Rev.	Description	Checked	Date
D	MODIFIED IMPROVEMENT SCHEME	TKM	11FEB25
C	MODIFIED IMPROVEMENT SCHEME	TKM	04DEC24
B	EXISTING TRAFFIC AIDS UPDATED	TKM	12SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

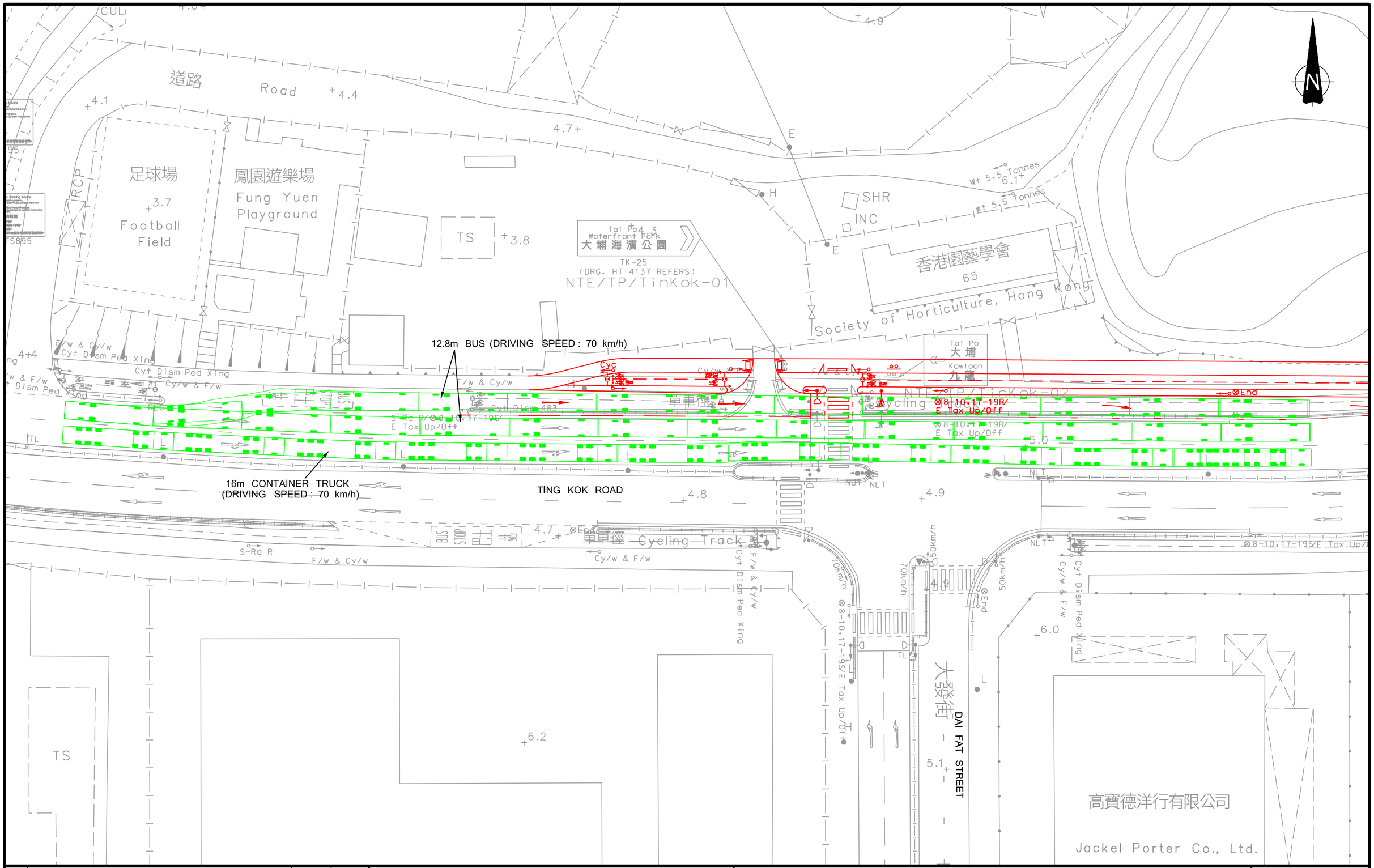
SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF TAI PO TAI WO ROAD / YUEN SHIN ROAD (J3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TYL	TKM	1:500(A3)	APR 2023	B2	D

SYSTRA MVA

CHK50539710/FRTIA/FB2-D.DGN/CKC/11FEB25

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
B	EXISTING TRAFFIC AIDS UPDATED	TKM	12SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

SWEPT PATH ANAYSIS OF PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / DAI FAT STREET (J4)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	B3	B

SYSTRA MVA

CHK50539710/FRTIA/FB3-B.DGN/TKH/12SEP24

Original Size : A3

12.8m BUS
(DRIVING SPEED: 30km/h)

12.8m BUS
(DRIVING SPEED: 30km/h)

12.8m BUS
(DRIVING SPEED: 70km/h)

7m LGV
(DRIVING SPEED: 30km/h)

12.8m BUS
(DRIVING SPEED: 30km/h)

SITE A
14RP

TING KOK ROAD

LO FAI ROAD

Hong Kong Landfill Restoration Group limited

香港進益工程有限公司

Rev.	Description	Checked	Date
-	-	-	-
C	MODIFIED IMPROVEMENT SCHEME	TKM	11FEB25
B	EXISTING TRAFFIC AIDS UPDATED	TKM	13JAN25
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

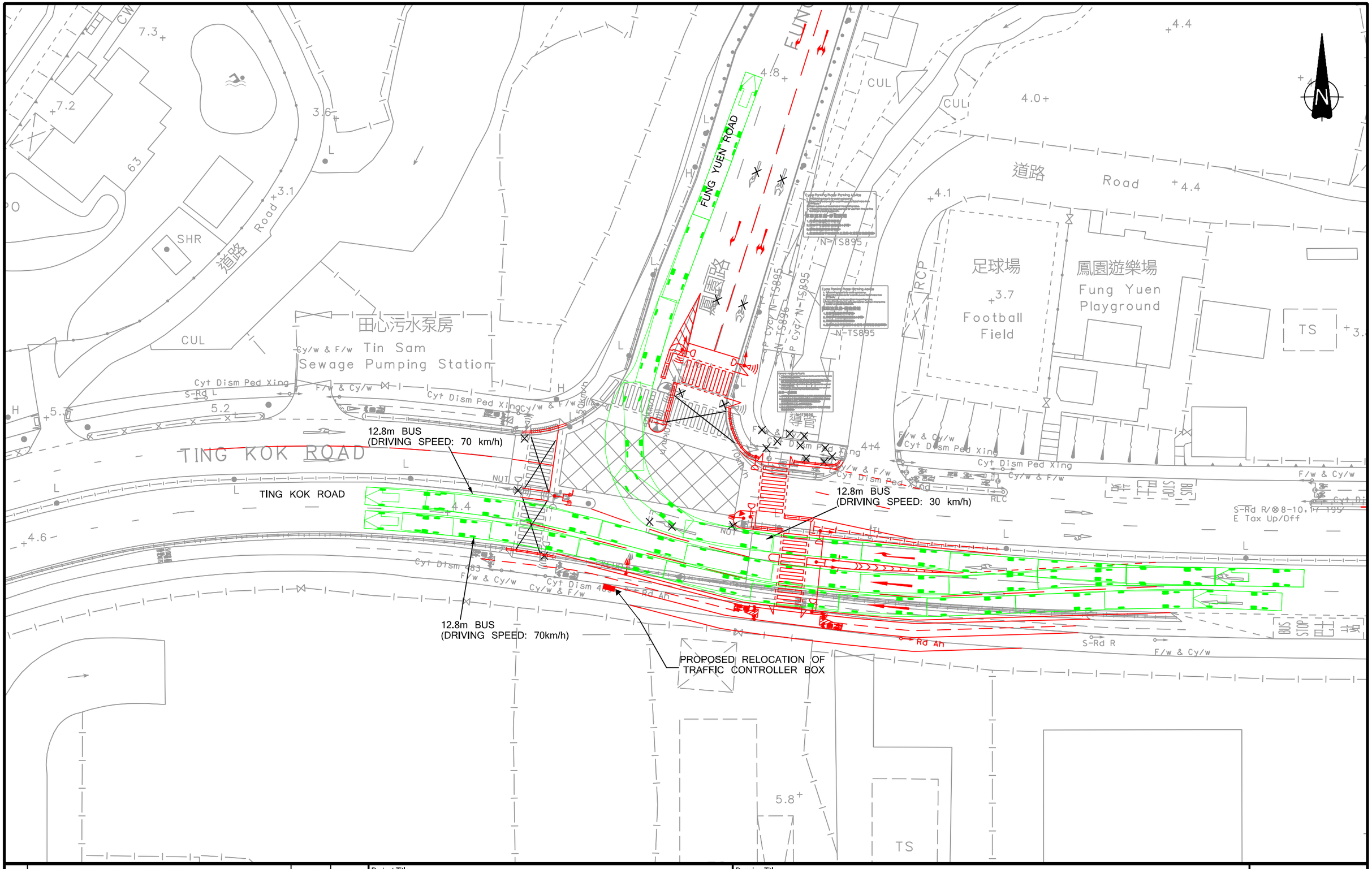
SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / LO FAI ROAD (J7)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	B4	C

SYSTRA MVA

CHK50539710/FRTIA/FB4-C.DGN/CKC/11FEB25

Original Size : A3



Rev.	Description	Checked	Date
D	MODIFICATIED IMPROVEMENT SCHEME	TKM	06JAN25
C	EXISTING TRAFFIC AIDS UPDATED	TKM	04DEC24
B	EXISTING TRAFFIC AIDS UPDATED	TKM	12SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

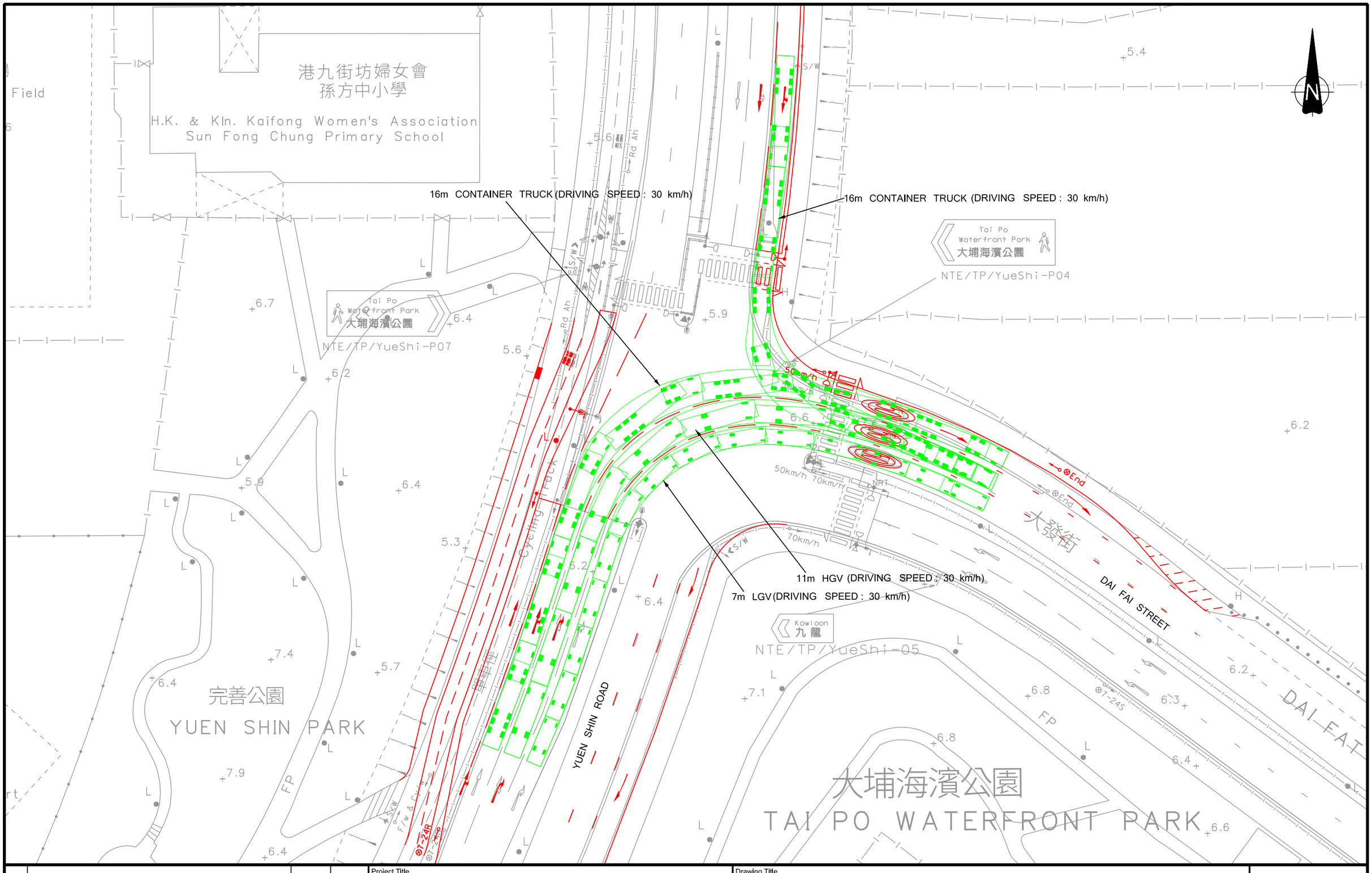
SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / FUNG YUEN ROAD (J8)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	APR 2023	B5	D

SYSTRA MVA

CHK50539710/FRTIA/FB5-D.DGN/CKC/06JAN25

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
B	EXISTING TRAFFIC AIDS UPDATED	TKM	12SEP24
A	RESPONSE TO COMMENTS	TKM	03AUG23

Project Title

TCS FOR THE PROPOSED APPLICATION
IN UNSURVEYED DISTRICT AT
WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

Drawing Title

SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF YUEN SHIN ROAD / DAI FAT STREET (J2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	JUL 2023	B6	B

SYSTRA MVA

CHK50539710/FRTIA/FB6-B.DGN/TKH/12SEP24

Original Size : A3

STAIRCASE UNDER PROPOSED DISTRICT OPEN SPACE IMPROVEMENT WORKS BY LCSD

PROPOSED START / END OF CYCLE TRACK

PROPOSED 2.5m WIDE FOOTPATH (CYCLIST DISMOUNT AND PUSH THE BICYCLE ALONG THE FOOTPATH)

12.8m Bus (DRIVING SPEED : 70 km/h)

12.8m Bus (DRIVING SPEED : 70 km/h)

16m Container Truck (DRIVING SPEED : 30 km/h)

TING KOK ROAD

DAI KWAI STREET

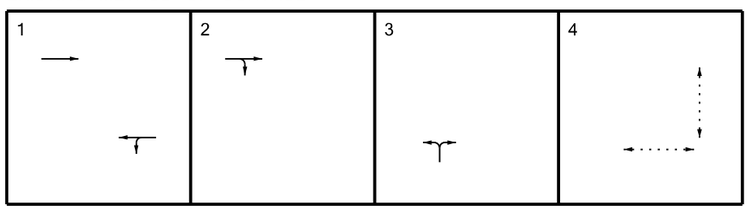
Ha Hang Telephone Exchange

NTE/TP/TinKok-03A

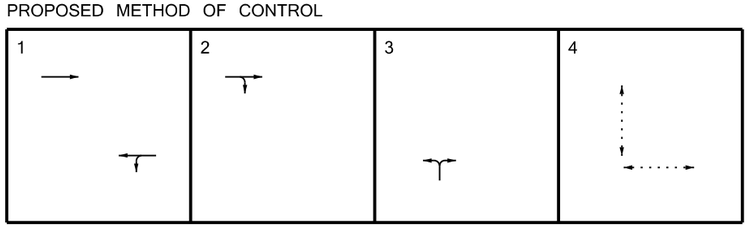
NTE/TP/TinKok-04A

NTE/TP/TinKok-10

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11RP & 14RP, TAI PO

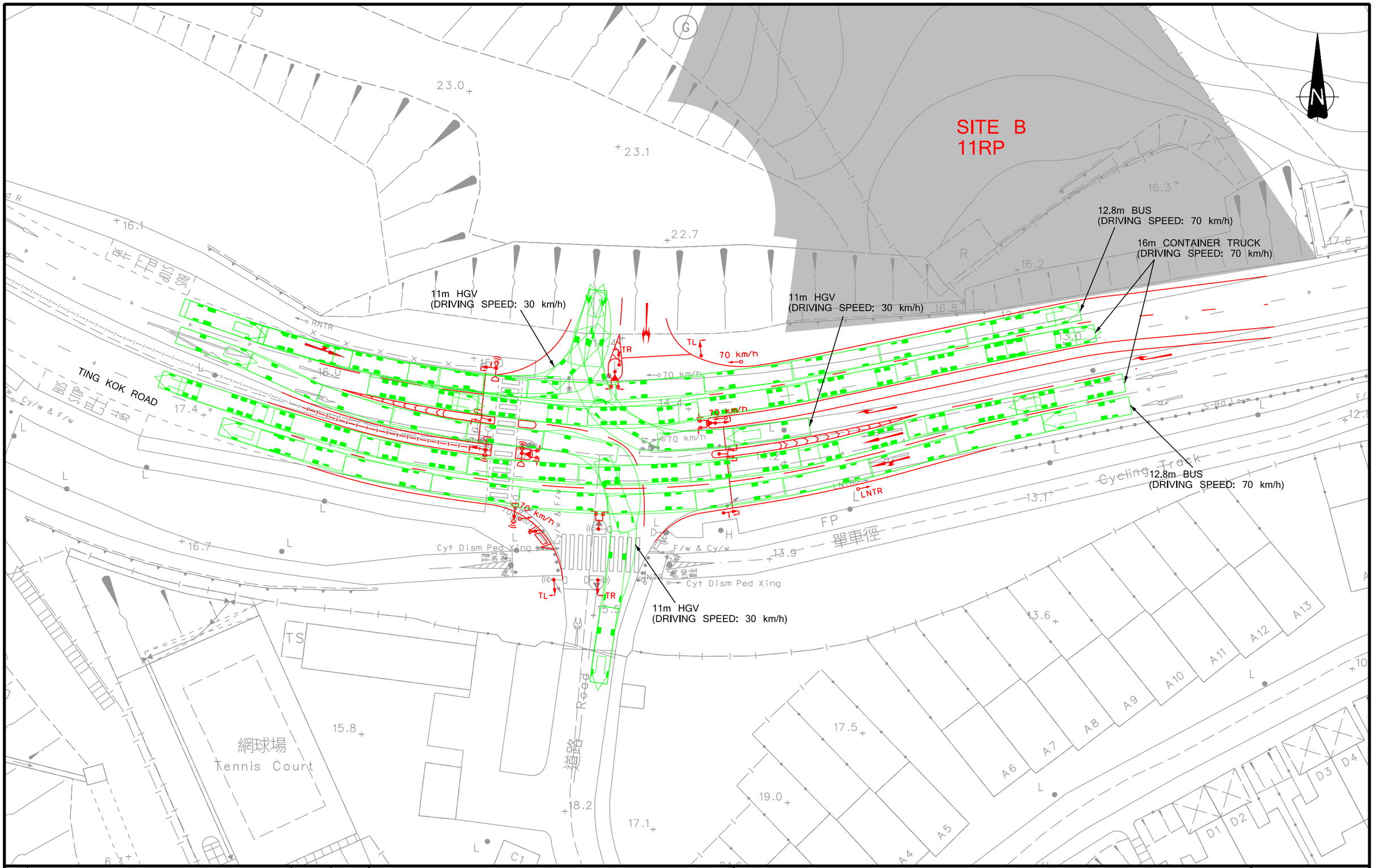
Drawing Title

SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD / DAI KWAI STREET (J5)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	AUG 2024	B7	-

CHK50539710/FRTIA/B10.DGN/TLY/21AUG24

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
A	MODIFIED IMPROVEMENT SCHEME	TKM	15JAN25

Project Title

TCS FOR THE PROPOSED APPLICATION IN UNSURVEYED DISTRICT AT WONG YUE TAN LOT NOS. 11 RP & 14 RP, TAI PO

Drawing Title

SWEPT PATH ANALYSIS OF PROPOSED IMPROVEMENT SCHEME OF TING KOK ROAD OUTSIDE FORTUNE GARDEN (J6)

Designed	Checked	Scale	Date	Drawing No.	Rev.
TLY	TKM	1:500(A3)	AUG 2024	B8	A

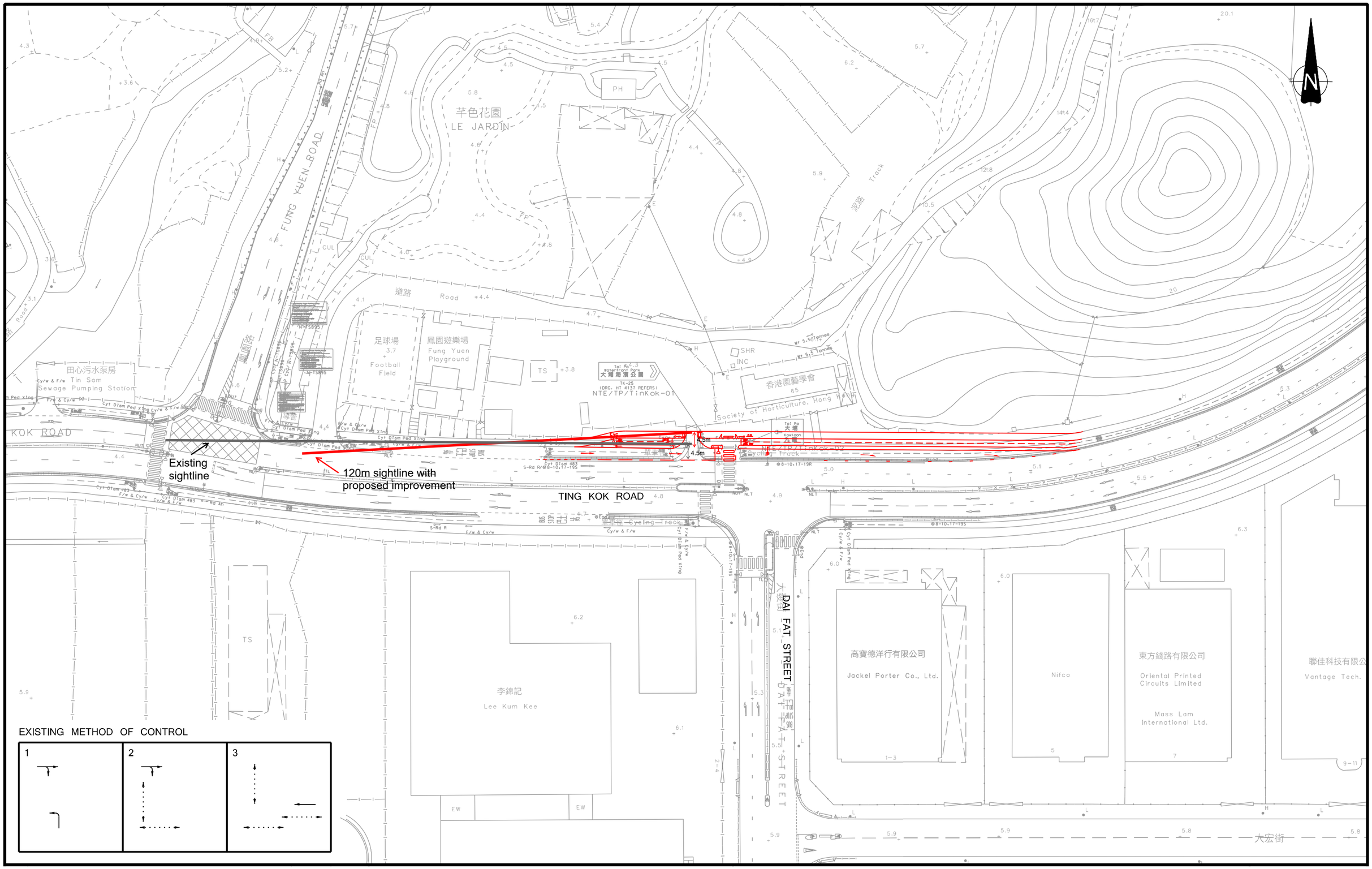
SYSTRA MVA

CHK50539710/FRTIA/FB8-A.DGN/CKC/15JAN25

Original Size : A3

APPENDIX C

SIGHTLINE ANALYSIS



J4 Sightline assessment

30m sightline with proposed improvement

TING KOK ROAD

LO FAI ROAD

SITE A
14RP

The fence could be see through which is less chance of blocking the sightline of the pedestrians

J7 Sightline assessment

APPENDIX D

QUEUE LENGTH ASSESSMENT

Queue Length Analysis

SYSTRA MVA **MVA Hong Kong Ltd.**

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) AM
Junction Name	J1 Ting Kok Rd/Yuen Shin Rd	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement									
			TKR EB SL	TKR EB 2 L	TKR EB 3 L	TKR EB 4 L	TKR EB 5 L	TKR SB SL	TKR SB 2 L	TKR SB 3 L	TKR SB 4 L	TKR SB 5 L
Cycle time	c	sec	120	120	120	120	120	120	120	120	120	120
Effective green time	g	sec	59	59	18	18	18	38	38	38	38	38
		pcu/hr	635	690	115	181	179	352	384	384	501	504
Design flow	q	veh/sec	0.136	0.147	0.025	0.039	0.038	0.075	0.082	0.082	0.107	0.108
		pcu/hr	1785	1940	2105	2010	1985	1940	2115	2115	1995	2005
Saturation flow	Q	veh/sec	0.381	0.415	0.450	0.429	0.424	0.415	0.452	0.452	0.426	0.428
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.492	0.492	0.150	0.150	0.150	0.317	0.317	0.317	0.317	0.317
Degree of saturation	x		0.724	0.723	0.364	0.600	0.601	0.573	0.573	0.573	0.793	0.794
	M		16.282	17.692	2.949	4.641	4.590	9.026	9.846	9.846	12.846	12.923
	y		0.356	0.356	0.055	0.090	0.090	0.181	0.182	0.182	0.251	0.251
	Qt	veh/sec	168.774	183.429	60.721	57.981	57.260	118.141	128.798	128.798	121.490	122.099
	x<1											
	A	sec/veh	0.201	0.201	0.382	0.397	0.397	0.285	0.285	0.285	0.312	0.312
	B	sec/veh	0.947	0.946	0.104	0.451	0.453	0.384	0.385	0.385	1.519	1.528
	C	sec/veh	2.869	2.712	2.359	6.891	6.969	2.446	2.313	2.313	6.195	6.192
Average Queue Delay	D	sec/veh	28	28	48	52	53	37	37	37	45	45
	x>x'											
	Z		-0.276	-0.277	-0.636	-0.400	-0.399	-0.427	-0.427	-0.427	-0.207	-0.206
	X'		0.708	0.711	0.683	0.683	0.683	0.696	0.699	0.699	0.697	0.697
	No	veh	0.087	0.068	-0.785	-0.319	-0.315	-0.441	-0.448	-0.448	0.661	0.668
Average Queue Delay	D	sec/veh	25	24	34	43	43	31	31	31	42	42
Average Delay		**sec/veh**	**25**	**24**	**48**	**52**	**53**	**37**	**37**	**37**	**42**	**42**
Average Queue	N = q(r/2+d)	veh	7.961	8.591	2.426	3.999	3.960	5.859	6.368	6.368	9.250	9.307
Average Queue Length	NL/n	metre	48	52	15	24	24	35	38	38	56	56
Average Queue	N=qr	veh	8.277	8.994	2.506	3.945	3.901	6.168	6.728	6.728	8.778	8.831
Average Queue Length	NL/n	metre	50	54	15	24	23	37	40	40	53	53
Average Queue	N=qr+No	veh	8.363	9.062	1.721	3.626	3.586	5.727	6.280	6.280	9.439	9.499
Average Queue Length	NL/n	metre	50	54	10	22	22	34	38	38	57	57
Average Queue Length		**metre**	**50**	**54**	**15**	**24**	**24**	**37**	**40**	**40**	**57**	**57**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) AM
Junction Name	J1 Ting Kok Rd/Yuen Shin Rd	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement						
		Unit	DFS WB SL	DFS WB 2 L	YSR NB SL	YSR NB 2 L	YSR NB 3 L	YSR NB 4 L	YSR NB 5 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	20	20	40	19	19	19	19
		pcu/hr	239	261	340	208	209	208	15
Design flow	q	veh/sec	0.051	0.056	0.073	0.044	0.045	0.044	0.003
		pcu/hr	1945	2115	1785	2105	2105	2105	1985
Saturation flow	Q	veh/sec	0.416	0.452	0.381	0.450	0.450	0.450	0.424
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.167	0.167	0.333	0.158	0.158	0.158	0.158
Degree of saturation	x		0.737	0.740	0.571	0.624	0.627	0.624	0.048
	M		6.128	6.692	8.718	5.333	5.359	5.333	0.385
	y		0.123	0.123	0.190	0.099	0.099	0.099	0.008
	Qt	veh/sec	62.340	67.788	114.423	64.095	64.095	64.095	60.441
	x<1								
	A	sec/veh	0.396	0.396	0.275	0.393	0.393	0.393	0.357
	B	sec/veh	1.034	1.056	0.381	0.518	0.527	0.518	0.001
	C	sec/veh	9.821	9.374	2.366	6.852	6.922	6.852	0.030
Average Queue Delay	D	sec/veh	58	57	36	52	52	52	43
	x>x'								
	Z		-0.263	-0.260	-0.429	-0.376	-0.373	-0.376	-0.952
	X'		0.684	0.685	0.695	0.684	0.684	0.684	0.683
	No	veh	0.294	0.309	-0.442	-0.245	-0.235	-0.245	-1.039
Average Queue Delay	D	sec/veh	52	52	29	44	44	44	27
Average Delay		**sec/veh**	**52**	**52**	**36**	**52**	**52**	**52**	**43**
Average Queue	N = q(r/2+d)	veh	5.512	5.973	5.508	4.554	4.581	4.554	0.300
Average Queue Length	NL/n	metre	33	36	33	27	27	27	2
Average Queue	N=qr	veh	5.107	5.577	5.812	4.489	4.510	4.489	0.324
Average Queue Length	NL/n	metre	31	33	35	27	27	27	2
Average Queue	N=qr+No	veh	5.401	5.886	5.370	4.244	4.276	4.244	-0.715
Average Queue Length	NL/n	metre	32	35	32	25	26	25	-4
Average Queue Length		**metre**	**32**	**35**	**35**	**27**	**27**	**27**	**2**

Queue Length Analysis

SYSTRA MVA **MVA Hong Kong Ltd.**

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) PM
Junction Name	J1 Ting Kok Rd/Yuen Shin Rd	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement									
			TKR EB SL	TKR EB 2 L	TKR EB 3 L	TKR EB 4 L	TKR EB 5 L	TKR SB SL	TKR SB 2 L	TKR SB 3 L	TKR SB 4 L	TKR SB 5 L
Cycle time	c	sec	120	120	120	120	120	120	120	120	120	120
Effective green time	g	sec	56	56	21	21	21	32	32	32	32	32
		pcu/hr	498	542	65	191	189	299	326	325	394	396
Design flow	q	veh/sec	0.106	0.116	0.014	0.041	0.040	0.064	0.070	0.069	0.084	0.085
		pcu/hr	1785	1940	2105	2010	1985	1940	2115	2115	1995	2005
Saturation flow	Q	veh/sec	0.381	0.415	0.450	0.429	0.424	0.415	0.452	0.452	0.426	0.428
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.467	0.467	0.175	0.175	0.175	0.267	0.267	0.267	0.267	0.267
Degree of saturation	x		0.598	0.599	0.176	0.543	0.544	0.578	0.578	0.576	0.741	0.741
	M		12.769	13.897	1.667	4.897	4.846	7.667	8.359	8.333	10.103	10.154
	y		0.279	0.279	0.031	0.095	0.095	0.154	0.154	0.154	0.197	0.198
	Qt	veh/sec	160.192	174.103	70.841	67.644	66.803	99.487	108.462	108.462	102.308	102.821
	x<1											
	A	sec/veh	0.197	0.197	0.351	0.376	0.376	0.318	0.318	0.318	0.335	0.335
	B	sec/veh	0.444	0.447	0.019	0.323	0.325	0.396	0.396	0.392	1.057	1.058
	C	sec/veh	1.536	1.461	0.379	4.674	4.734	3.226	3.046	3.022	6.134	6.115
Average Queue Delay	D	sec/veh	26	26	43	48	48	41	41	41	47	47
	x>x'											
	Z		-0.402	-0.401	-0.824	-0.457	-0.456	-0.422	-0.422	-0.424	-0.259	-0.259
	X'		0.706	0.709	0.686	0.685	0.685	0.692	0.694	0.694	0.693	0.693
	No	veh	-0.407	-0.416	-0.959	-0.481	-0.478	-0.414	-0.420	-0.425	0.271	0.271
Average Queue Delay	D	sec/veh	21	22	30	39	39	34	35	35	43	43
Average Delay		**sec/veh**	**26**	**26**	**43**	**48**	**48**	**41**	**41**	**41**	**43**	**43**
Average Queue	N = q(r/2+d)	veh	6.205	6.726	1.286	3.994	3.955	5.438	5.906	5.885	7.630	7.665
Average Queue Length	NL/n	metre	37	40	8	24	24	33	35	35	46	46
Average Queue	N=qr	veh	6.810	7.412	1.375	4.040	3.998	5.622	6.130	6.111	7.409	7.446
Average Queue Length	NL/n	metre	41	44	8	24	24	34	37	37	44	45
Average Queue	N=qr+No	veh	6.403	6.996	0.416	3.559	3.520	5.208	5.710	5.686	7.680	7.717
Average Queue Length	NL/n	metre	38	42	2	21	21	31	34	34	46	46
Average Queue Length		**metre**	**41**	**44**	**8**	**24**	**24**	**34**	**37**	**37**	**46**	**46**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) PM
Junction Name	J1 Ting Kok Rd/Yuen Shin Rd	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement						
		Unit	DFS WB SL	DFS WB 2 L	YSR NB SL	YSR NB 2 L	YSR NB 3 L	YSR NB 4 L	YSR NB 5 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	20	20	46	22	22	22	22
		pcu/hr	246	269	280	307	306	307	15
Design flow	q	veh/sec	0.053	0.057	0.060	0.066	0.065	0.066	0.003
		pcu/hr	1930	2115	1785	2105	2105	2105	1985
Saturation flow	Q	veh/sec	0.412	0.452	0.381	0.450	0.450	0.450	0.424
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.167	0.167	0.383	0.183	0.183	0.183	0.183
Degree of saturation	x		0.765	0.763	0.409	0.796	0.793	0.796	0.041
	M		6.308	6.897	7.179	7.872	7.846	7.872	0.385
	y		0.127	0.127	0.157	0.146	0.145	0.146	0.008
	Qt	veh/sec	61.859	67.788	131.587	74.215	74.215	74.215	69.984
	x<1								
	A	sec/veh	0.398	0.398	0.226	0.390	0.390	0.390	0.336
	B	sec/veh	1.243	1.229	0.142	1.547	1.518	1.547	0.001
	C	sec/veh	10.687	10.007	0.633	10.114	10.040	10.114	0.013
Average Queue Delay	D	sec/veh	61	59	29	60	60	60	41
	x>x'								
	Z		-0.235	-0.237	-0.591	-0.204	-0.207	-0.204	-0.959
	X'		0.684	0.685	0.699	0.686	0.686	0.686	0.686
	No	veh	0.484	0.467	-0.751	0.730	0.706	0.730	-1.040
Average Queue Delay	D	sec/veh	55	54	22	56	55	56	27
Average Delay		**sec/veh**	**55**	**54**	**29**	**56**	**55**	**56**	**41**
Average Queue	N = q(r/2+d)	veh	5.820	6.272	3.937	7.171	7.127	7.171	0.287
Average Queue Length	NL/n	metre	35	38	24	43	43	43	2
Average Queue	N=qr	veh	5.256	5.748	4.427	6.429	6.408	6.429	0.314
Average Queue Length	NL/n	metre	32	34	27	39	38	39	2
Average Queue	N=qr+No	veh	5.741	6.215	3.676	7.158	7.114	7.158	-0.726
Average Queue Length	NL/n	metre	34	37	22	43	43	43	-4
Average Queue Length		**metre**	**34**	**37**	**27**	**43**	**43**	**43**	**2**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) AM
Junction Name	J2 Yuen Shin Road/Dai Fat Street	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement								
			YSR NB SL	YSR NB 2 L	YSR NB 3 L	YSR NB 4 L	YSR SB SL	YSR SB 2 L	YSR SB 3 L	DFS WB SL	DFS WB 2 L
Cycle time	c	sec	120	120	120	120	120	120	120	120	120
Effective green time	g	sec	43	43	43	43	45	45	45	42	42
		pcu/hr	526	691	667	661	475	523	522	426	459
Design flow	q	veh/sec	0.112	0.148	0.143	0.141	0.101	0.112	0.112	0.091	0.098
		pcu/hr	1555	2045	1975	1960	1895	2085	2085	1850	1995
Saturation flow	Q	veh/sec	0.332	0.437	0.422	0.419	0.405	0.446	0.446	0.395	0.426
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.358	0.358	0.358	0.358	0.375	0.375	0.375	0.350	0.350
Degree of saturation	x		0.944	0.943	0.942	0.941	0.668	0.669	0.668	0.658	0.657
	M		13.487	17.718	17.103	16.949	12.179	13.410	13.385	10.923	11.769
	y		0.338	0.338	0.338	0.337	0.251	0.251	0.250	0.230	0.230
	Qt	veh/sec	107.155	140.921	136.098	135.064	136.659	150.361	150.361	124.519	134.279
	x<1										
	A	sec/veh	0.311	0.311	0.311	0.311	0.261	0.261	0.261	0.274	0.274
	B	sec/veh	7.955	7.796	7.721	7.525	0.674	0.676	0.671	0.633	0.631
	C	sec/veh	11.064	9.186	9.386	9.393	3.093	2.909	2.891	3.296	3.126
Average Queue Delay	D	sec/veh	97	81	82	81	35	34	34	37	36
	x>x'										
	Z		-0.056	-0.057	-0.058	-0.059	-0.332	-0.331	-0.332	-0.342	-0.343
	X'		0.694	0.701	0.700	0.700	0.700	0.703	0.703	0.698	0.700
	No	veh	3.228	3.429	3.387	3.340	-0.145	-0.157	-0.163	-0.176	-0.188
Average Queue Delay	D	sec/veh	64	59	60	60	30	30	30	32	32
Average Delay		**sec/veh**	**64**	**59**	**60**	**60**	**35**	**34**	**34**	**37**	**36**
Average Queue	N = q(r/2+d)	veh	15.235	17.633	17.187	16.901	7.340	8.037	8.018	6.880	7.378
Average Queue Length	NL/n	metre	91	106	103	101	44	48	48	41	44
Average Queue	N=qr	veh	8.654	11.369	10.974	10.875	7.612	8.381	8.365	7.100	7.650
Average Queue Length	NL/n	metre	52	68	66	65	46	50	50	43	46
Average Queue	N=qr+No	veh	11.882	14.798	14.361	14.215	7.467	8.224	8.203	6.924	7.462
Average Queue Length	NL/n	metre	71	89	86	85	45	49	49	42	45
Average Queue Length		**metre**	**71**	**89**	**86**	**85**	**46**	**50**	**50**	**43**	**46**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) PM
Junction Name	J2 Yuen Shin Road/Dai Fat Street	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement								
		Unit	YSR NB SL	YSR NB 2 L	YSR NB 3 L	YSR NB 4 L	YSR SB SL	YSR SB 2 L	YSR SB 3 L	DFS WB SL	DFS WB 2 L
Cycle time	c	sec	120	120	120	120	120	120	120	120	120
Effective green time	g	sec	45	45	45	45	42	42	42	44	44
		pcu/hr	519	691	667	661	475	523	522	426	459
Design flow	q	veh/sec	0.111	0.148	0.143	0.141	0.101	0.112	0.112	0.091	0.098
		pcu/hr	1555	2045	1975	1960	1895	2085	2085	1850	1995
Saturation flow	Q	veh/sec	0.332	0.437	0.422	0.419	0.405	0.446	0.446	0.395	0.426
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.375	0.375	0.375	0.375	0.350	0.350	0.350	0.367	0.367
Degree of saturation	x		0.890	0.901	0.901	0.899	0.716	0.717	0.715	0.628	0.627
	M		13.308	17.718	17.103	16.949	12.179	13.410	13.385	10.923	11.769
	y		0.334	0.338	0.338	0.337	0.251	0.251	0.250	0.230	0.230
	Qt	veh/sec	112.139	147.476	142.428	141.346	127.548	140.337	140.337	130.449	140.673
	x<1										
	A	sec/veh	0.293	0.295	0.295	0.295	0.282	0.282	0.282	0.261	0.260
	B	sec/veh	3.602	4.103	4.079	4.017	0.904	0.906	0.899	0.530	0.528
	C	sec/veh	8.844	7.665	7.832	7.836	4.214	3.962	3.939	2.663	2.526
Average Queue Delay	D	sec/veh	59	56	56	56	39	38	38	34	34
	x>x'										
	Z		-0.110	-0.099	-0.099	-0.101	-0.284	-0.283	-0.285	-0.372	-0.373
	X'		0.695	0.703	0.702	0.701	0.698	0.701	0.701	0.699	0.701
	No	veh	2.008	2.288	2.272	2.242	0.094	0.082	0.074	-0.290	-0.301
Average Queue Delay	D	sec/veh	51	49	50	50	34	34	34	29	29
Average Delay		**sec/veh**	**51**	**49**	**50**	**50**	**34**	**34**	**34**	**34**	**34**
Average Queue	N = q(r/2+d)	veh	10.681	13.735	13.352	13.201	7.868	8.603	8.581	6.593	7.073
Average Queue Length	NL/n	metre	64	82	80	79	47	52	51	40	42
Average Queue	N=qr	veh	8.317	11.074	10.689	10.593	7.917	8.717	8.700	6.918	7.454
Average Queue Length	NL/n	metre	50	66	64	64	48	52	52	42	45
Average Queue	N=qr+No	veh	10.325	13.362	12.962	12.835	8.010	8.798	8.774	6.628	7.153
Average Queue Length	NL/n	metre	62	80	78	77	48	53	53	40	43
Average Queue Length		**metre**	**62**	**80**	**78**	**77**	**48**	**53**	**53**	**42**	**45**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) AM
Junction Name	J3 Tai Po Tai Wo Rd/Yuen Shin Rd	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement							
		Unit	YSR SB SL	YSR SB 2 L	YSR SB 3 L	YSR SB 4 L	YSR SB 5 L	YSR NB SL	YSR NB 2 L	YSR NB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120	120
Effective green time	g	sec	80	80	80	34	34	42	42	42
		pcu/hr	532	591	592	312	278	557	619	619
Design flow	q	veh/sec	0.114	0.126	0.126	0.067	0.059	0.119	0.132	0.132
		pcu/hr	1875	2085	2085	1920	1705	1875	2085	2085
Saturation flow	Q	veh/sec	0.401	0.446	0.446	0.410	0.364	0.401	0.446	0.446
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.667	0.667	0.667	0.283	0.283	0.350	0.350	0.350
Degree of saturation	x		0.426	0.425	0.426	0.574	0.575	0.849	0.848	0.848
	M		13.641	15.154	15.179	8.000	7.128	14.282	15.872	15.872
	y		0.284	0.283	0.284	0.163	0.163	0.297	0.297	0.297
	Qt	veh/sec	240.385	267.308	267.308	104.615	92.901	126.202	140.337	140.337
	x<1									
	A	sec/veh	0.078	0.078	0.078	0.307	0.307	0.301	0.300	0.300
	B	sec/veh	0.158	0.157	0.158	0.386	0.390	2.382	2.370	2.370
	C	sec/veh	0.144	0.133	0.134	2.918	3.188	7.164	6.662	6.662
Average Queue Delay	D	sec/veh	11	10	10	40	40	49	47	47
	x>x'									
	Z		-0.574	-0.575	-0.574	-0.426	-0.425	-0.151	-0.152	-0.152
	X'		0.723	0.729	0.729	0.693	0.691	0.698	0.701	0.701
	No	veh	-0.787	-0.802	-0.801	-0.429	-0.416	1.314	1.296	1.296
Average Queue Delay	D	sec/veh	6	7	7	33	33	45	44	44
Average Delay		**sec/veh**	**11**	**10**	**10**	**40**	**40**	**45**	**44**	**44**
Average Queue	N = q(r/2+d)	veh	3.473	3.841	3.849	5.511	4.942	10.463	11.416	11.416
Average Queue Length	NL/n	metre	21	23	23	33	30	63	68	68
Average Queue	N=qr	veh	4.547	5.051	5.060	5.733	5.109	9.283	10.317	10.317
Average Queue Length	NL/n	metre	27	30	30	34	31	56	62	62
Average Queue	N=qr+No	veh	3.760	4.249	4.258	5.304	4.693	10.597	11.612	11.612
Average Queue Length	NL/n	metre	23	25	26	32	28	64	70	70
Average Queue Length		**metre**	**27**	**30**	**30**	**34**	**31**	**64**	**70**	**70**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po
Junction Name	J3 Tai Po Tai Wo Rd/Yuen Shin Rd
Approach	All bound
Probability(1% / 5%)?	5%

Description	All bound
Design Year	2036 Design Weekday (Improvement) AM
Designed By	TLY
Checked By	TKM

			Movement		
		Unit	TPTWR EB SL	TPTWR EB 2 L	TPTWR EB 3 L
Cycle time	c	sec	120	120	120
Effective green time	g	sec	30	30	30
		pcu/hr	311	344	335
Design flow	q	veh/sec	0.066	0.074	0.072
		pcu/hr	1760	1940	1895
Saturation flow	Q	veh/sec	0.376	0.415	0.405
PCU factor	f	pcu/veh	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1
Length of a vehicle	L	metre	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.250	0.250	0.250
Degree of saturation	x		0.707	0.709	0.707
	M		7.974	8.821	8.590
	y		0.177	0.177	0.177
	Qt	veh/sec	84.615	93.269	91.106
	x<1				
	A	sec/veh	0.342	0.342	0.342
	B	sec/veh	0.852	0.865	0.854
	C	sec/veh	6.327	5.983	6.030
Average Queue Delay	D	sec/veh	47	47	47
	x>x'				
	Z		-0.293	-0.291	-0.293
	X'		0.689	0.691	0.690
	No	veh	0.091	0.095	0.086
Average Queue Delay	D	sec/veh	42	42	42
Average Delay		**sec/veh**	**42**	**42**	**42**
Average Queue	N = q(r/2+d)	veh	6.146	6.749	6.578
Average Queue Length	NL/n	metre	37	40	39
Average Queue	N=qr	veh	5.981	6.615	6.442
Average Queue Length	NL/n	metre	36	40	39
Average Queue	N=qr+No	veh	6.072	6.710	6.528
Average Queue Length	NL/n	metre	36	40	39
Average Queue Length		**metre**	**36**	**40**	**39**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) PM
Junction Name	J3 Tai Po Tai Wo Rd/Yuen Shin Rd	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement							
		Unit	YSR SB SL	YSR SB 2 L	YSR SB 3 L	YSR SB 4 L	YSR SB 5 L	YSR NB SL	YSR NB 2 L	YSR NB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120	120
Effective green time	g	sec	83	83	83	44	44	35	35	35
		pcu/hr	523	581	581	320	285	439	488	488
Design flow	q	veh/sec	0.112	0.124	0.124	0.068	0.061	0.094	0.104	0.104
		pcu/hr	1875	2085	2085	1920	1705	1875	2085	2085
Saturation flow	Q	veh/sec	0.401	0.446	0.446	0.410	0.364	0.401	0.446	0.446
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.692	0.692	0.692	0.367	0.367	0.292	0.292	0.292
Degree of saturation	x		0.403	0.403	0.403	0.455	0.456	0.803	0.802	0.802
	M		13.410	14.897	14.897	8.205	7.308	11.256	12.513	12.513
	y		0.279	0.279	0.279	0.167	0.167	0.234	0.234	0.234
	Qt	veh/sec	249.399	277.332	277.332	135.385	120.224	105.168	116.947	116.947
	x<1									
	A	sec/veh	0.066	0.066	0.066	0.241	0.241	0.328	0.328	0.328
	B	sec/veh	0.136	0.136	0.136	0.189	0.191	1.633	1.630	1.630
	C	sec/veh	0.097	0.090	0.090	0.933	1.020	7.264	6.761	6.761
Average Queue Delay	D	sec/veh	9	9	9	31	31	49	48	48
	x>x'									
	Z		-0.597	-0.597	-0.597	-0.545	-0.544	-0.197	-0.198	-0.198
	X'		0.725	0.732	0.732	0.700	0.697	0.693	0.696	0.696
	No	veh	-0.819	-0.834	-0.834	-0.688	-0.678	0.774	0.759	0.759
Average Queue Delay	D	sec/veh	5	5	5	24	24	46	45	45
Average Delay		**sec/veh**	**9**	**9**	**9**	**31**	**31**	**46**	**45**	**45**
Average Queue	N = q(r/2+d)	veh	3.077	3.403	3.403	4.699	4.203	8.626	9.455	9.455
Average Queue Length	NL/n	metre	18	20	20	28	25	52	57	57
Average Queue	N=qr	veh	4.135	4.593	4.593	5.197	4.628	7.973	8.863	8.863
Average Queue Length	NL/n	metre	25	28	28	31	28	48	53	53
Average Queue	N=qr+No	veh	3.316	3.759	3.759	4.509	3.950	8.747	9.622	9.622
Average Queue Length	NL/n	metre	20	23	23	27	24	52	58	58
Average Queue Length		**metre**	**25**	**28**	**28**	**31**	**28**	**52**	**58**	**58**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po
Junction Name	J3 Tai Po Tai Wo Rd/Yuen Shin Rd
Approach	All bound
Probability(1% / 5%)?	5%

Description	All bound
Design Year	2036 Design Weekday (Improvement) PM
Designed By	TLY
Checked By	TKM

			Movement		
		Unit	TPTWR EB SL	TPTWR EB 2 L	TPTWR EB 3 L
Cycle time	c	sec	120	120	120
Effective green time	g	sec	27	27	27
		pcu/hr	267	295	288
Design flow	q	veh/sec	0.057	0.063	0.062
		pcu/hr	1760	1940	1895
Saturation flow	Q	veh/sec	0.376	0.415	0.405
PCU factor	f	pcu/veh	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1
Length of a vehicle	L	metre	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.225	0.225	0.225
Degree of saturation	x		0.674	0.676	0.675
	M		6.846	7.564	7.385
	y		0.152	0.152	0.152
	Qt	veh/sec	76.154	83.942	81.995
	x<1				
	A	sec/veh	0.354	0.354	0.354
	B	sec/veh	0.698	0.704	0.703
	C	sec/veh	6.312	5.950	6.035
Average Queue Delay	D	sec/veh	48	48	48
	x>x'				
	Z		-0.326	-0.324	-0.325
	X'		0.687	0.689	0.688
	No	veh	-0.059	-0.060	-0.059
Average Queue Delay	D	sec/veh	42	42	42
Average Delay		**sec/veh**	**48**	**48**	**48**
Average Queue	N = q(r/2+d)	veh	5.414	5.940	5.808
Average Queue Length	NL/n	metre	32	36	35
Average Queue	N=qr	veh	5.306	5.862	5.723
Average Queue Length	NL/n	metre	32	35	34
Average Queue	N=qr+No	veh	5.247	5.803	5.664
Average Queue Length	NL/n	metre	31	35	34
Average Queue Length		**metre**	**32**	**36**	**35**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Further improvement) AM
Junction Name	J4 Ting Kok Road / Dai Fat Street	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement						
			TKR EB SL	TKR EB 2 L	TKR EB 3 L	TKR WB SL	TKR WB 2 L	DFS NB SL	DFS NB 2 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	57	57	57	53	53	39	39
		pcu/hr	523	622	600	794	851	124	136
Design flow	q	veh/sec	0.112	0.133	0.128	0.170	0.182	0.026	0.029
		pcu/hr	1760	2095	2020	1980	2120	1720	1895
Saturation flow	Q	veh/sec	0.376	0.448	0.432	0.423	0.453	0.368	0.405
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.475	0.475	0.475	0.442	0.442	0.325	0.325
Degree of saturation	x		0.626	0.625	0.625	0.908	0.909	0.222	0.221
	M		13.410	15.949	15.385	20.359	21.821	3.179	3.487
	y		0.297	0.297	0.297	0.401	0.401	0.072	0.072
	Qt	veh/sec	160.769	191.370	184.519	168.173	180.064	107.500	118.438
	x<1								
	A	sec/veh	0.196	0.196	0.196	0.260	0.260	0.246	0.245
	B	sec/veh	0.523	0.521	0.522	4.478	4.532	0.032	0.031
	C	sec/veh	1.775	1.575	1.617	6.968	6.681	0.154	0.142
Average Queue Delay	D	sec/veh	26	26	26	51	49	31	30
	x>x'								
	Z		-0.374	-0.375	-0.375	-0.092	-0.091	-0.778	-0.779
	X'		0.706	0.713	0.711	0.707	0.710	0.694	0.696
	No	veh	-0.325	-0.353	-0.346	2.476	2.507	-0.931	-0.934
Average Queue Delay	D	sec/veh	22	22	22	44	44	22	22
Average Delay		**sec/veh**	**26**	**26**	**26**	**44**	**44**	**31**	**30**
Average Queue	N = q(r/2+d)	veh	6.474	7.624	7.369	14.277	15.090	1.881	2.060
Average Queue Length	NL/n	metre	39	46	44	86	91	11	12
Average Queue	N=qr	veh	7.040	8.373	8.077	11.367	12.183	2.146	2.354
Average Queue Length	NL/n	metre	42	50	48	68	73	13	14
Average Queue	N=qr+No	veh	6.716	8.020	7.730	13.843	14.690	1.216	1.420
Average Queue Length	NL/n	metre	40	48	46	83	88	7	9
Average Queue Length		**metre**	**42**	**50**	**48**	**83**	**88**	**13**	**14**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Further improvement) PM
Junction Name	J4 Ting Kok Road / Dai Fat Street	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement						
			TKR EB SL	TKR EB 2 L	TKR EB 3 L	TKR WB SL	TKR WB 2 L	DFS NB SL	DFS NB 2 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	59	59	59	51	51	37	37
		pcu/hr	506	603	591	659	706	88	97
Design flow	q	veh/sec	0.108	0.129	0.126	0.141	0.151	0.019	0.021
		pcu/hr	1760	2095	2055	1980	2120	1720	1895
Saturation flow	Q	veh/sec	0.376	0.448	0.439	0.423	0.453	0.368	0.405
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.492	0.492	0.492	0.425	0.425	0.308	0.308
Degree of saturation	x		0.585	0.585	0.585	0.783	0.784	0.166	0.166
	M		12.974	15.462	15.154	16.897	18.103	2.256	2.487
	y		0.288	0.288	0.288	0.333	0.333	0.051	0.051
	Qt	veh/sec	166.410	198.085	194.303	161.827	173.269	101.987	112.364
	x<1								
	A	sec/veh	0.181	0.181	0.181	0.248	0.248	0.252	0.252
	B	sec/veh	0.412	0.413	0.412	1.414	1.418	0.017	0.017
	C	sec/veh	1.292	1.155	1.166	4.321	4.137	0.078	0.074
Average Queue Delay	D	sec/veh	24	24	24	35	35	31	31
	x>x'								
	Z		-0.415	-0.415	-0.415	-0.217	-0.216	-0.834	-0.834
	X'		0.707	0.714	0.713	0.706	0.709	0.693	0.695
	No	veh	-0.447	-0.471	-0.469	0.518	0.507	-0.969	-0.972
Average Queue Delay	D	sec/veh	19	20	20	33	32	22	22
Average Delay		**sec/veh**	**24**	**24**	**24**	**33**	**32**	**31**	**31**
Average Queue	N = q(r/2+d)	veh	5.922	6.999	6.865	9.850	10.486	1.364	1.502
Average Queue Length	NL/n	metre	36	42	41	59	63	8	9
Average Queue	N=qr	veh	6.595	7.860	7.703	9.716	10.409	1.561	1.720
Average Queue Length	NL/n	metre	40	47	46	58	62	9	10
Average Queue	N=qr+No	veh	6.148	7.389	7.234	10.234	10.916	0.591	0.749
Average Queue Length	NL/n	metre	37	44	43	61	65	4	4
Average Queue Length		**metre**	**40**	**47**	**46**	**61**	**65**	**9**	**10**

Queue Length Analysis

SYSTRA MVA **MVA Hong Kong Ltd.**

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) AM
Junction Name	J5 Ting Kok Rd/Dai Kwai St	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement							
			TKR EB SL	TKR EB 2 L	TKR EB 3 L	DKS NB SL	DKS NB 2 L	TKR WB SL	TKR WB 2 L	TKR WB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120	120
Effective green time	g	sec	66	66	12	12	12	49	49	49
		pcu/hr	688	737	115	70	180	723	722	400
Design flow	q	veh/sec	0.147	0.157	0.025	0.015	0.038	0.154	0.154	0.085
		pcu/hr	1955	2095	1905	1785	1915	2095	2095	930
Saturation flow	Q	veh/sec	0.418	0.448	0.407	0.381	0.409	0.448	0.448	0.199
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.550	0.550	0.100	0.100	0.100	0.408	0.408	0.408
Degree of saturation	x		0.640	0.640	0.604	0.392	0.940	0.845	0.844	1.053
	M		17.641	18.897	2.949	1.795	4.615	18.538	18.513	10.256
	y		0.352	0.352	0.060	0.039	0.094	0.345	0.345	0.430
	Qt	veh/sec	206.779	221.587	36.635	34.327	36.827	164.511	164.511	73.029
	x<1									
	A	sec/veh	0.156	0.156	0.431	0.422	0.447	0.267	0.267	0.307
	B	sec/veh	0.568	0.568	0.460	0.127	7.356	2.307	2.283	-10.403
	C	sec/veh	1.380	1.316	10.740	5.086	24.102	5.642	5.616	20.384
Average Queue Delay	D	sec/veh	21	21	60	54	221	41	41	-105
	x>x'									
	Z		-0.360	-0.360	-0.396	-0.608	-0.060	-0.155	-0.156	0.053
	X'		0.716	0.719	0.678	0.678	0.678	0.707	0.707	0.686
	No	veh	-0.320	-0.334	-0.294	-0.760	2.192	1.225	1.208	5.562
Average Queue Delay	D	sec/veh	17	17	45	31	107	39	39	105
Average Delay		**sec/veh**	**21**	**21**	**60**	**54**	**107**	**39**	**39**	**105**
Average Queue	N = q(r/2+d)	veh	7.091	7.564	2.794	1.615	10.569	11.874	11.838	-5.961
Average Queue Length	NL/n	metre	43	45	17	10	63	71	71	-36
Average Queue	N=qr	veh	7.938	8.504	2.654	1.615	4.154	10.969	10.953	6.068
Average Queue Length	NL/n	metre	48	51	16	10	25	66	66	36
Average Queue	N=qr+No	veh	7.619	8.170	2.360	0.856	6.346	12.193	12.161	11.630
Average Queue Length	NL/n	metre	46	49	14	5	38	73	73	70
Average Queue Length		**metre**	**48**	**51**	**17**	**10**	**38**	**73**	**73**	**70**

Queue Length Analysis

SYSTRA MVA **MVA Hong Kong Ltd.**

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) PM
Junction Name	J5 Ting Kok Rd/Dai Kwai St	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement							
			TKR EB SL	TKR EB 2 L	TKR EB 3 L	DKS NB SL	DKS NB 2 L	TKR WB SL	TKR WB 2 L	TKR WB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120	120
Effective green time	g	sec	66	66	12	12	12	49	49	49
		pcu/hr	748	802	40	90	120	603	602	250
Design flow	q	veh/sec	0.160	0.171	0.009	0.019	0.026	0.129	0.129	0.053
		pcu/hr	1955	2095	1905	1785	1915	2095	2095	930
Saturation flow	Q	veh/sec	0.418	0.448	0.407	0.381	0.409	0.448	0.448	0.199
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.550	0.550	0.100	0.100	0.100	0.408	0.408	0.408
Degree of saturation	x		0.696	0.696	0.210	0.504	0.627	0.705	0.704	0.658
	M		19.179	20.564	1.026	2.308	3.077	15.462	15.436	6.410
	y		0.383	0.383	0.021	0.050	0.063	0.288	0.287	0.269
	Qt	veh/sec	206.779	221.587	36.635	34.327	36.827	164.511	164.511	73.029
	x<1									
	A	sec/veh	0.164	0.164	0.414	0.427	0.432	0.246	0.246	0.239
	B	sec/veh	0.795	0.797	0.028	0.256	0.526	0.842	0.836	0.634
	C	sec/veh	1.942	1.859	1.549	8.063	11.461	3.058	3.041	4.172
Average Queue Delay	D	sec/veh	23	22	51	56	61	33	33	36
	x>x'									
	Z		-0.304	-0.304	-0.790	-0.496	-0.373	-0.295	-0.296	-0.342
	X'		0.716	0.719	0.678	0.678	0.678	0.707	0.707	0.686
	No	veh	-0.100	-0.115	-0.951	-0.562	-0.214	-0.009	-0.014	-0.124
Average Queue Delay	D	sec/veh	19	19	26	36	47	29	29	27
Average Delay		**sec/veh**	**23**	**22**	**51**	**56**	**61**	**33**	**33**	**36**
Average Queue	N = q(r/2+d)	veh	7.945	8.479	0.900	2.124	2.946	8.822	8.802	3.842
Average Queue Length	NL/n	metre	48	51	5	13	18	53	53	23
Average Queue	N=qr	veh	8.631	9.254	0.923	2.077	2.769	9.148	9.133	3.793
Average Queue Length	NL/n	metre	52	56	6	12	17	55	55	23
Average Queue	N=qr+No	veh	8.530	9.139	-0.028	1.515	2.555	9.140	9.119	3.669
Average Queue Length	NL/n	metre	51	55	0	9	15	55	55	22
Average Queue Length		**metre**	**52**	**56**	**6**	**13**	**18**	**55**	**55**	**23**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) AM
Junction Name	J6 Ting Kok Rd Access Rd to Fortune Garden	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement							
		Unit	SiteB SB	TKR WB SL	TKR WB 2 L	TKR WB 3 L	FG NB	TKR EB SL	TKR EB 2 L	TKR EB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120	120
Effective green time	g	sec	7	46	46	18	11	61	61	10
		pcu/hr	40	596	639	5	15	440	475	10
Design flow	q	veh/sec	0.009	0.127	0.137	0.001	0.003	0.094	0.101	0.002
		pcu/hr	1770	1945	2085	1895	1800	1900	2055	1310
Saturation flow	Q	veh/sec	0.378	0.416	0.446	0.405	0.385	0.406	0.439	0.280
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.058	0.383	0.383	0.150	0.092	0.508	0.508	0.083
Degree of saturation	x		0.387	0.799	0.799	0.018	0.091	0.456	0.455	0.092
	M		1.026	15.282	16.385	0.128	0.385	11.282	12.179	0.256
	y		0.023	0.306	0.306	0.003	0.008	0.232	0.231	0.008
	Qt	veh/sec	19.856	143.381	153.702	54.663	31.731	185.737	200.889	20.994
	x<1									
	A	sec/veh	0.454	0.274	0.274	0.362	0.416	0.157	0.157	0.423
	B	sec/veh	0.123	1.593	1.594	0.000	0.005	0.191	0.190	0.005
	C	sec/veh	8.729	5.269	5.033	0.005	0.406	0.436	0.411	0.599
Average Queue Delay	D	sec/veh	60	40	40	44	51	20	20	52
	x>x'									
	Z		-0.613	-0.201	-0.201	-0.982	-0.909	-0.544	-0.545	-0.908
	X'		0.674	0.702	0.704	0.682	0.677	0.711	0.715	0.675
	No	veh	-0.811	0.695	0.683	-1.056	-1.042	-0.715	-0.725	-1.087
Average Queue Delay	D	sec/veh	18	37	37	26	20	15	16	4
Average Delay		**sec/veh**	**60**	**37**	**37**	**44**	**51**	**20**	**20**	**52**
Average Queue	N = q(r/2+d)	veh	0.996	9.823	10.451	0.101	0.338	4.698	5.057	0.229
Average Queue Length	NL/n	metre	6	59	63	1	2	28	30	1
Average Queue	N=qr	veh	0.966	9.424	10.104	0.109	0.349	5.547	5.988	0.235
Average Queue Length	NL/n	metre	6	57	61	1	2	33	36	1
Average Queue	N=qr+No	veh	0.155	10.119	10.787	-0.947	-0.693	4.832	5.264	-0.852
Average Queue Length	NL/n	metre	1	61	65	-6	-4	29	32	-5
Average Queue Length		**metre**	**6**	**61**	**65**	**1**	**2**	**33**	**36**	**1**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) PM
Junction Name	J6 Ting Kok Rd Access Rd to Fortune Garden	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement							
		Unit	SiteB SB	TKR WB SL	TKR WB 2 L	TKR WB 3 L	FG NB	TKR EB SL	TKR EB 2 L	TKR EB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120	120
Effective green time	g	sec	7	46	46	18	11	61	61	10
		pcu/hr	15	448	482	5	15	535	575	20
Design flow	q	veh/sec	0.003	0.096	0.103	0.001	0.003	0.114	0.123	0.004
		pcu/hr	1770	1940	2085	1895	1800	1910	2055	1310
Saturation flow	Q	veh/sec	0.378	0.415	0.446	0.405	0.385	0.408	0.439	0.280
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.058	0.383	0.383	0.150	0.092	0.508	0.508	0.083
Degree of saturation	x		0.145	0.602	0.603	0.018	0.091	0.551	0.550	0.183
	M		0.385	11.487	12.359	0.128	0.385	13.718	14.744	0.513
	y		0.008	0.231	0.231	0.003	0.008	0.280	0.280	0.015
	Qt	veh/sec	19.856	143.013	153.702	54.663	31.731	186.715	200.889	20.994
	x<1									
	A	sec/veh	0.447	0.247	0.247	0.362	0.416	0.168	0.168	0.427
	B	sec/veh	0.012	0.456	0.458	0.000	0.005	0.338	0.337	0.021
	C	sec/veh	1.773	2.105	2.013	0.005	0.406	0.909	0.862	2.015
Average Queue Delay	D	sec/veh	56	32	32	44	51	22	22	54
	x>x'									
	Z		-0.855	-0.398	-0.397	-0.982	-0.909	-0.449	-0.450	-0.817
	X'		0.674	0.702	0.704	0.682	0.677	0.711	0.715	0.675
	No	veh	-1.061	-0.380	-0.387	-1.056	-1.042	-0.543	-0.555	-1.025
Average Queue Delay	D	sec/veh	6	27	27	26	20	18	18	7
Average Delay		**sec/veh**	**56**	**32**	**32**	**44**	**51**	**22**	**22**	**54**
Average Queue	N = q(r/2+d)	veh	0.360	6.637	7.118	0.101	0.338	5.910	6.330	0.466
Average Queue Length	NL/n	metre	2	40	43	1	2	35	38	3
Average Queue	N=qr	veh	0.362	7.084	7.621	0.109	0.349	6.745	7.249	0.470
Average Queue Length	NL/n	metre	2	43	46	1	2	40	43	3
Average Queue	N=qr+No	veh	-0.699	6.704	7.234	-0.947	-0.693	6.202	6.694	-0.555
Average Queue Length	NL/n	metre	-4	40	43	-6	-4	37	40	-3
Average Queue Length		**metre**	**2**	**43**	**46**	**1**	**2**	**40**	**43**	**3**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) AM
Junction Name	J7 Ting Kok Road / Lo Fai Road	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement						
		Unit	LFR SB SL	LFR SB 2 L	TKR WB 3 L	TKR WB 2 L	TKR WB SL	TKR EB SL	TKR EB 2 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	26	26	82	82	15	65	65
		pcu/hr	336	329	594	636	50	138	737
Design flow	q	veh/sec	0.072	0.070	0.127	0.136	0.011	0.029	0.157
		pcu/hr	1795	1760	1945	2085	1745	390	2085
Saturation flow	Q	veh/sec	0.384	0.376	0.416	0.446	0.373	0.083	0.446
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.217	0.217	0.683	0.683	0.125	0.542	0.542
Degree of saturation	x		0.864	0.863	0.447	0.446	0.229	0.653	0.653
	M		8.615	8.436	15.231	16.308	1.282	3.538	18.897
	y		0.187	0.187	0.305	0.305	0.029	0.354	0.353
	Qt	veh/sec	74.792	73.333	255.593	273.990	41.947	40.625	217.188
	x<1								
	A	sec/veh	0.377	0.377	0.072	0.072	0.394	0.163	0.162
	B	sec/veh	2.743	2.712	0.181	0.180	0.034	0.615	0.613
	C	sec/veh	11.823	11.940	0.162	0.154	1.383	4.524	1.474
Average Queue Delay	D	sec/veh	72	72	10	10	49	36	22
	x>x'								
	Z		-0.136	-0.137	-0.553	-0.554	-0.771	-0.347	-0.347
	X'		0.687	0.686	0.727	0.731	0.679	0.679	0.718
	No	veh	1.508	1.488	-0.767	-0.779	-0.929	-0.113	-0.286
Average Queue Delay	D	sec/veh	63	64	6	6	27	17	18
Average Delay		**sec/veh**	**63**	**64**	**10**	**10**	**49**	**36**	**22**
Average Queue	N = q(r/2+d)	veh	8.520	8.360	3.671	3.918	1.085	1.868	7.782
Average Queue Length	NL/n	metre	51	50	22	24	7	11	47
Average Queue	N=qr	veh	6.749	6.608	4.823	5.164	1.122	1.622	8.661
Average Queue Length	NL/n	metre	40	40	29	31	7	10	52
Average Queue	N=qr+No	veh	8.257	8.097	4.056	4.385	0.192	1.508	8.376
Average Queue Length	NL/n	metre	50	49	24	26	1	9	50
Average Queue Length		**metre**	**50**	**49**	**29**	**31**	**7**	**11**	**52**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement) PM
Junction Name	J7 Ting Kok Road / Lo Fai Road	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement						
			LFR SB SL	LFR SB 2 L	TKR WB 3 L	TKR WB 2 L	TKR WB SL	TKR EB SL	TKR EB 2 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	24	24	84	84	15	67	67
		pcu/hr	293	287	437	468	45	173	927
Design flow	q	veh/sec	0.063	0.061	0.093	0.100	0.010	0.037	0.198
		pcu/hr	1790	1760	1945	2085	1745	390	2085
Saturation flow	Q	veh/sec	0.382	0.376	0.416	0.446	0.373	0.083	0.446
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.200	0.200	0.700	0.700	0.125	0.558	0.558
Degree of saturation	x		0.818	0.815	0.321	0.321	0.206	0.794	0.796
	M		7.513	7.359	11.205	12.000	1.154	4.436	23.769
	y		0.164	0.163	0.225	0.224	0.026	0.444	0.445
	Qt	veh/sec	68.846	67.692	261.827	280.673	41.947	41.875	223.870
	x<1								
	A	sec/veh	0.383	0.382	0.058	0.058	0.393	0.175	0.176
	B	sec/veh	1.845	1.800	0.076	0.076	0.027	1.536	1.557
	C	sec/veh	11.148	11.175	0.030	0.029	1.125	9.595	3.168
Average Queue Delay	D	sec/veh	64	64	8	8	49	53	26
	x>x'								
	Z		-0.182	-0.185	-0.679	-0.679	-0.794	-0.206	-0.204
	X'		0.685	0.685	0.728	0.732	0.679	0.679	0.720
	No	veh	0.954	0.922	-0.909	-0.918	-0.948	0.720	0.550
Average Queue Delay	D	sec/veh	58	58	4	4	27	37	23
Average Delay		**sec/veh**	**58**	**58**	**8**	**8**	**49**	**37**	**23**
Average Queue	N = q(r/2+d)	veh	7.026	6.872	2.404	2.569	0.974	2.938	10.352
Average Queue Length	NL/n	metre	42	41	14	15	6	18	62
Average Queue	N=qr	veh	6.010	5.887	3.362	3.600	1.010	1.959	10.498
Average Queue Length	NL/n	metre	36	35	20	22	6	12	63
Average Queue	N=qr+No	veh	6.964	6.809	2.453	2.682	0.062	2.679	11.049
Average Queue Length	NL/n	metre	42	41	15	16	0	16	66
Average Queue Length		**metre**	**42**	**41**	**20**	**22**	**6**	**16**	**66**

Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) AM
Junction Name	J8 Ting Kok Road / Fung Yuen Road	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

		Unit	Movement						
			TKR EB SL	TKR EB 2 L	FYR SB SL	FYR SB 2 L	TKR WB SL	TKR WB 2 L	TKR WB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	61	61	12	12	73	73	7
		pcu/hr	898	987	164	176	903	967	35
Design flow	q	veh/sec	0.192	0.211	0.035	0.038	0.193	0.207	0.007
		pcu/hr	1915	2105	1850	1980	1945	2085	1010
Saturation flow	Q	veh/sec	0.409	0.450	0.395	0.423	0.416	0.446	0.216
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.508	0.508	0.100	0.100	0.608	0.608	0.058
Degree of saturation	x		0.922	0.922	0.886	0.889	0.763	0.762	0.594
	M		23.026	25.308	4.205	4.513	23.154	24.795	0.897
	y		0.469	0.469	0.089	0.089	0.464	0.464	0.035
	Qt	veh/sec	187.204	205.777	35.577	38.077	227.540	243.918	11.330
	x<1								
	A	sec/veh	0.228	0.228	0.444	0.445	0.143	0.143	0.459
	B	sec/veh	5.489	5.482	3.462	3.556	1.230	1.223	0.435
	C	sec/veh	6.680	6.270	22.152	21.277	2.458	2.336	25.417
Average Queue Delay	D	sec/veh	49	47	130	127	21	21	88
	x>x'								
	Z		-0.078	-0.078	-0.114	-0.111	-0.237	-0.238	-0.406
	X'		0.712	0.716	0.678	0.678	0.721	0.724	0.673
	No	veh	2.912	2.924	1.556	1.612	0.267	0.239	-0.340
Average Queue Delay	D	sec/veh	41	40	93	91	18	18	28
Average Delay		**sec/veh**	**41**	**40**	**93**	**91**	**18**	**18**	**88**
Average Queue	N = q(r/2+d)	veh	15.108	16.140	6.446	6.792	8.605	9.143	1.079
Average Queue Length	NL/n	metre	91	97	39	41	52	55	6
Average Queue	N=qr	veh	11.321	12.443	3.785	4.062	9.069	9.711	0.845
Average Queue Length	NL/n	metre	68	75	23	24	54	58	5
Average Queue	N=qr+No	veh	14.233	15.367	5.341	5.674	9.336	9.950	0.505
Average Queue Length	NL/n	metre	85	92	32	34	56	60	3
Average Queue Length		**metre**	**85**	**92**	**32**	**34**	**56**	**60**	**6**

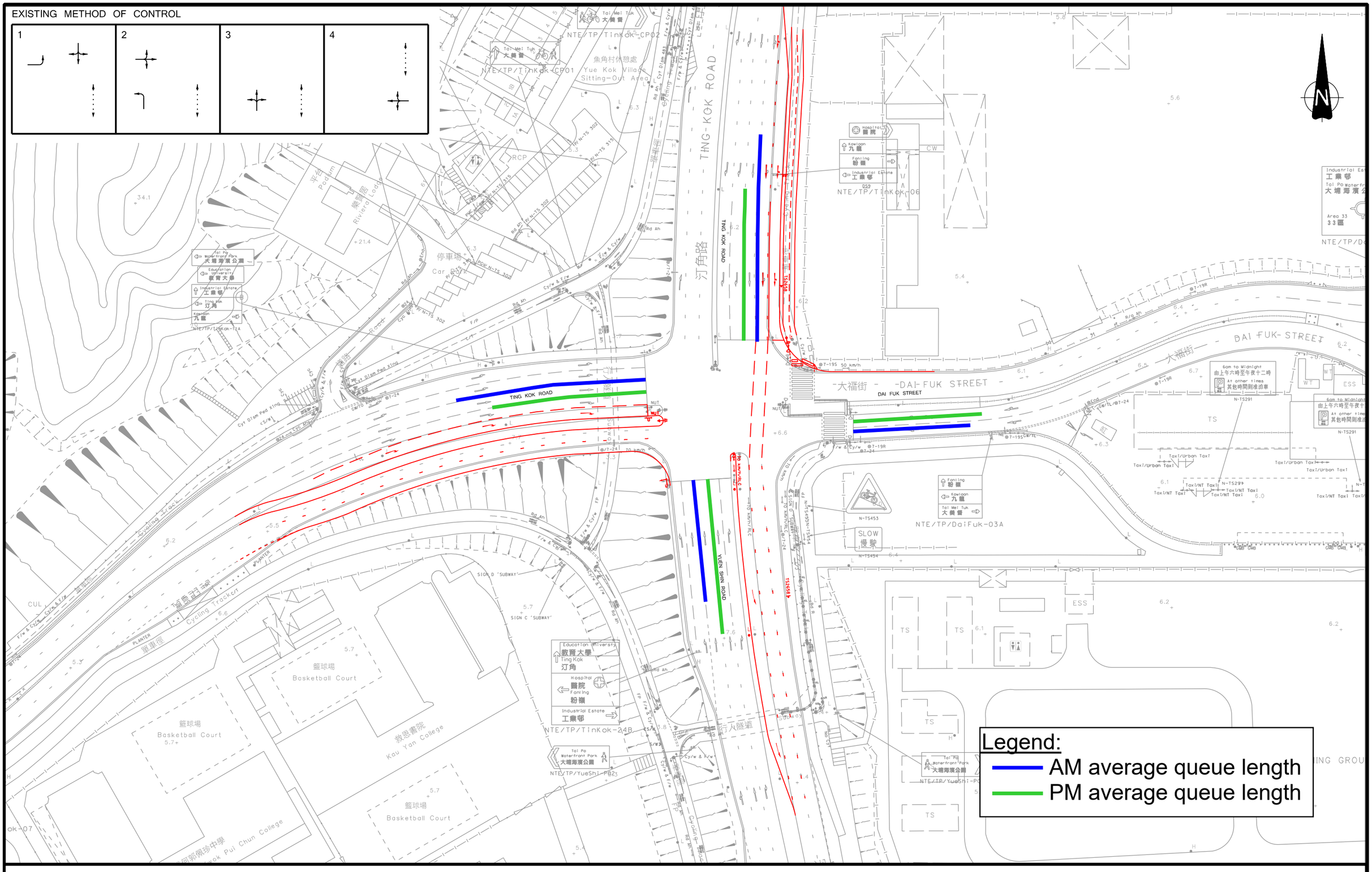
Queue Length Analysis

MVA Hong Kong Ltd.

Job No.	CHK50539711	Description	All bound
Job Title	Land Sharing Pilot Scheme at UDWYT Lot 14 RP and Lot 11 RP, Tai Po	Design Year	2036 Design Weekday (Improvement with J4 further improvement) PM
Junction Name	J8 Ting Kok Road / Fung Yuen Road	Designed By	TLY
Approach	All bound	Checked By	TKM
Probability(1% / 5%)?	5%		

			Movement						
		Unit	TKR EB SL	TKR EB 2 L	FYR SB SL	FYR SB 2 L	TKR WB SL	TKR WB 2 L	TKR WB 3 L
Cycle time	c	sec	120	120	120	120	120	120	120
Effective green time	g	sec	62	62	12	12	73	73	6
		pcu/hr	934	1031	123	132	743	797	10
Design flow	q	veh/sec	0.200	0.220	0.026	0.028	0.159	0.170	0.002
		pcu/hr	1905	2105	1840	1980	1945	2085	1010
Saturation flow	Q	veh/sec	0.407	0.450	0.393	0.423	0.416	0.446	0.216
PCU factor	f	pcu/veh	1.3	1.3	1.3	1.3	1.3	1.3	1.3
No. of lanes	n	lane	1	1	1	1	1	1	1
Length of a vehicle	L	metre	6	6	6	6	6	6	6
Queue duration	t	hr	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500
Ratio of effective green	g/c		0.517	0.517	0.100	0.100	0.608	0.608	0.050
Degree of saturation	x		0.949	0.948	0.668	0.667	0.628	0.628	0.198
	M		23.949	26.436	3.154	3.385	19.051	20.436	0.256
	y		0.490	0.490	0.067	0.067	0.382	0.382	0.010
	Qt	veh/sec	189.279	209.151	35.385	38.077	227.540	243.918	9.712
	x<1								
	A	sec/veh	0.229	0.229	0.434	0.434	0.124	0.124	0.456
	B	sec/veh	8.819	8.636	0.674	0.667	0.530	0.531	0.024
	C	sec/veh	7.384	6.880	13.251	12.556	1.047	1.003	5.055
Average Queue Delay	D	sec/veh	64	60	64	63	17	17	61
	x>x'								
	Z		-0.051	-0.052	-0.332	-0.333	-0.372	-0.372	-0.802
	X'		0.712	0.716	0.678	0.678	0.721	0.724	0.672
	No	veh	3.866	3.891	-0.043	-0.054	-0.377	-0.390	-1.366
Average Queue Delay	D	sec/veh	46	44	51	51	13	13	-72
Average Delay		**sec/veh**	**46**	**44**	**64**	**63**	**17**	**17**	**61**
Average Queue	N = q(r/2+d)	veh	18.621	19.561	3.114	3.304	6.459	6.900	0.252
Average Queue Length	NL/n	metre	112	117	19	20	39	41	2
Average Queue	N=qr	veh	11.575	12.777	2.838	3.046	7.462	8.004	0.244
Average Queue Length	NL/n	metre	69	77	17	18	45	48	1
Average Queue	N=qr+No	veh	15.441	16.669	2.796	2.993	7.085	7.614	-1.122
Average Queue Length	NL/n	metre	93	100	17	18	43	46	-7
Average Queue Length		**metre**	**93**	**100**	**19**	**20**	**45**	**48**	**2**

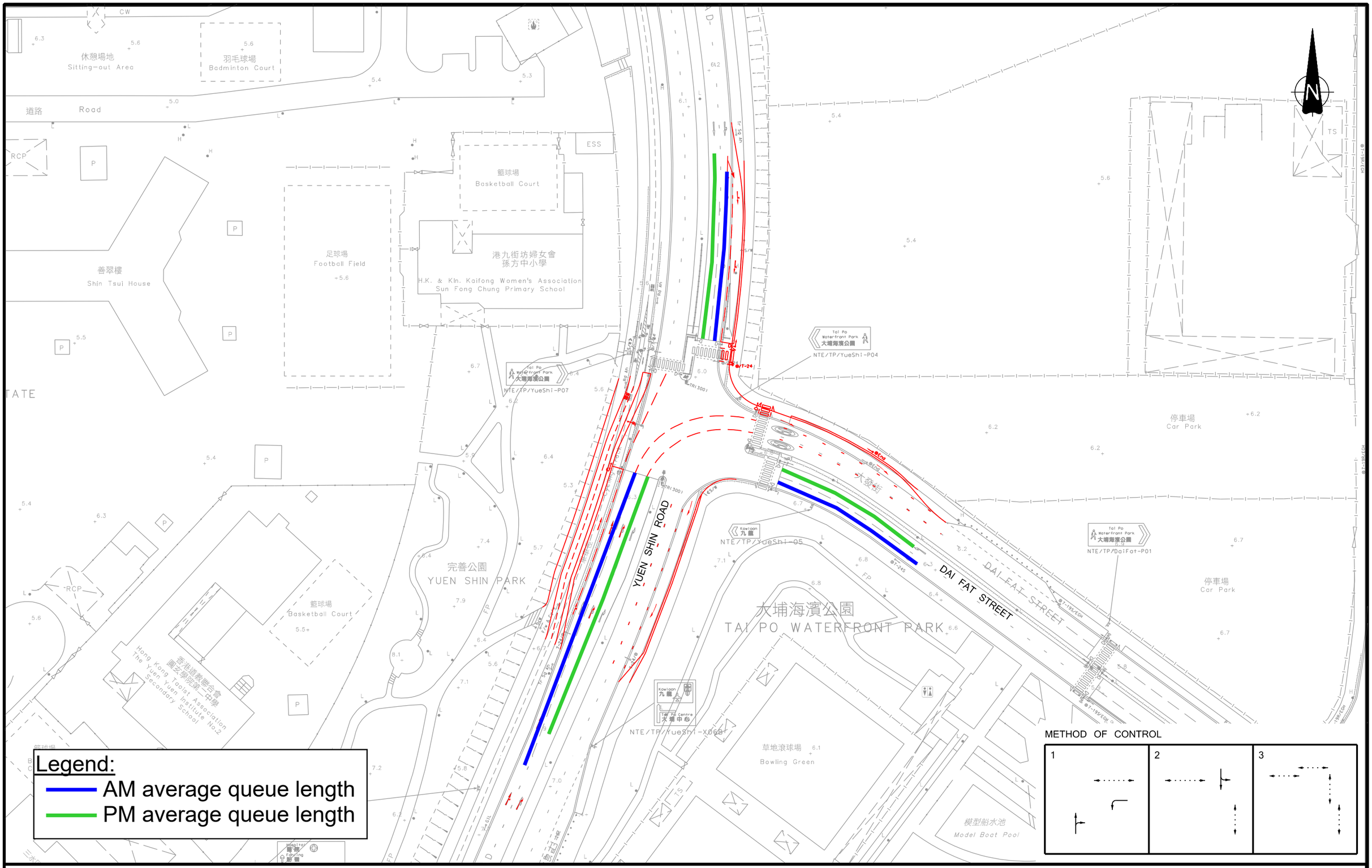
EXISTING METHOD OF CONTROL



Queue Length for J1 Ting Kok Road/Yuen Shin Road/Dai Fuk Street with J4 Further Improvement Scheme in 2036

Scale 1:1000

Drawing no. D1

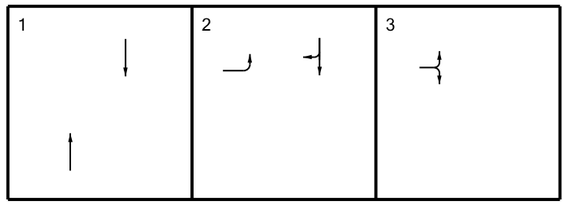


Queue Length for J2 Yuen Shin Road/Dai Fat Street with J4 Further Improvement Scheme in 2036

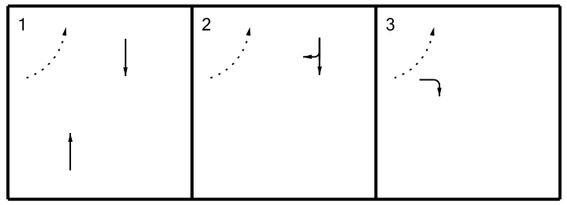
Scale 1:1000

Drawing no. D2

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL



YUEN SHIN ROAD

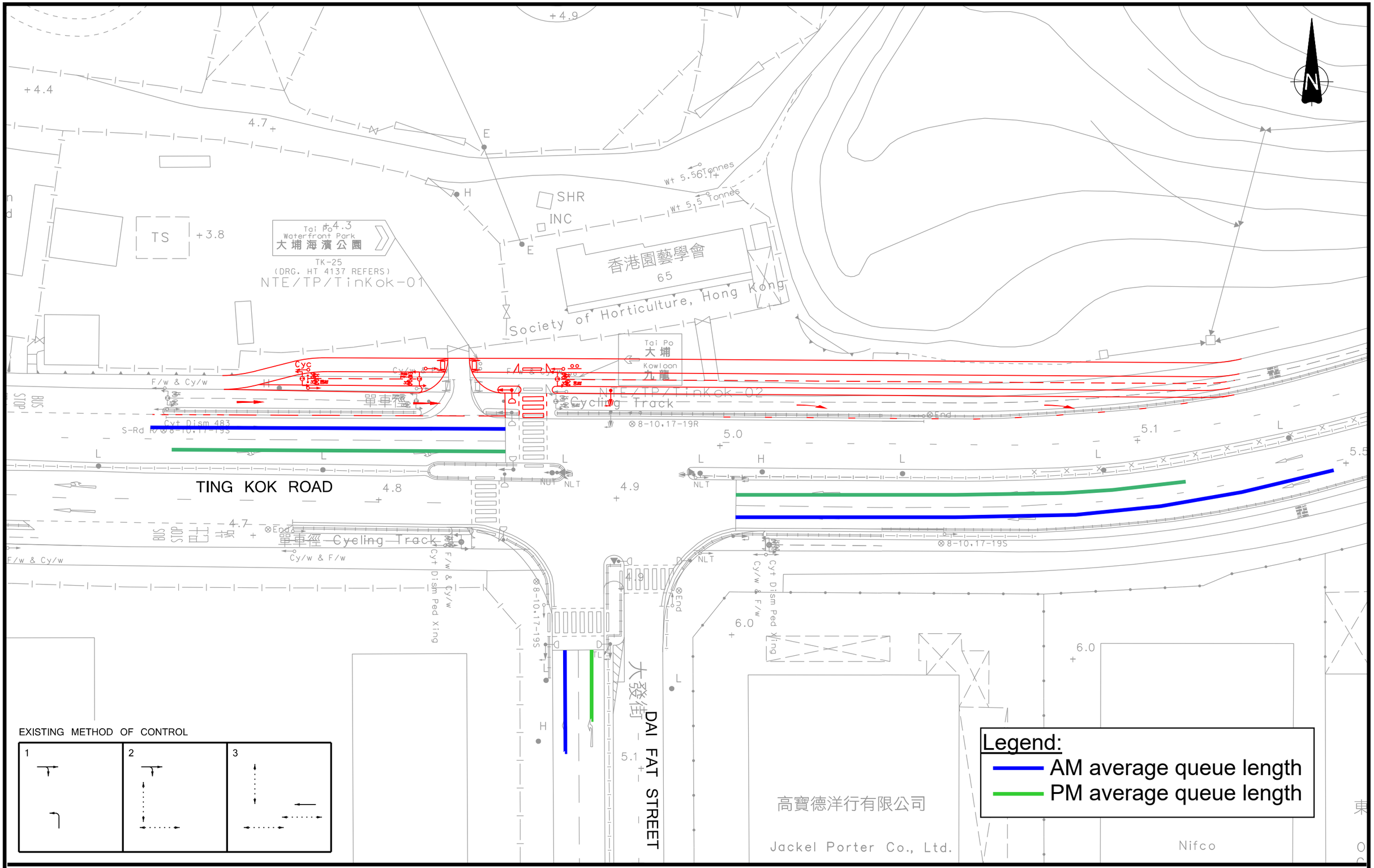
TAI PO TAI WO ROAD

Legend:
- AM average queue length
- PM average queue length

Queue Length for J3 Tai Po Tai Wo Road/Yuen Shin Road with J4 Further Improvement Scheme in 2036

Scale 1:1000

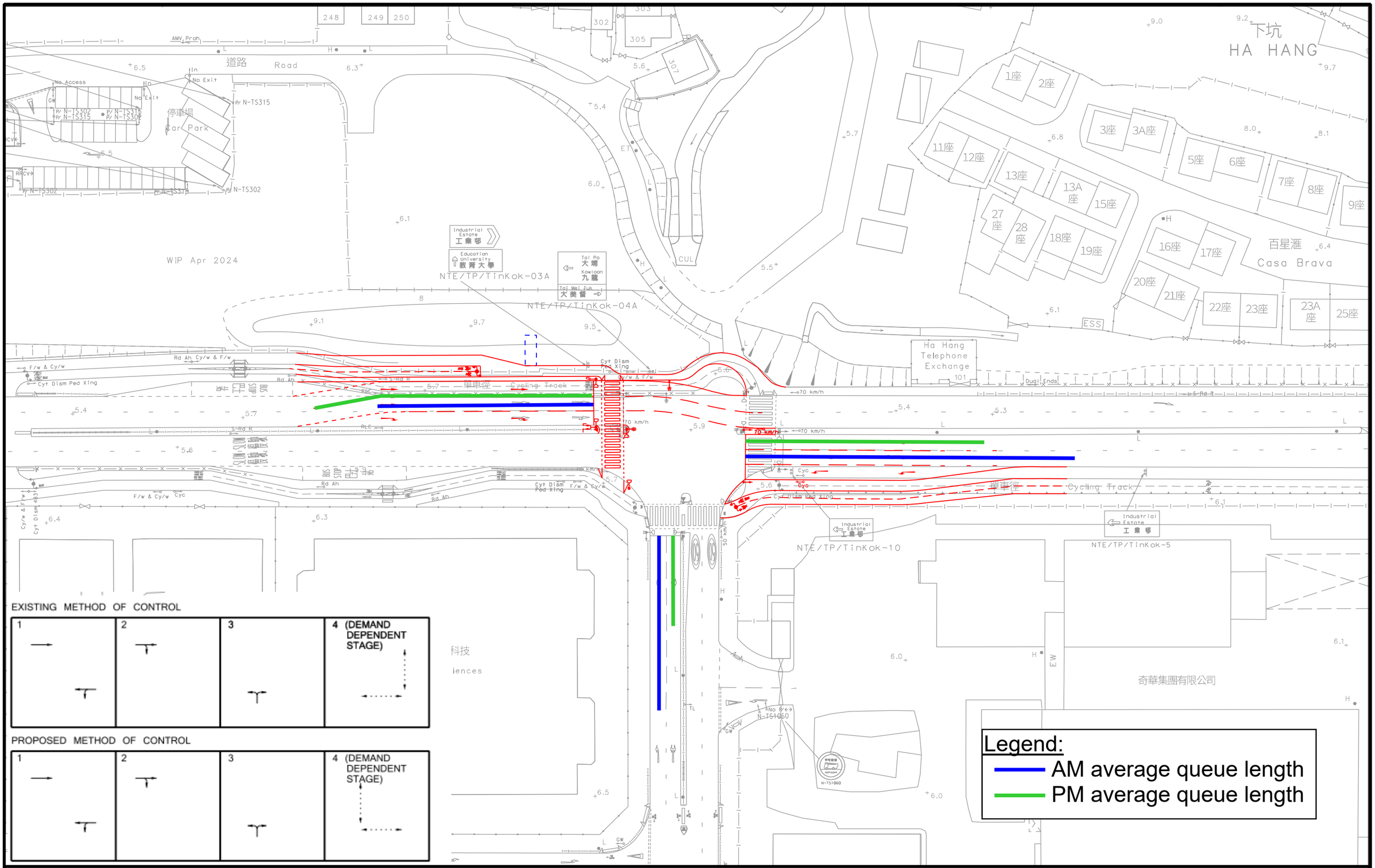
Drawing no. D3



Queue Length for J4 Ting Kok Road/Dai Fat Street with Further Improvement Scheme in 2036

Scale 1:500

Drawing no. D4

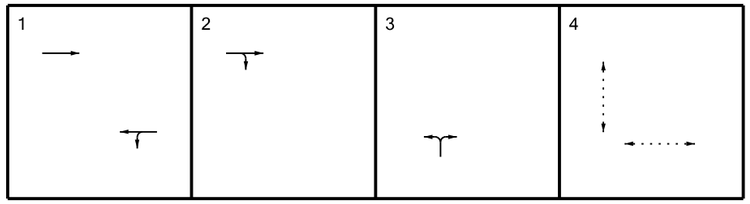


Queue Length for J5 Ting Kok Road/Dai Kwai Street Improvement Scheme in 2036

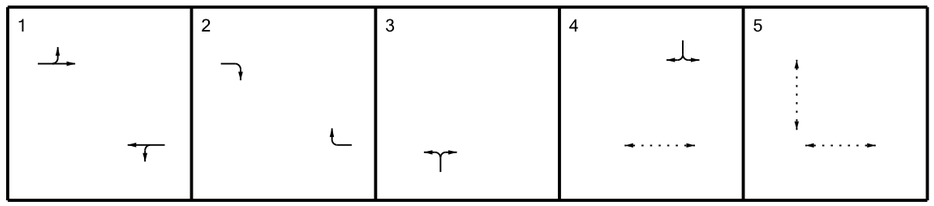
Scale 1:800

Drawing no. D7

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL



SITE B
11RP

TING KOK ROAD

Legend:
AM average queue length
PM average queue length

Queue Length for J6 Ting Kok Road outside Fortune Garden Improvement Scheme in 2036

Scale 1:500

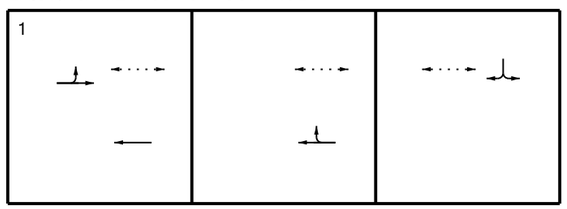
Drawing no. D8

TING KOK ROAD

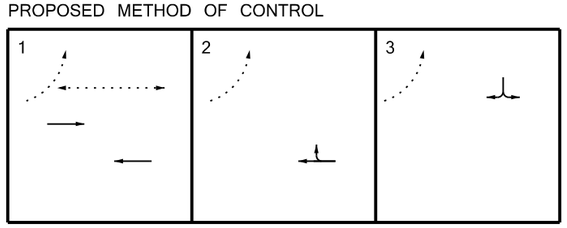
LO FAI ROAD

SITE A
14RP

EXISTING METHOD OF CONTROL



PROPOSED METHOD OF CONTROL

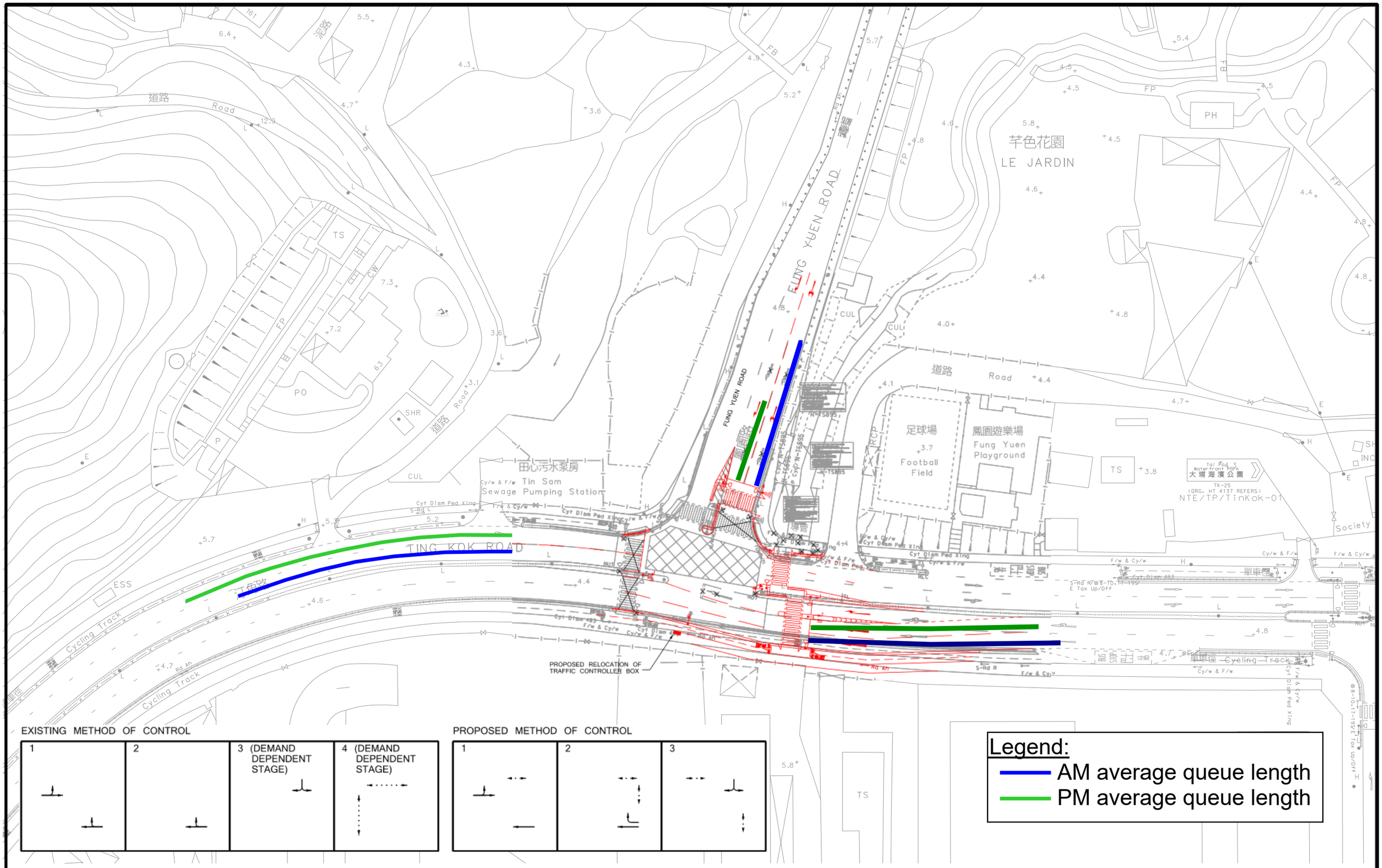


Legend:
- AM average queue length
- PM average queue length

Queue Length for J7 Ting Kok Road/Lo Fai Road Improvement Scheme in 2036

Scale 1:500

Drawing no. D9



Queue Length for J8 Ting Kok Road/Fung Yuen Road with J4 Further Improvement Scheme in 2036

Scale 1:800

Drawing no. D10

APPENDIX E Definition of Level-of-Service (LOS) in Pedestrian Walkway Systems

LOS	Flow Rate (ped/min/m)	Description	Illustration
A	≤ 16	Pedestrians move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.	
B	16 – 23	Sufficient space is provided for pedestrians to freely select their walking speeds, to bypass other pedestrians and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians and to respond to their presence in the selection of walking paths.	
C	23 – 33	Sufficient space is available to select normal walking speeds and to bypass other pedestrians primarily in unidirectional stream. Where reverse direction or crossing movement exit, minor conflicts will occur, and speed and volume will be somewhat lower.	
D	33 – 49	Freedom to select individual walking speeds and bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflicts is high and its avoidance requires changes of speeds and position. The LOS provides reasonable fluid flow; however considerable friction and interactions between pedestrians are likely to occur.	
E	49 – 75	Virtually, all pedestrians would have their normal walking speeds restricted. At the lower range of this LOS, forward movement is possible only be shuffling. Space is insufficient to pass over slower pedestrians. Cross-and reverse-movement are possible only with extreme difficulties. Design volumes approach the limit of walking capacity with resulting stoppages and interruptions to flow.	
F	> 75	Walking speeds are severely restricted. Forward progress is made only by shuffling. There are frequent and unavoidable conflicts with other pedestrians. Cross-and reverse-movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristics of queued pedestrians than of moving pedestrian streams.	

Source: Highway Capacity Manual (HCM) 2000

APPENDIX F

TIME DATA PLAN

Time Data Plan

J1	Existing		120s cycle time	
	AM	PM	AM	PM
1	37	30	44	38
2	21	22	25	28
3	19	21	23	26
4	23	23	28	29
	100	96	120	120

J2	Existing		120s cycle time	
	AM	PM	AM	PM
1	37	39	44	49
2	37	36	44	45
3	26	21	31	26
	100	96	120	120

J3	Existing		120s cycle time	
	AM	PM	AM	PM
1	31	29	37	36
2	35	42	42	53
3	34	25	41	31
	100	96	120	120

J4	Existing		120s cycle time	
	AM	PM	AM	PM
1	34	32	41	40
2	19	20	23	25
3	47	44	56	55
	100	96	120	120

J5	Existing		120s cycle time	
	AM	PM	AM	PM
1	53	33	53	41
2	20	14	20	18
3	19	18	19	23
4	28	31	28	39
	120	96	120	120

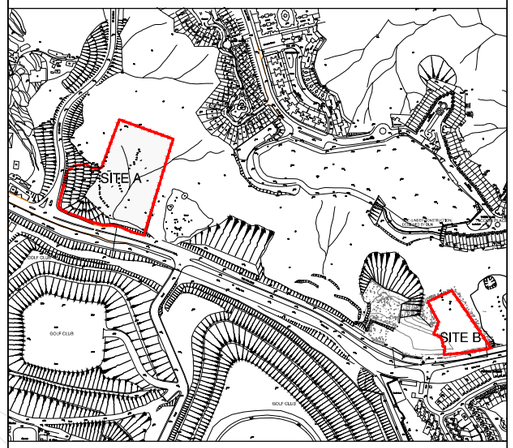
J6	Existing		120s cycle time	
	AM	PM	AM	PM
1	43	42	63	63
2	15	15	10	10
3	17	16	14	14
4	25	23	14	14
5			19	19
	100	96	120	120

J7	Existing		120s cycle time	
	AM	PM	AM	PM
1	69	54	69	68
2	19	16	19	20
3	32	26	32	33
	120	96	120	120

J8	Existing		120s cycle time	
	AM	PM	AM	PM
1	46	42	55	53
2	13	13	16	16
3	16	16	19	20
4	25	25	30	31
	100	96	120	120

APPENDIX G

LAYOUT OF THE FOOTPATH WITHIN SITES A & B



SITE KEY PLAN

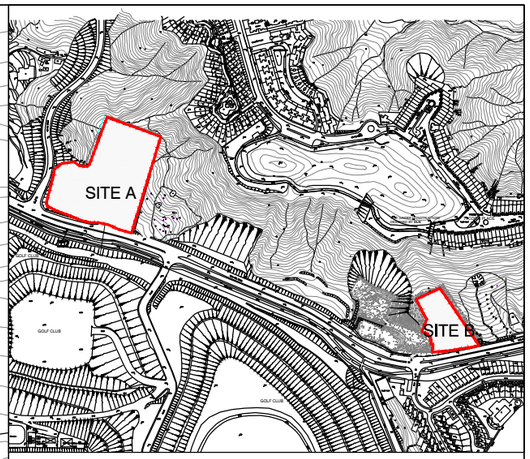
DATE:20241220

LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- PEDESTRIAN FOOTPATH

Site A - Master Layout Plan

Scale 1:1000 (A3)



SITE KEY PLAN

LEGEND:

PROPOSED SITE BOUNDARY

PEDESTRIAN FOOTPATH

PROPOSED INGRESS AND EGRESS

Site B - Master Layout Plan
Scale 1:1000 (A3)

Unsurveyed District at Wong Yue Tan Lot 11 RP and adjoining Government Land ("Site B")

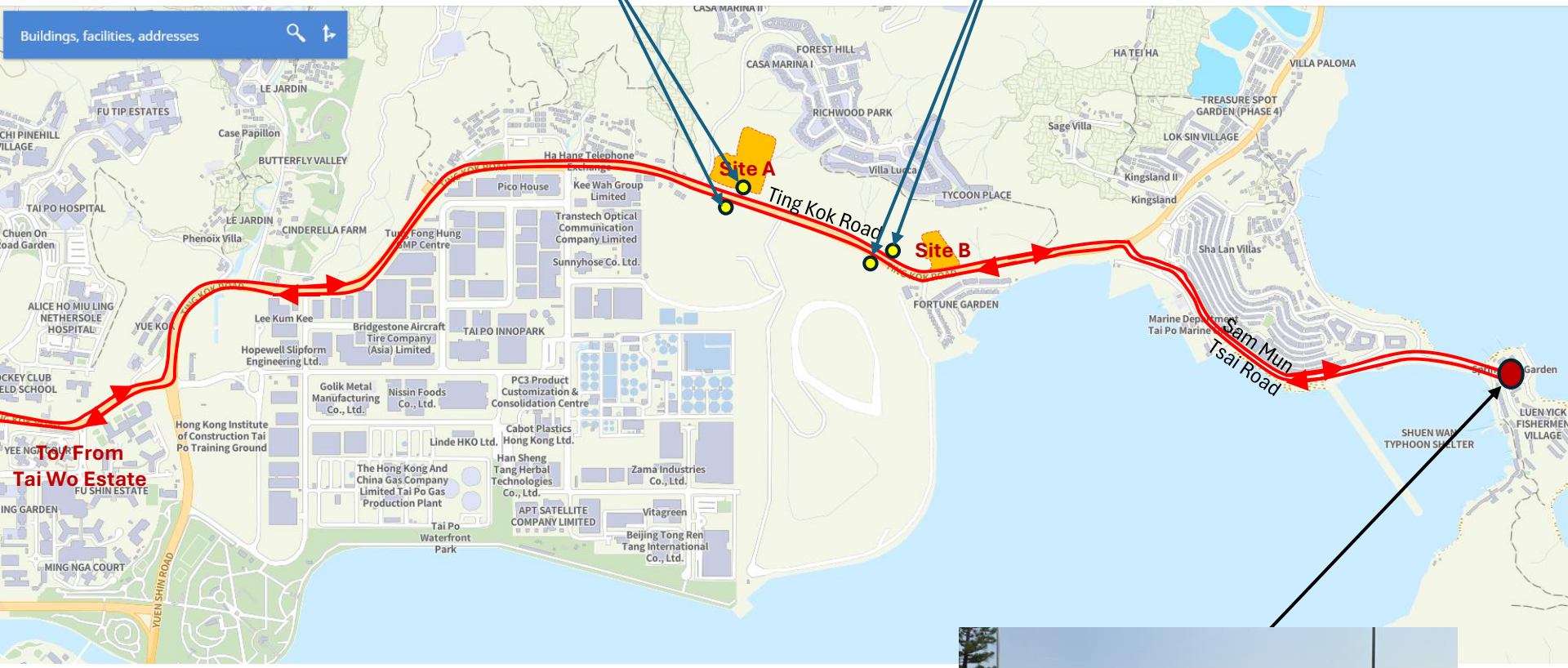
H:\Dwgs\ACAD\Sketches\SK-09\2024-10-15 (11RP & 14RP Section & Flat Mix)(CAD & PDF)\CAD\11RP_MLP_Footpath.dwg, 1:1, Project No.: N3001-H

APPENDIX H

PRELIMINARY ROUTING AND TERMINAL LOCATION FOR THE NEW BUS ROUTE

Propose Bus Stop using existing bus stop lay-by at Ting Kok Road (Eastbound & Westbound) adjacent to Site A / Lo Fai Road

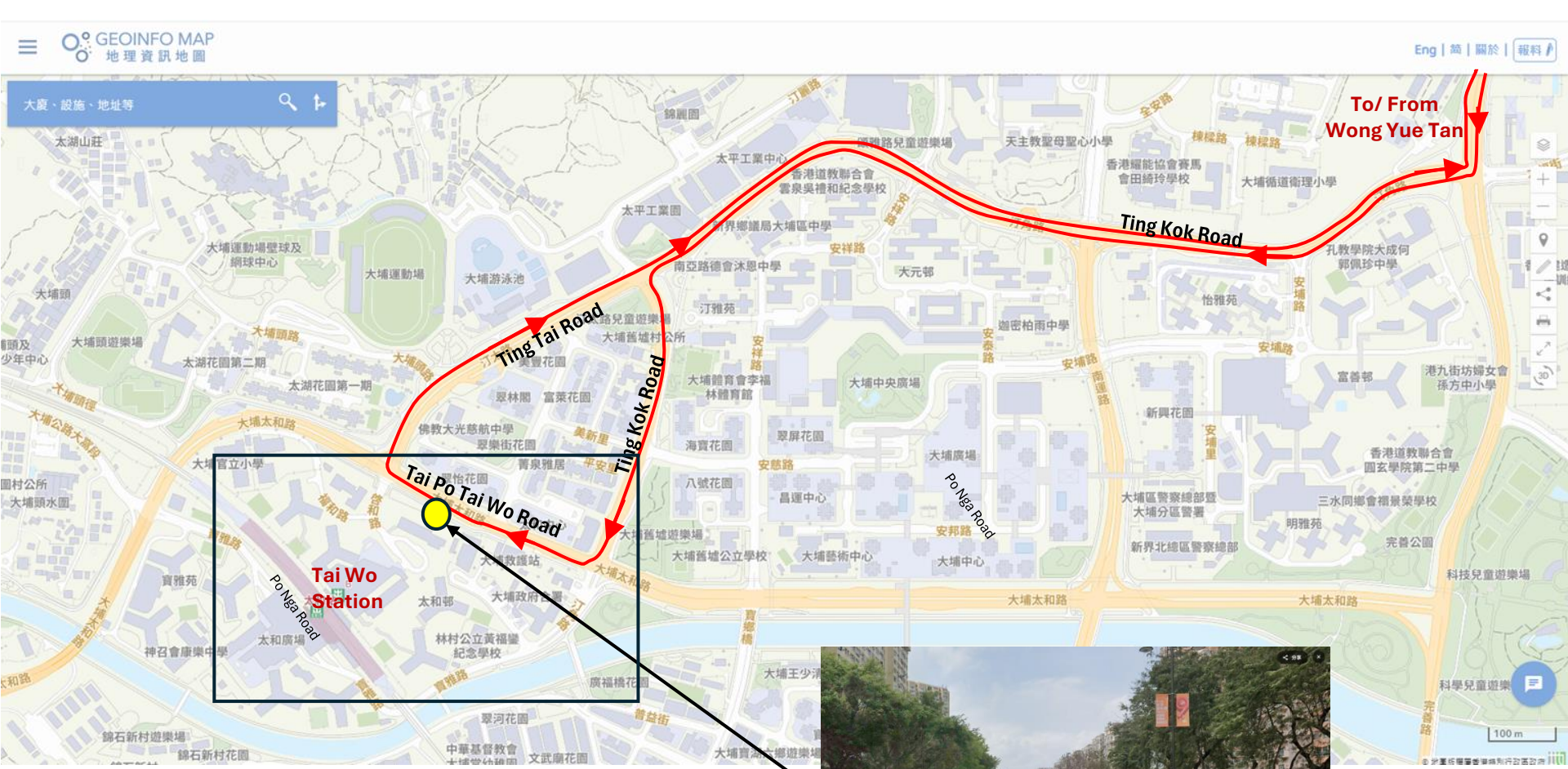
Propose Bus Stop using existing bus stop lay-by at Ting Kok Road (Eastbound & Westbound) adjacent to Site B & Fortune Garden



Legend:

- Proposed Bus Routing
- Propose Bus Terminus

Propose Terminus at Sam Mun Tsai (74K bus stop)



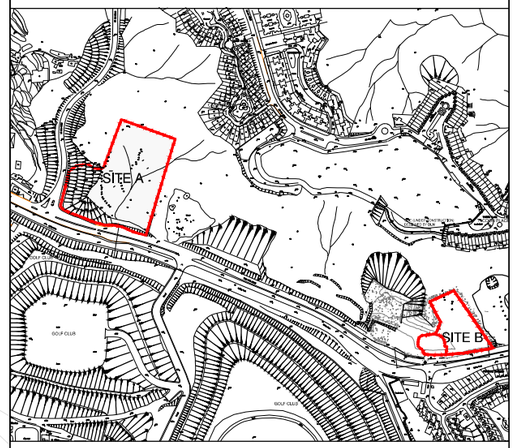
Propose circular route bus stop at Tai Po Tai Wo Road (outside Tai Wo Estate Hang Wo House)

Legend:

- Proposed Bus Routing
- Proposed Bus Stop

APPENDIX I

PROPOSED LOCATION OF THE VEHICULAR ACCESS GATE



SITE KEY PLAN

COMPENSATORY PLANTING AREA FOR WHIP TREES

COMPENSATORY PLANTING AREA FOR WHIP TREES

Proposed Vehicular Access Gate Location

LO FAI ROAD

TING KOK ROAD

T1

T2

T3

T4

T5

CARPARK

SHUTTLE LIFT

+83.00 mPD

+28.00 mPD

+19.00 mPD

+80.00 mPD

+27.00 mPD

+36.00 mPD

+18.50

+15.00

≥15m

≥10m

≥5m

≥5M

A passenger lift and stairs for residents will be provided for direct access to Ting Kok Road footpath

Graves

Cycling Track

FP

DATE:20250212

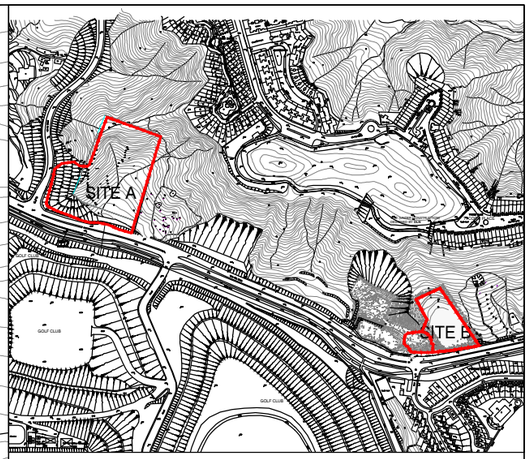
LEGEND

- PROPOSED SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- PROPOSED WHIP TREE PLANTING AREA

Site A - Master Layout Plan

Scale 1:1000 (A3)

H:\Dwgs\ACAD\Sketches\SK-09\2025-02-12(11RP & 14RP Section & Flat Mix)(CAD & PDF) _REVISE\14RP_MLP(Planning Department).dwg, 1:1, Project No.: N3001-H



SITE KEY PLAN

COMPENSATORY
PLANTING AREA
FOR WHIP TREES

+20.5 mPD

+78.20 mPD

+20.5 mPD

+16.00 mPD

+16.00 mPD

+27.60 mPD

+14.50 mPD

EVA

Proposed Vehicular
Access Gate Location

TING KOK ROAD

Graves

FP

Cycling Track

FORTUNE GARDEN

Tennis Court

Road

LEGEND:

- PROPOSED REZONING SITE BOUNDARY
- PROPOSED DEVELOPMENT SITE BOUNDARY
- PROPOSED INGRESS AND EGRESS
- PROPOSED WHIP TREE PLANTING AREA

Site B - Master Layout Plan
Scale 1:1000 (A3)

Table of Content

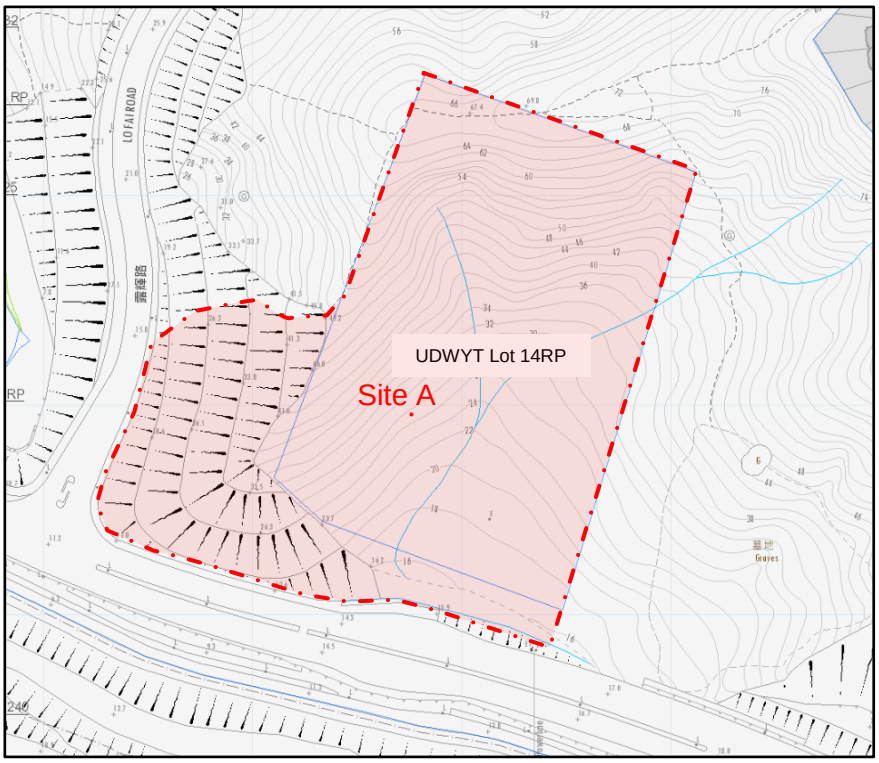
1. PROJECT BACKGROUND
2. DESCRIPTION OF SITE
    - 2.1 Site Topography
    - 2.2 Existing Registered Slope Features
    - 2.3 Surrounding Buildings/structures
3. SITE GEOLOGY
    - 3.1 Existing Site Investigation
    - 3.2 Proposed Site Investigation
    - 3.3 Soil and Rock
    - 3.4 Geotechnical Parameters
    - 3.5 Groundwater
4. PROPOSED DEVELOPMENT
5. GEOTECHNICAL CONSIDERATIONS
    - 5.1 Site formation works
    - 5.2 Impact on Existing Slope Features
    - 5.3 Stability of Natural Terrain
    - 5.4 Proposed Foundation
6. MONITORING SCHEME
7. CONCLUSION

1) PROJECT BACKGROUND

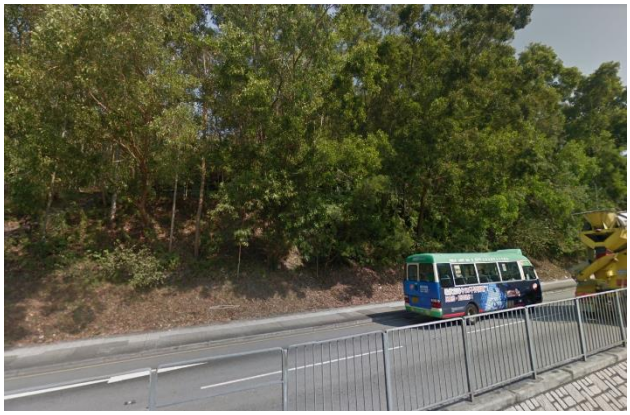
This Geotechnical Assessment Report is prepared for Kam Luk Investment Company Limited ("The Applicant") in support of the development proposal prepared for the Land Sharing Pilot Scheme (“LSPS”) for proposed public residential housing / starter homes (“SH”) development at Lot 14 RP in Unsurveyed District at Wong Yue Tan (“UDWYT Lot 14 RP”) and adjoining Government Land (“Site A”), and proposed private residential development at Lot 11 RP in Unsurveyed District at Wong Yue Tan (“UDWYT Lot 11 RP”) and adjoining Government Land (“Site B”) in Wong Yue Tan, Tai Po. This report presents a geotechnical assessment to evaluate the geotechnical feasibility of the proposed development at Site A.

The proposed development at Site A comprises five residential buildings with the associated building platform, carpark and access road. The proposed run-in/out is located at the west linking to Lo Fai Road.

2) DESCRIPTION OF SITE



Site A is located to the north of Ting Kok Road, partly within UD Wong Yue Tan Lot 14RP. Site A is accessible from Lo Fai Road to the west of the area.



A general view of Site A from Ting Kok Road. There are some existing cut slopes adjacent to Ting Kok Road and Lo Fai Road.

Site A is bounded on the north and east sides by natural hillside. The south side is Ting Kok Road. Lo Fai Road is at the west side of the site.

The proposed development is consisted of 5 numbers of residential buildings with associated building platform, carpark and access road.

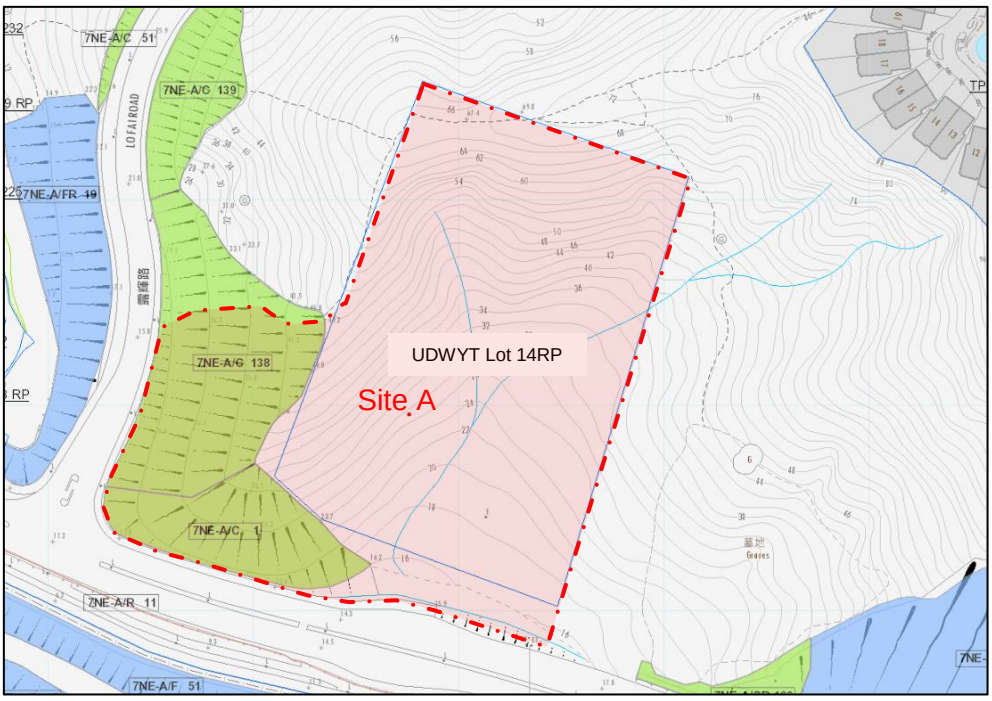
2.1 Site Topography

The site is bounded by natural hillside along the north and east sides, which levels near the site boundary vary between +14mPD and +68mPD.

2 registered slope features are situated in the vicinity of the site and they will be discussed in the following section 2.2.

2.2 Existing Registered Slope Features

There are 2 registered features in the vicinity of the proposed development. The locations of these features are shown in the follow figure.



Current Maintenance responsibility of features in the vicinity of the proposed development:

Feature No.	Sub-division No.	Maintenance Responsibility
7NE-A/C1	-	HyD
7NE-A/C138	-	HyD

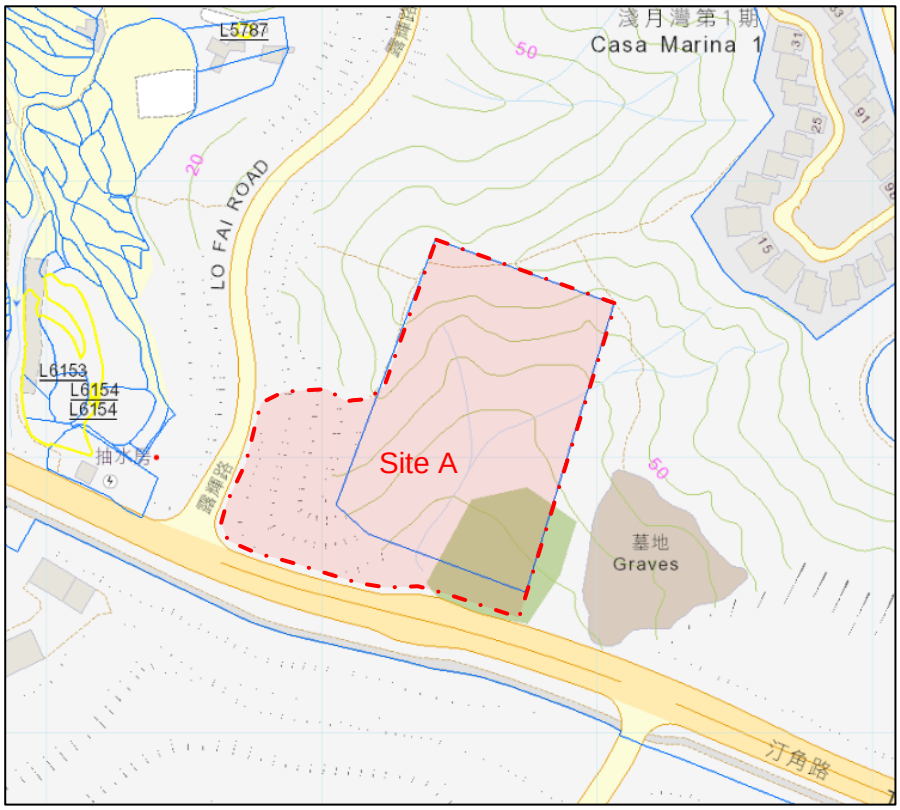
Feature No. 7NE-A/C1 (within the site)

This feature comprised a soil cut slope adjacent to Ting Kok road, located southwest of the site. This slope feature is generally 24m high and 120m long with an average gradient of 35°.

Feature No. 7NE-A/C138 (partly within the site)

This feature comprised a soil cut slope adjacent to Lo Fai road, located west of the site. This slope feature is generally 26m high and 110m long with an average gradient of 27°.

2.3 Surrounding Buildings/structures



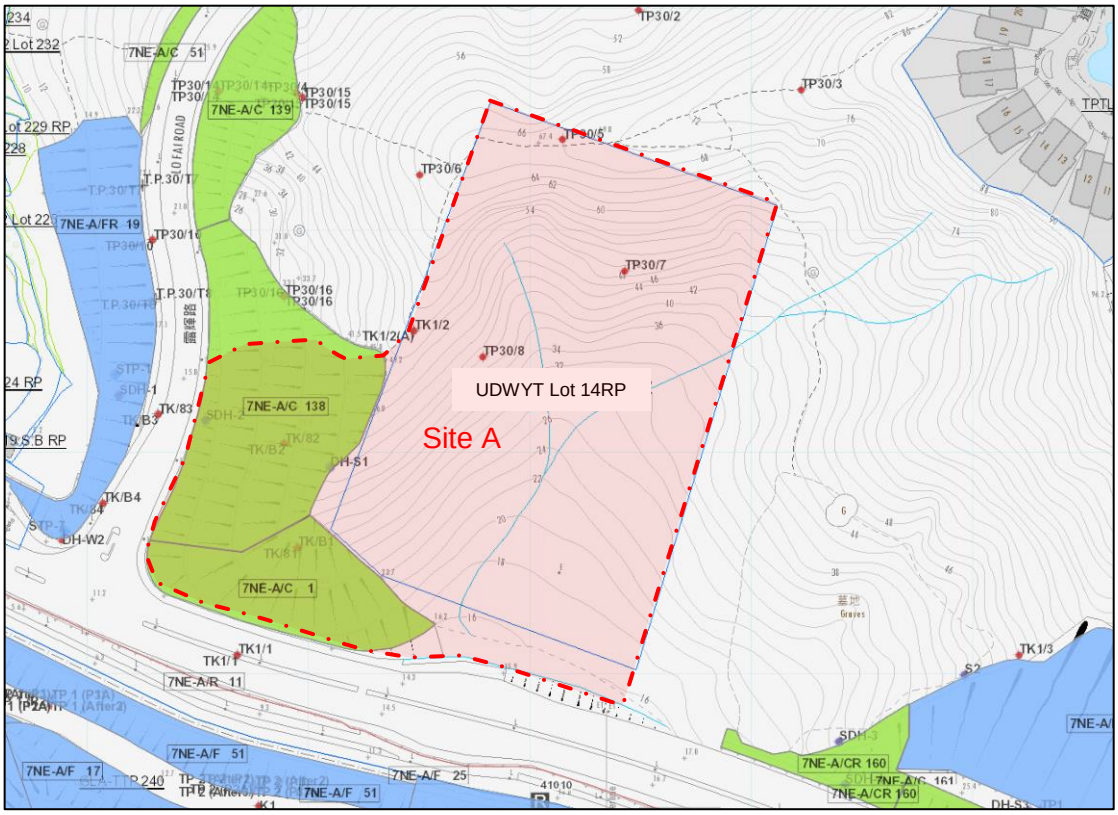
As shown in figure above, to the south and west of Site A is Ting Kok Road and Lo Fai Road, respectively. To the north of the site is a natural hillside, another residential development, namely Casa Marina is located about 50m to the northeast of Site A.

3) SITE GEOLOGY

With reference to the 1:20,000 geological map published by the Geotechnical Control Office, Hong Kong Geological Survey Sheet 7, the solid geology for the area comprises colluvium and Tuff Breccia under Shing Mun formation belonging to Tsuen Wan Volcanic group in middle Jurassic age. This would be confirmed by findings of existing and proposed ground investigation results.

3.1 Existing Site Investigation

Ground investigation records for the existing ground investigation record near Site A are obtained from GIU of GEO.



The borehole TP30/7 (GIU ref: 03407) located near the northern boundary of the study area. The borehole terminated at 6.6m depth(+42.44mPD). The log indicated the geology be high to moderately decomposed Volcanic (H/MDV). Piezometer installed at 5.5m depth (+43.54mPD). 7-days Groundwater monitoring for piezometer at borehole TP30/7 indicated to be dry.

The borehole TP30/8 (GIU ref: 03407) located near the middle of the study area. The borehole terminated at 10m depth(+30.28mPD). The log indicated the geology be completely moderately decomposed Volcanic (CDV). No piezometer/standpipe installed at this borehole.

The borehole TK/B1 (GIU ref: 08298) located at the south-western portion of the study area. The borehole log indicated 4m colluvium underlying by 21.5m CDV to HDV, bedrock rock of M/SDV was encountered at 25.5m depth (+8.2mPD). Piezometer installed at 25.5m depth (+8.2mPD). 7-days Groundwater monitoring for piezometer at this borehole indicated to be dry.

The borehole TK/B2 (GIU ref: 08298) located at the western portion of the study area. The borehole log indicated 4m colluvium underlying by 6.1m CDV to HDV, bedrock rock of M/SDV was encountered at 10.1m depth (+25.3mPD). Piezometer installed at 9m depth (+26.4mPD). 7-days Groundwater monitoring for piezometer at this borehole indicated to be dry.

3.2 Proposed Site Investigation

Site-specific site investigation works would be proposed to obtain information for the future design analyses.

The proposed works include:

- vertical boreholes (with piezometers/standpipes)
- slope stripping
- trial pits
- coreholes

The proposed ground investigation works may be further reviewed.

3.3 Soil and Rock

According to the existing ground investigation records from GIU, generally, the geology within the site is colluvium overlying completely decomposed volcanic (CDV) and then highly decomposed volcanic (HDV) to bedrock of moderately/slightly decomposed volcanic (M/SDV).

Based on the currently available information, general description of each stratum is outlined as below:

- Colluvium –composed of strong, yellowish-brown, reddish-pink, gravel, cobbles and rootlets.

- Completely Decomposed Volcanic– composed of medium dense yellowish-brown to reddish brown/purple, slightly sandy SILT

- Bedrock of Moderately to Slightly Decomposed Volcanic (M/SDGd) – composed of moderately strong to strong, pink/yellowish brown and greyish brown, fine grained moderately to slightly decomposed volcanic.

The bedrock profile in the development area is generally dipping downwards from north to south, about +3mPD to +25mPD.

The site geology shall be reviewed upon the completion of ground investigation works in the future.

3.4 Geotechnical Parameters

Without the laboratory test results from the detailed ground investigation, the recommended soil parameters for preliminary design and analysis are summarised below: -

	Recommended Soil Parameters for Design Purposes		
Soil Type	Bulk Density	Effective cohesion c'	Effective friction ϕ'
Colluvium	19	2	35
CDV	19	5	35
HDV	19	7	38

The recommended soil strength parameters for Colluvium and CDV are within the typical range of the geotechnical parameters as suggested in Table 8 of the GEOGUIDE I [GEO, 2020]. And the parameters for HDV are assumed based on our previous job experience.

The geotechnical parameters will be reviewed upon the completion of future ground investigation and laboratory tests.

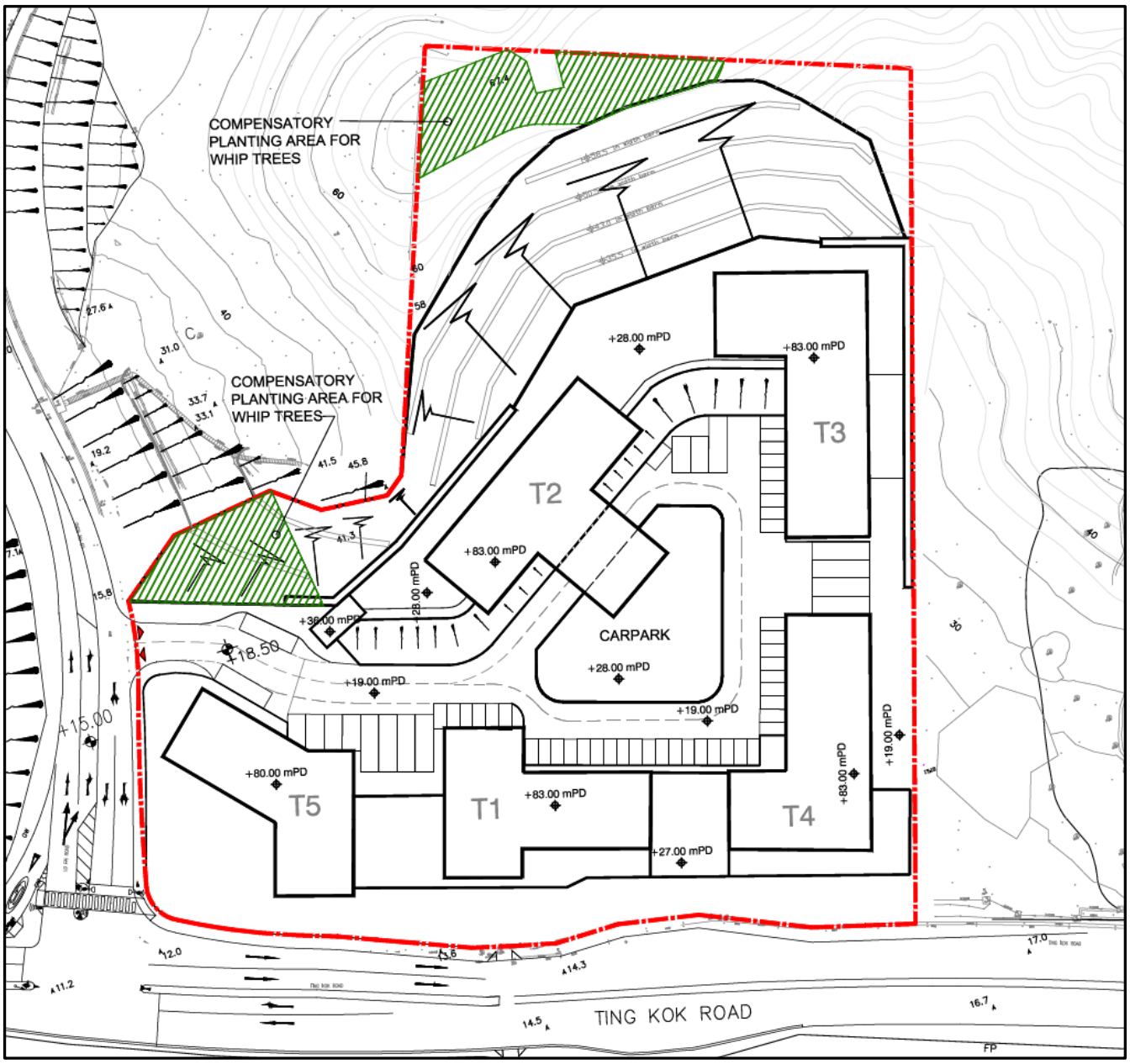
3.5 Groundwater

7-days Groundwater monitoring for piezometer at borehole TP30/7, TK/B1 and TK/B2 were dry, indicating the groundwater should below 5.5m, 25.4m and 10.1m below ground. Therefore, the groundwater level could be expected to locate quite low.

Piezometers and/or standpipes may be installed as part of the future ground investigation works so as to measure and confirm the groundwater table regularly in the vicinity of the site. The design ground water table shall be 1m above the highest observed ground water table or one-third of the retained height / slope height, whichever is higher.

4) PROPOSED DEVELOPMENT

The proposed development comprises five multi-storey residential buildings, namely T1 to T5. The proposed run-in/out is located at the west of the site and will be linked to Lo Fai Road.

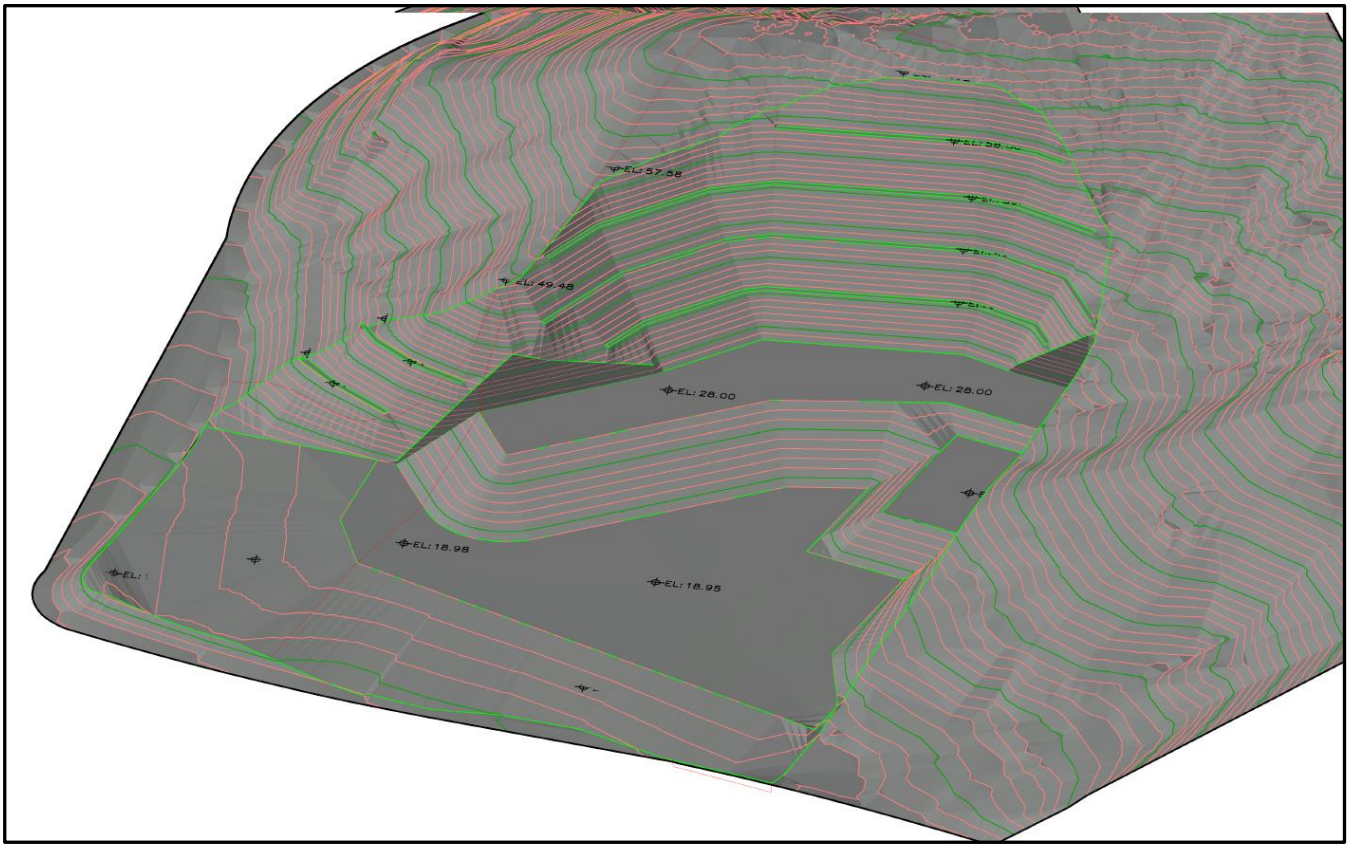


5) GEOTECHNICAL CONSIDERATIONS

The following section gives an assessment on the geotechnical aspects of the proposed development:-

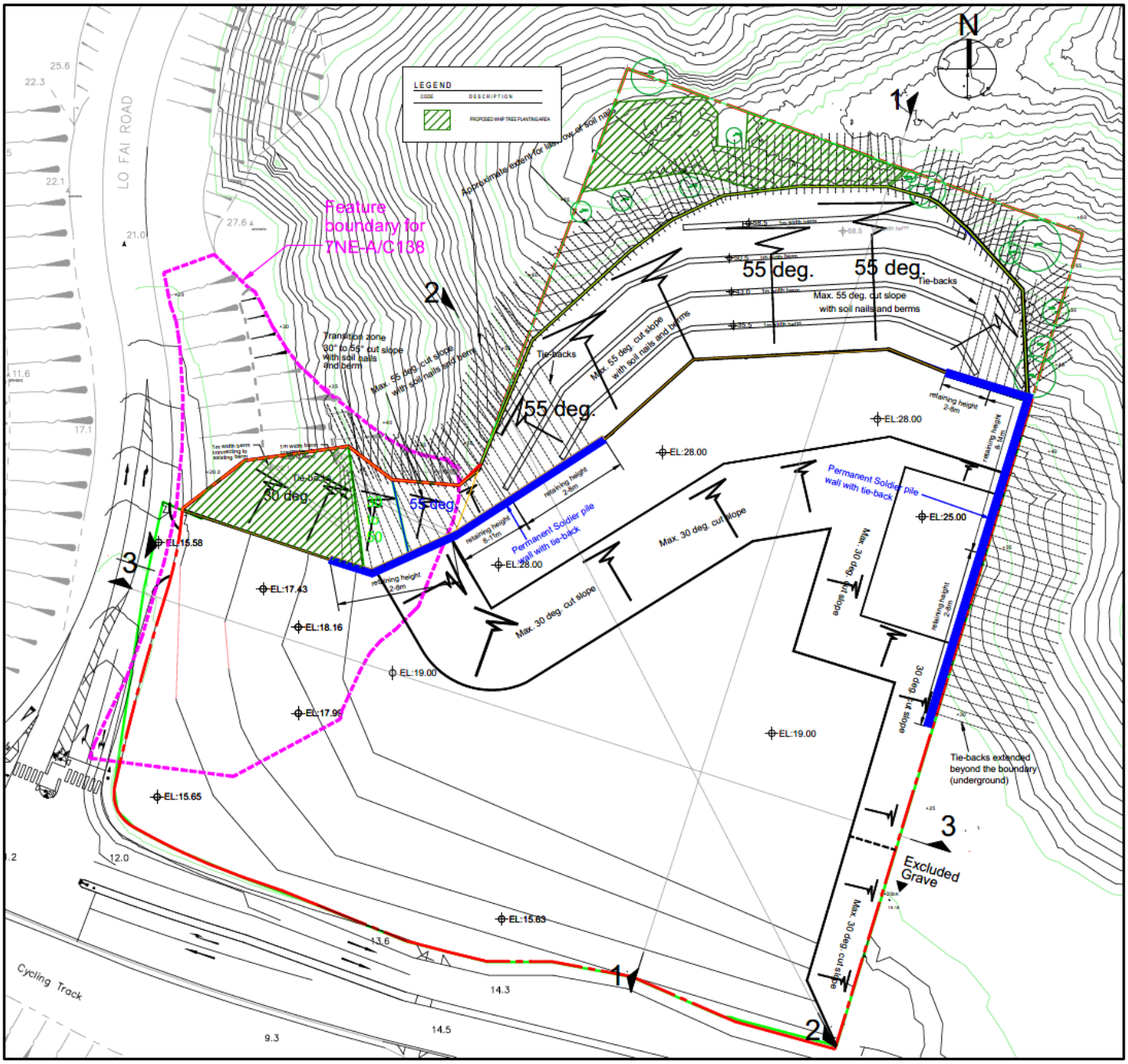
5.1 Site formation works

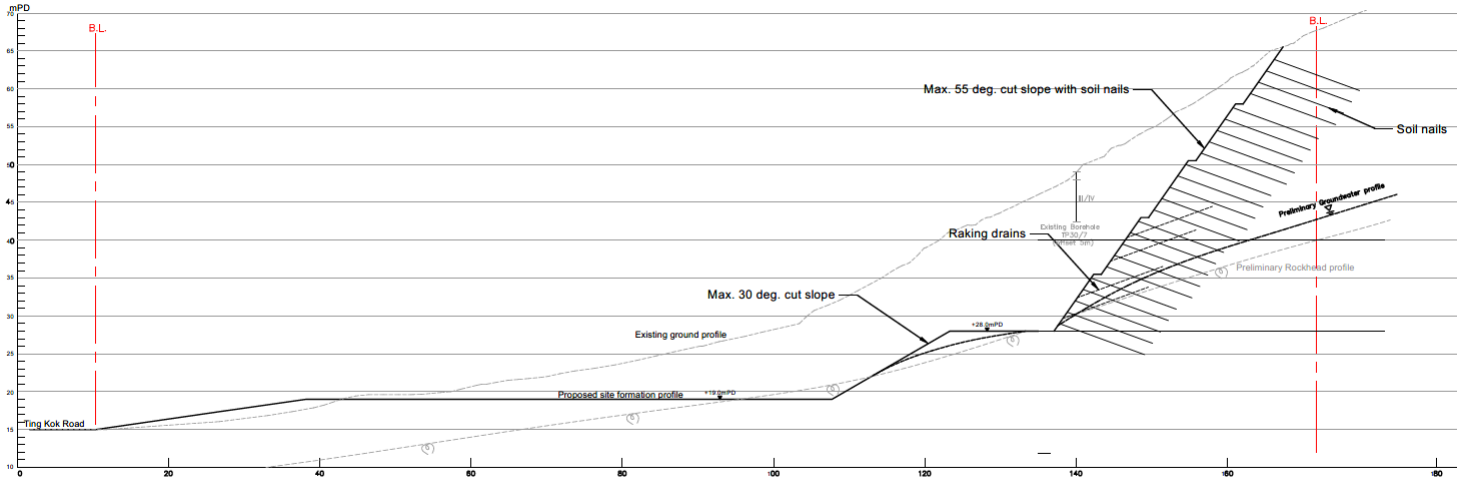
30 degree cut slope, 55 degree cut slope with soil nails and permanent soldier pile wall with tie back are proposed to facilitate for the formation of the building platform at T2 and T3 with level between +19mPD and +28mPD (refer to section 1-1 and 2-2).



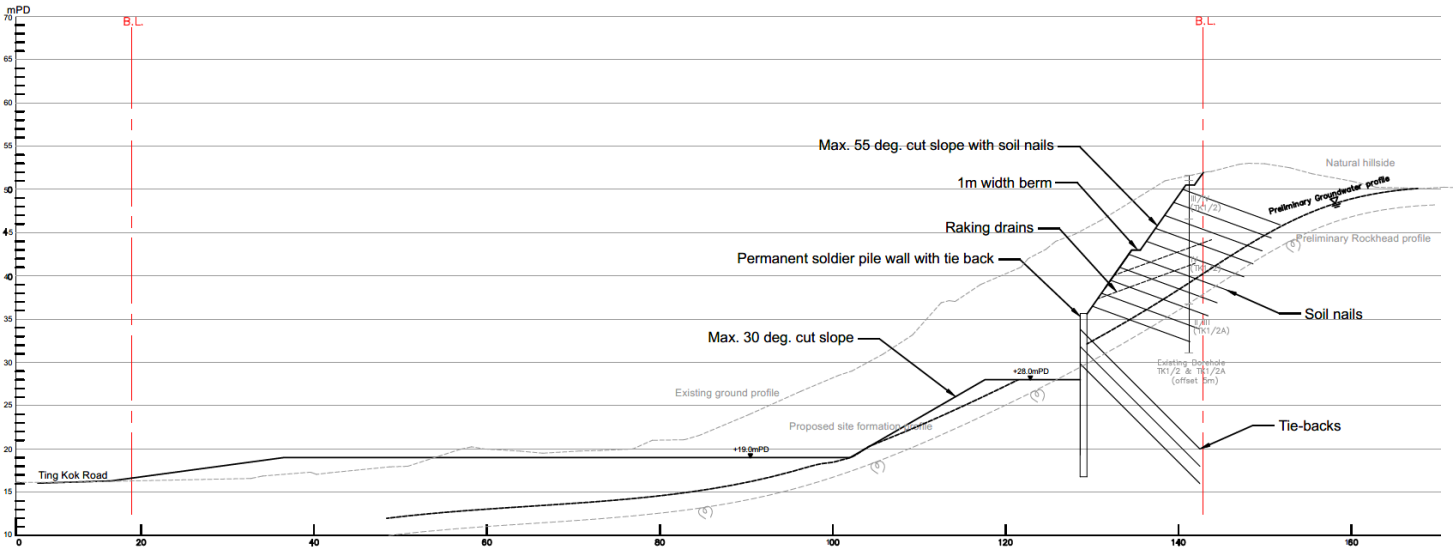
3D view of the proposed site formation profile

Preliminary site formation plan and section are as follows:

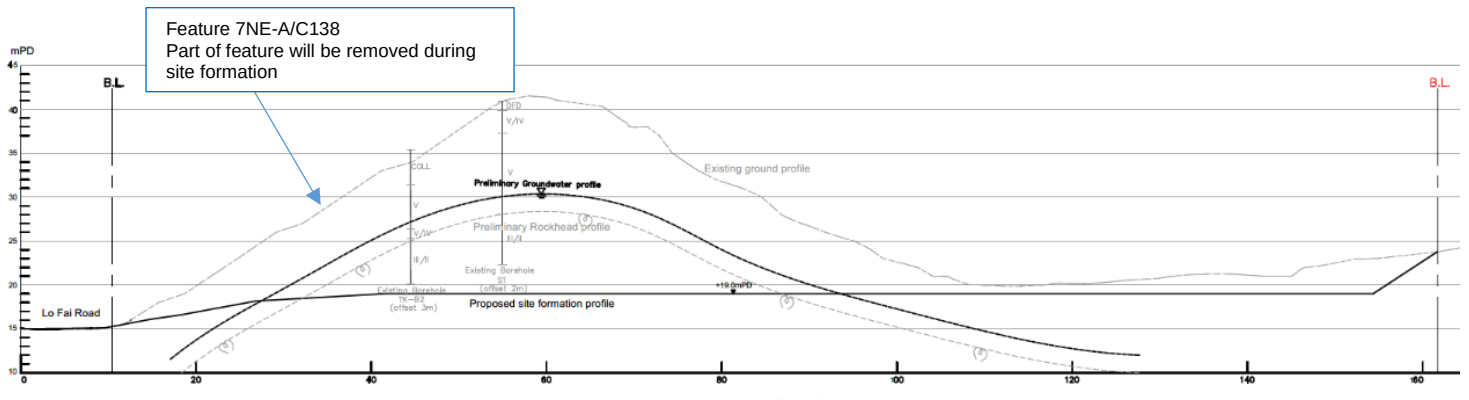




Section 1–1

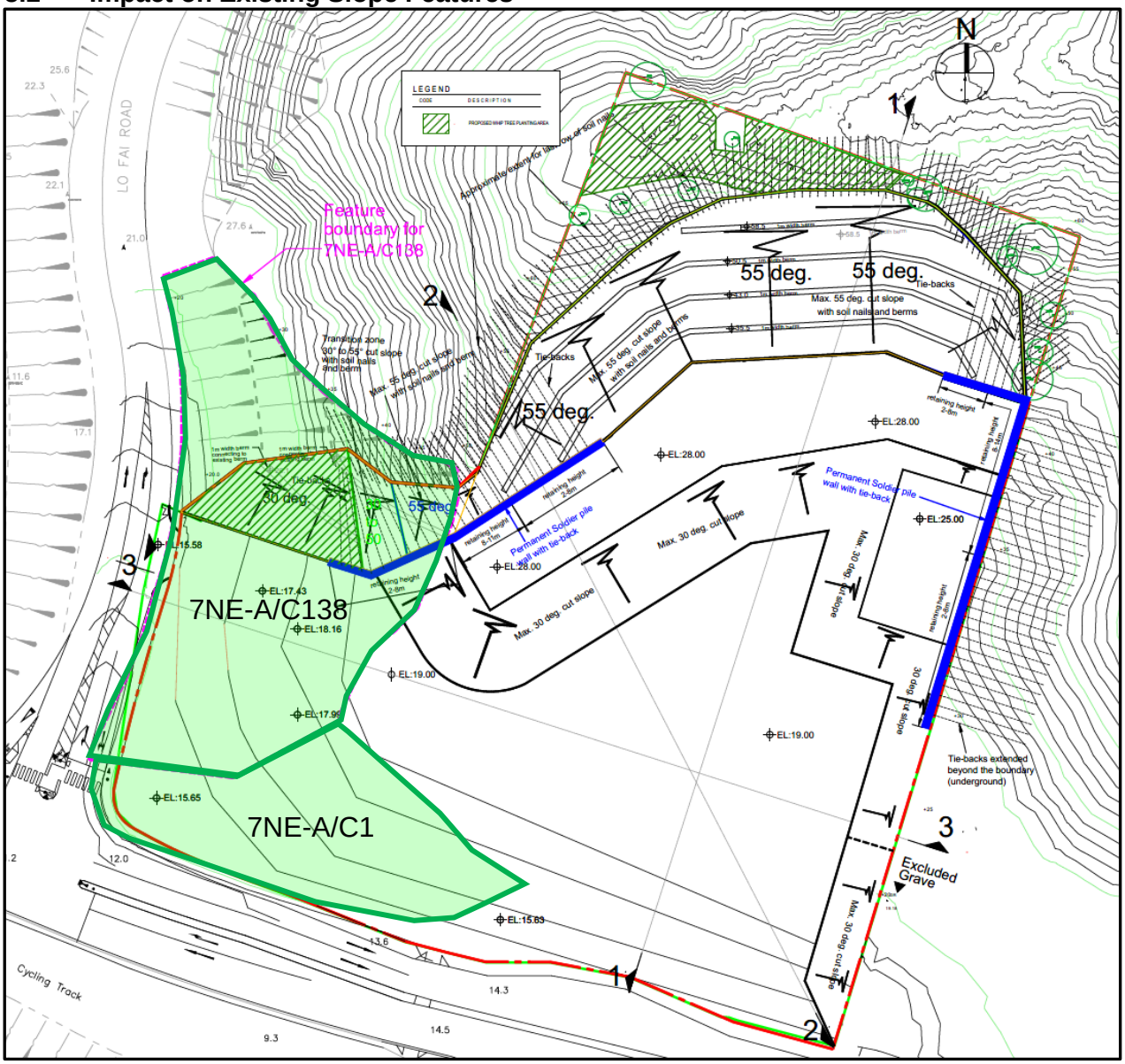


Section 2–2



Section 3–3

5.2 Impact on Existing Slope Features



Feature No. 7NE-A/C1

The whole feature would be removed during the site formation works.

Feature No. 7NE-A/C138

The southern portion of the feature would be removed during the site formation works. Middle portion of the feature would be modified. The northern portion of the feature may be remained. Consequence-to-life Category of the feature changed from “3” to “1”. The required Factor of Safety of the remaining feature should be 1.4. Stability assessment will be carried out for the remaining portion within the site and slope upgrading works will be proposed if necessary.

The proposed development will be designed in such a way that the effect to the surrounding buildings/structures will be insignificant. The effects of the proposed works to these buildings/structures will be further investigated.

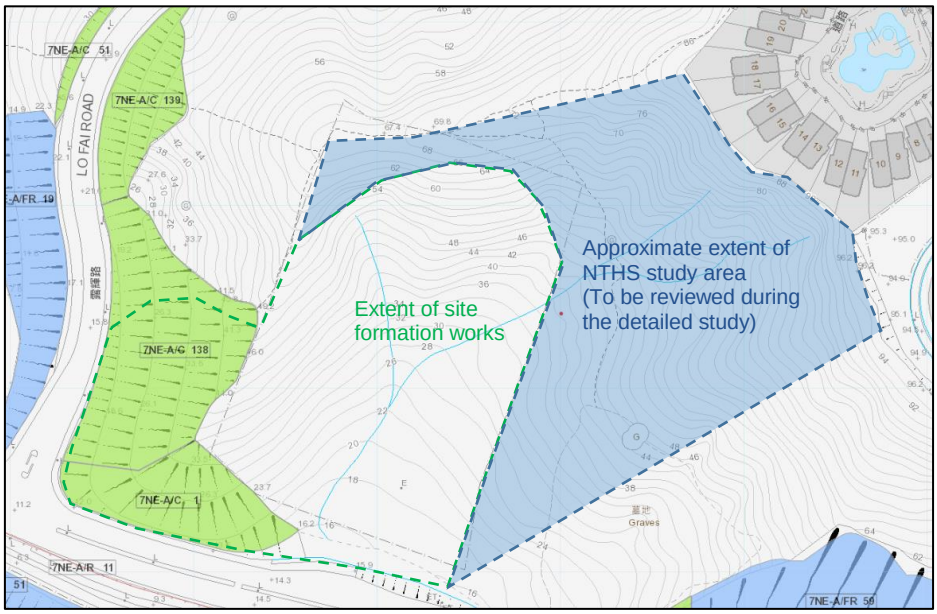
All newly formed slopes and retaining walls (if any) will be registered in accordance with GEO Circular No. 15. The slope registration of all affected

existing slopes and retaining walls will be updated. Maintenance manuals for all new or affected slopes and walls will be prepared or reviewed at completion of the slope works in accordance with Geoguide 5 (GEO, 2003). In general, the maintenance responsibility of slopes/retaining walls is determined based on the ownership of land, which is conferred by a lease document issued by the Lands Department, such as a government lease or conditions of grant, conditions of sale, and conditions of exchange. Owners may also be liable under specific lease conditions for the maintenance of slopes/retaining wall adjoining their lot.

5.3 Stability of Natural Terrain

Site A is located on a south-westerly facing slope. The proposed development may be affected by natural terrain hazards from the ground above site to the north and north-east.

Based on the preliminary assessment, the site satisfied the “Alert Criteria” according to GEO report no. 138 and detail natural terrain hazard studies are required. Detailed site reconnaissance of the surrounding terrain should be undertaken to identify any possible natural terrain hazards to the site such as areas of steep colluvial deposits or unstable boulders etc. Proposed mitigation will be dependant on the nature and scale of any identified risk which shall be determined at the detailed design stage. The approximate extent of the NTHS study area is shown on the figure below.



5.4 Proposed Foundation

The choice of foundation types will depend on the geological conditions encountered, loading requirements, the construction methodology and

sequence and effect of proposed works to the nearby structures. The foundation scheme to be adopted shall be determined in term of cost and efficiency of the foundation construction.

In view of the large loading of the multi-storey residential buildings, it is proposed to transfer the loading to the deeper soil/rock strata using pile foundation.

The foundation system for the above structure will be designed to resist the following loads:

- Dead and live vertical loads from the superstructure
- Lateral wind load
- Soil and water loads from basement structure

Based on the height and configuration of the proposed building and the available information on the geology of the site, the following foundation types are considered feasible for the buildings.

Large Diameter Bored Pile

Bored piles are considered to be feasible for supporting high-rise buildings. All pile would be founded on Grade III or better rockhead with total core recovery > 85%. According to table 2 of the "Code of Practice for Foundations ", these pile may have a bearing capacity of 5000kPa. Bases on the currently available ground investigate records, the rockhead level is located varies from +3mPD to +25mPD.

Since the construction bored pile involves the use of temporary steel casing installed down to hard soil stratum /bedrock, its effect on adjacent building and structure shall be insignificant.

Mini-pile/Socketed H-pile foundation

Mini-piles or Socket H-pile socket into socked into bedrock are considered to be feasible for supporting building platform. All socketed piles would be embedded into the Grade III or better rock with total core recovery > 85%. Based on the currently available ground investigation records, the rockhead level is located varies from +3mPD to +25mPD.

The proposed mini-piles or Socket H-pile foundation should be designed in a way that the effect of the adjacent buildings and structure is significant. The effect of the proposed mini-pile/ socketed H-pile foundation on adjacent buildings, structure, slopes and retaining wall shall be assessed.

Footings

The utilization of footings to support some portions of the development may be feasible. In accordance with the Code of Practice for Foundations [BD, 2017], the allowable bearing pressure of the footing shall be as follows:

Description of rock or soil	Allowable bearing pressure (without wind)	
	Dry	Submerged
Slightly to moderately decomposed moderately strong granite or volcanic rock of material weathering grade III or better, and with not less than 85% TCR of the designated grade, which has a minimum UCS of rock material not less than 25 MPa (or an equivalent point load index strength PLI50 not less than 1 MPa)	5000kPa	
Moderately decomposed, moderately strong to moderately weak rock of material weathering grade better than IV, with a total core recovery of more than 50% of the grade	3000kPa	
Highly to completely decomposed, moderately weak to weak rock of material weathering grade V or better, with SPT N-value ≥ 200	1000kPa	
Non-cohesive soil: Very dense – SPT N-value > 50	500kPa	250kPa
Non-cohesive soil: Dense – SPT N-value 30-50; requires pick for excavation; 50mm peg hard to drive	300kPa	150kPa

The effect of the proposed bored pile/mini-pile / socketted H-pile/footing foundation on adjacent buildings, structures and slopes shall be insignificant and will be further assessed during detailed design stage.

6) MONITORING SCHEME

A comprehensive monitoring programme, which comprises the followings, shall be implemented on site in order to monitor the effect of the proposed works on the surrounding ground, and safeguard the adjacent utilities and structures:

1. Settlement check points around the site;

2. Settlement check points on surrounding utilities;

3. Tilting checkpoints on nearby buildings;

4. Vibration checkpoints around the site; and

5. Piezometers/standpipes at locations around the site.

The initial readings of all the above monitoring points and piezometers/standpipes shall be taken prior to the commencement of construction works on site and these devices shall be monitored regularly throughout the construction works.

7) CONCLUSION

This report has discussed all the relevant issues regarding the geotechnical assessment of the proposed development at Site A.

Detailed site reconnaissance of the surrounding terrain should be undertaken to identify any possible natural terrain hazards to the site such as areas of steep colluvial deposits or unstable boulders etc. Proposed mitigation will be dependant on the nature and scale of any identified risk which shall be determined at the detailed design stage.

Pile foundation is recommended for the proposed multi-storey building. The utilization of mini-pile/socket H-pile/footings to support some portions of the development may be feasible.

All existing structures, slopes and retaining walls affecting or being affected by the proposed development will be assessed. If necessary, precautionary or upgrading works will be carried out in detailed design to ensure that the surrounding structures, slopes and retaining walls will not be adversely affected.

With reference to the preceding discussions, it is considered that the proposed development is **geotechnically feasible**.

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    2.2 Existing Registered Slope Features
    2.3 Surrounding Buildings/structures
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    3.4 Geotechnical Parameters
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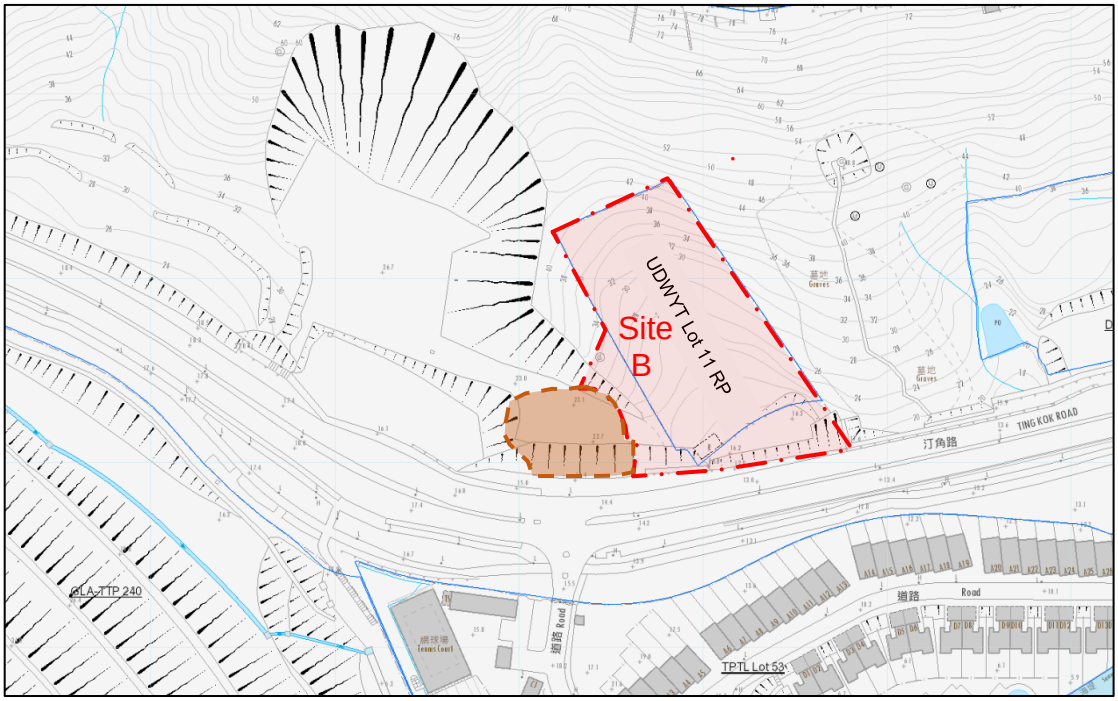
4. PROPOSED DEVELOPMENT
5. GEOTECHNICAL CONSIDERATIONS
    5.1 Site formation works
    5.2 Impact on Existing Slope Features
    5.3 Stability of Natural Terrain
    5.4 Proposed Foundation
6. MONITORING SCHEME
7. CONCLUSION

1) PROJECT BACKGROUND

This Geotechnical Assessment Report is prepared for Kam Luk Investment Company Limited ("The Applicant") in support of the development proposal prepared for the Land Sharing Pilot Scheme ("LSPS") for proposed public residential housing / starter homes ("SH") development at Lot 14 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 14 RP") and adjoining Government Land ("Site A"), and proposed private residential development at Lot 11 RP in Unsurveyed District at Wong Yue Tan ("UDWYT Lot 11 RP") and adjoining Government Land ("Site B") in Wong Yue Tan, Tai Po. This report presents a geotechnical assessment to evaluate the geotechnical feasibility of the proposed development at Site B.

The proposed development at Site B comprises a double Y-shaped residential building with the associated building platform, carpark and access road. The proposed run-in/out is located at the south linking to Ting Kok Road.

2) DESCRIPTION OF SITE



Site B is located to the north of Ting Kok Road, partly within UD Wong Yue Tan Lot 11RP. The site is accessible from Ting Kok Road to the south of the area.

A general view of Site B from Ting Kok Road. There are some existing cut slope and retaining wall adjacent to Ting Kok Road.

The site is bounded on the north and east sides by natural hillside. The south side is Ting Kok Road. The west side has some existing platform and cut slopes.

The proposed development is consisted of double Y-shaped residential building with associated building platform, carpark and access road.

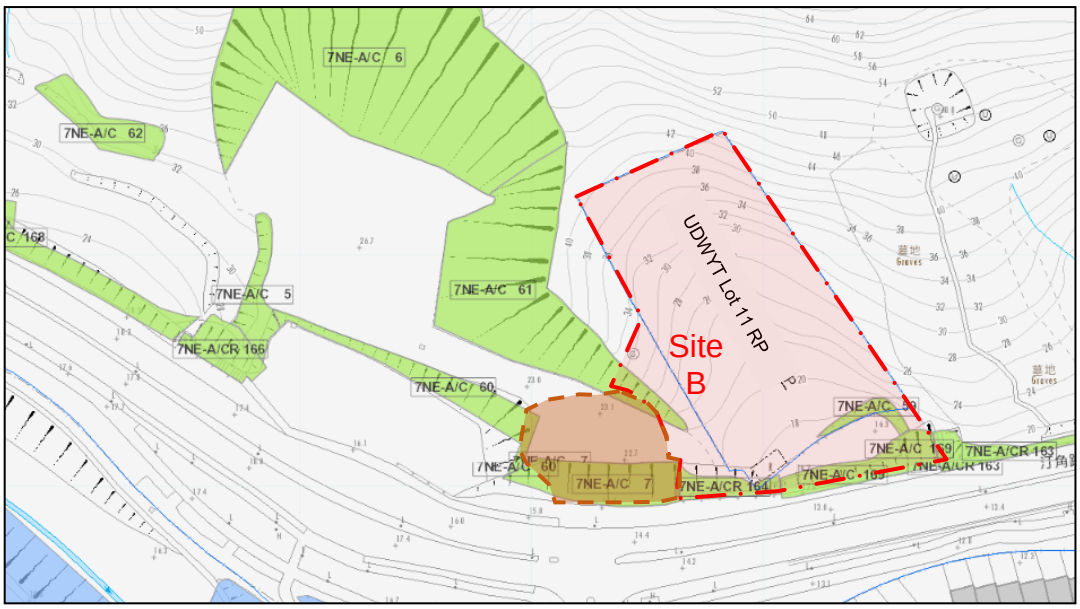
2.1 Site Topography

The site is bounded by natural hillside along the north and east sides, which levels near the site boundary vary between +13mPD and +44mPD. There are two existing platform at the southern of the site at +16mPD and +18mPD.

6 registered features are situated in the vicinity of the site and they will be discussed in the following section 2.2.

2.2 Existing Registered Slope Features

There are 7 registered features in the vicinity of the proposed development. The locations of these features are shown in the follow figure.



Current Maintenance responsibility of features in the vicinity of the proposed development:

Feature No.	Sub-division No.	Maintenance Responsibility
7NE-A/C7	-	HyD
7NE-A/C59	1	UDWYT Lot 11 RP
	2	HyD
7NE-A/C60	-	LandsD
7NE-A/C61	-	LandsD
7NE-A/CR163	-	HyD
7NE-A/CR164	1	UDWYT Lot 11 RP
	2	HyD
7NE-A/C169	-	HyD

Feature No. 7NE-A/C7 (partly within site)

This feature comprised a soil cut slope adjacent to Ting Kok road, located southwest of the Site. This slope feature is generally 7.2 high and 50m long with an average gradient of 33°.

Feature No. 7NE-A/C59 (within site)

This feature comprised a soil cut slope near the southern boundary of the Site. This slope feature is generally 4m high and 30m long with an average gradient of 50°.

Feature No. 7NE-A/C60 (partly within site)

This feature comprised a soil cut slope to the west of the Site. This slope feature is generally 4m high and 88m long with an average gradient of 40°.

Feature No. 7NE-A/C61 (partly within site)

This feature comprised a soil cut slope to the west of the Site. This slope feature is generally 15m high and 126m long with an average gradient of 40°.

Feature No. 7NE-A/CR163 (partly within site)

This feature comprised a soil cut slope and a retaining wall near the south-eastern corner of the site. This slope portion is generally 2m high and 16m long with an average gradient of 26°. And the retaining wall portion is a concrete retaining wall with height about 5.5m

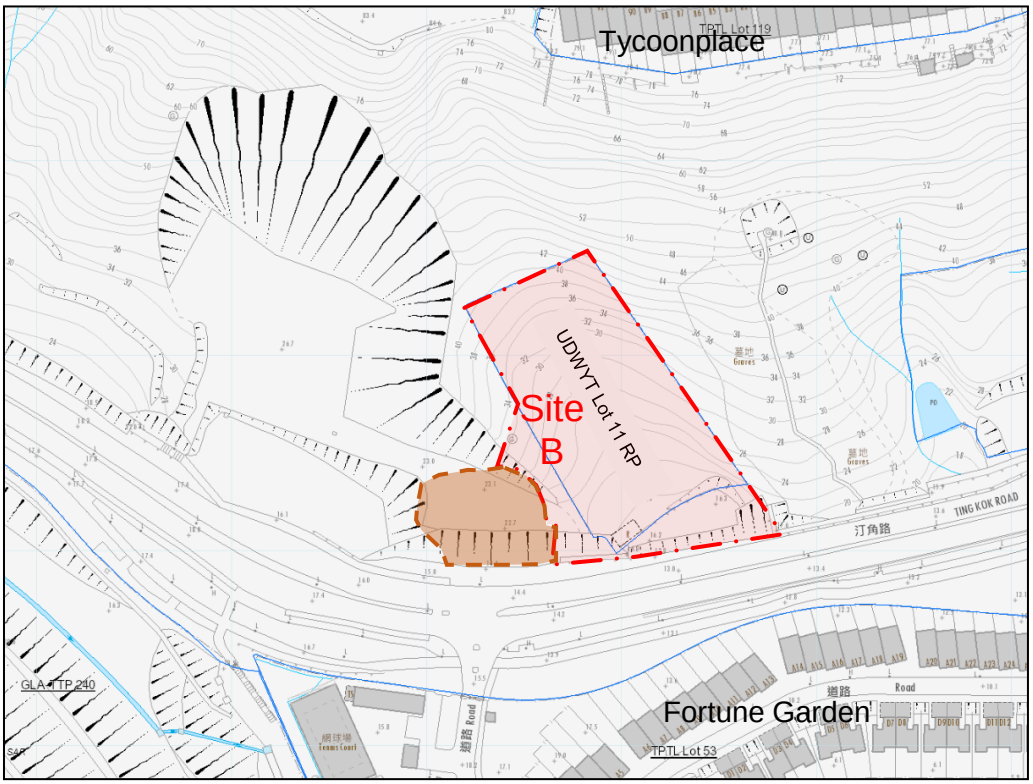
Feature No. 7NE-A/CR164 (within site)

This feature comprised a soil cut slope and a retaining wall near the south-western corner of the Site. This slope portion is generally 6-8.5m high and 30m long with an average gradient of 33°. And the retaining wall portion is a concrete retaining wall with height about 2.5m

Feature No. 7NE-A/C169 (within site)

This feature comprised a soil cut slope to the south of the Site. This slope feature is generally 7.5m high and 45m long with an average gradient of 33°.

2.3 Surrounding Buildings/structures

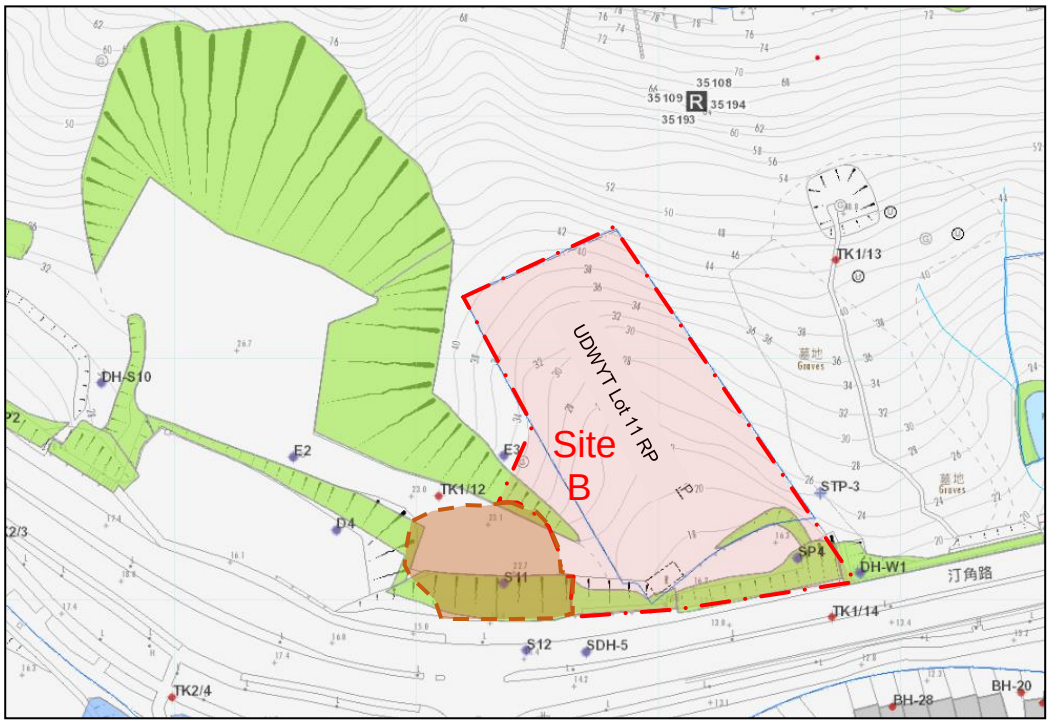


As shown in figure above, to the south of Site B is Ting Kok Road and then Fortune Garden is on the opposite side of Ting Kok Road, which is about 40m from the southern boundary of Site B. To the north of the Site is a natural hillside, another residential development, namely Tycoonplace is located about 50m from the northern boundary of Site B.

3) SITE GEOLOGY

With reference to the 1:20,000 geological map published by the Geotechnical Control Office, Hong Kong Geological Survey Sheet 7, the solid geology for the area comprises colluvium and Porphyritic medium- and fine-grained granodiorite under Shing Mun formation belonging to Tsuen Wan Volcanic group in middle Jurassic age. This would be confirmed by findings of existing and proposed ground investigation results.

3.1 Existing Site Investigation



Ground investigation records for the existing ground investigation record near the site are obtained from GIU of GEO.

The borehole E3 (GIU ref: 30746) located near the middle of the proposed development. The log indicated 4m colluvium and then underlying by 9m completely decomposed granodiorite (CDGd) and highly decomposed granodiorite (HDGd) down to the end of borehole at 17.1m depth. 7-days Groundwater monitoring for piezometer at borehole E3 indicated the highest ground water table at 15.92m depth (+18.04mPD).

The borehole TK1/13 (GIU ref:05911) located about 50m to the east of the lot boundary. The borehole log indicated 7.5m colluvium and then underlying by 25.48m CDGd to HDGd. The bedrock of SDGd was encountered at 32.98m depth (+10.85mPD). 7-days Groundwater monitoring for piezometer at borehole TK1/13 indicated the highest ground water table at 30.89m depth (+12.94mPD).

The borehole SDH-5 (GIU ref:35108) located at Ting Kok Road about 10m to the south of lot boundary. The borehole log indicated 0.5m fill underlying by 13.04m CDGd to HDGd. The bedrock of M/SDGd was encountered at 13.54m depth (+3.52mPD).

3.2 Proposed Site Investigation

Site-specific site investigation works would be proposed to obtain information for the future design analyses.

The proposed works include:

- vertical boreholes (with piezometers/standpipes)
- slope stripping
- trial pits
- coreholes

The proposed ground investigation works may be further reviewed.

3.3 Soil and Rock

According to the existing ground investigation records from GIU, generally, the geology within the site is colluvium overlying completely decomposed granodiorite (CDGd) and then highly decomposed granodiorite (HDGd) to bedrock of moderately/slightly decomposed granodiorite (M/SDGd).

Based on the currently available information, general description of each stratum is outlined as below:

- Colluvium –composed of yellowish red to yellowish brown, clayey sandy SILT with occasional angular to sub-angular, fine to coarse gravel sized quartz and moderately weak to moderately strong granodiorite fragments..

- Completely Decomposed Granodiorite– composed of extremely weak to weak, yellowish red to yellowish brown, mottled white, grey and prink, completely decomposed, medium grained GRANODIORITE. (Clayey sandy SILT with occasional fine gravel sized quartz fragments).

- Bedrock of Moderately to Slightly Decomposed Granodiorite (M/SDGd) – composed of moderately strong to strong, pinkish grey dappled red to light pinkish grey with dark green speckles, fine to medium grained GRANODIORITE. The bedrock profile in the development area is generally dipping downwards from northwest to southeast, about +22mPD to +4mPD.

The site geology shall be reviewed upon the completion of ground investigation works in the future.

3.4 Geotechnical Parameters

Without the laboratory test results from the detailed ground investigation, the recommended soil parameters for preliminary design and analysis are summarised below: -

	Recommended Soil Parameters for Design Purposes		
Soil Type	Bulk Density	Effective cohesion c'	Effective friction ϕ'
Coll	19	2	35
CDGd	19	5	35
HDGd	19	7	38

The recommended soil strength parameters for Colluvium and CDV are within the typical range of the geotechnical parameters as suggested in Table 8 of the GEOGUIDE I [GEO, 2020]. And the parameters for HDV are assumed based on our previous job experience.

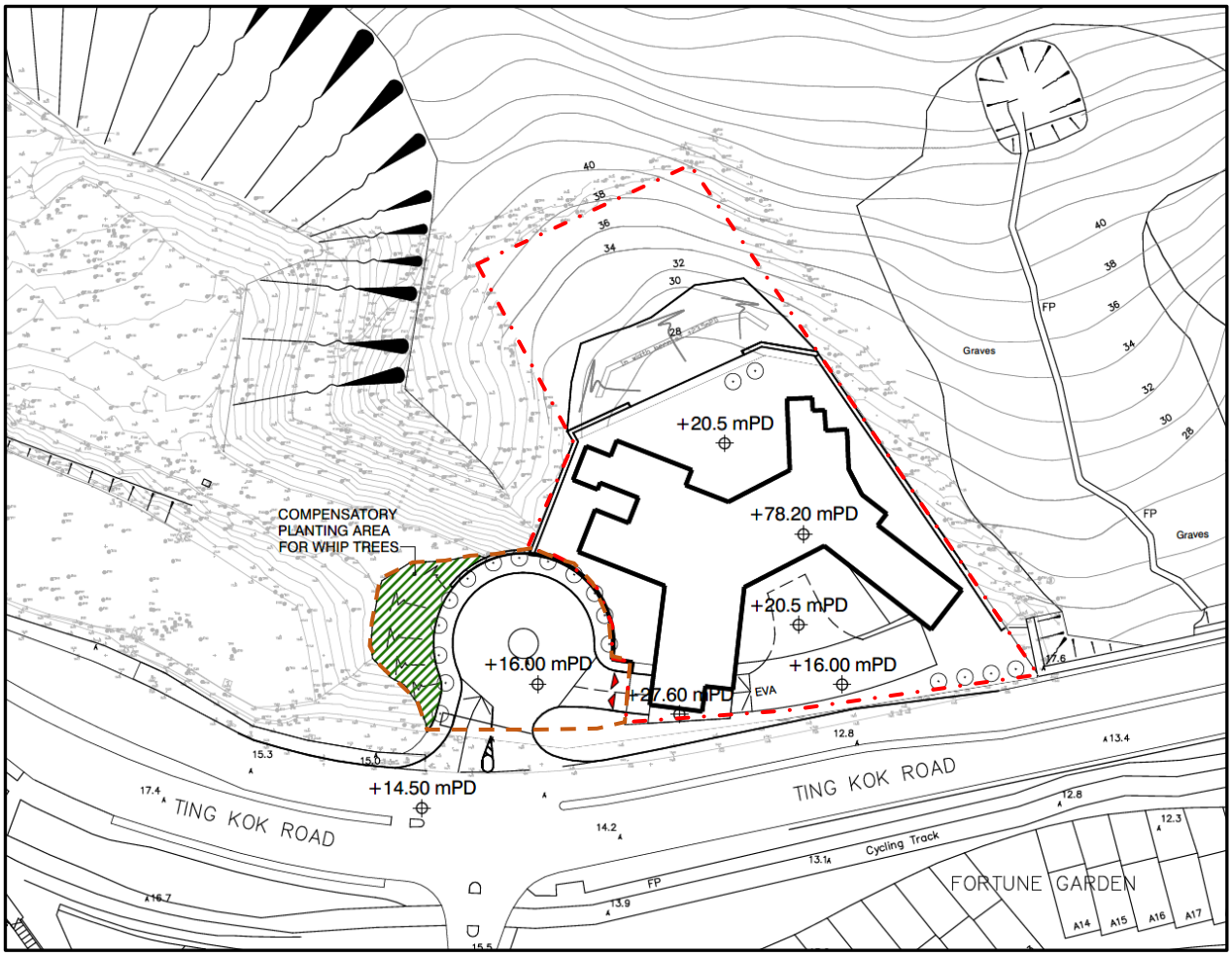
The geotechnical parameters will be reviewed upon the completion of future ground investigation and laboratory tests.

3.5 Groundwater

7-days Groundwater monitoring for piezometer at borehole E3 indicated the highest ground water table at 15.92m depth (+18.04mPD) and 7-days Groundwater monitoring for piezometer at borehole TK1/13 indicated the highest ground water table at 30.89m depth (+12.94mPD). Therefore, the groundwater level could be expected to locate quite low.

Piezometers and/or standpipes may be installed as part of the future ground investigation works so as to measure and confirm the groundwater table regularly in the vicinity of the site. The design ground water table shall be 1m above the highest observed ground water table or one-third of the retained height / slope height, whichever is higher.

4) PROPOSED DEVELOPMENT

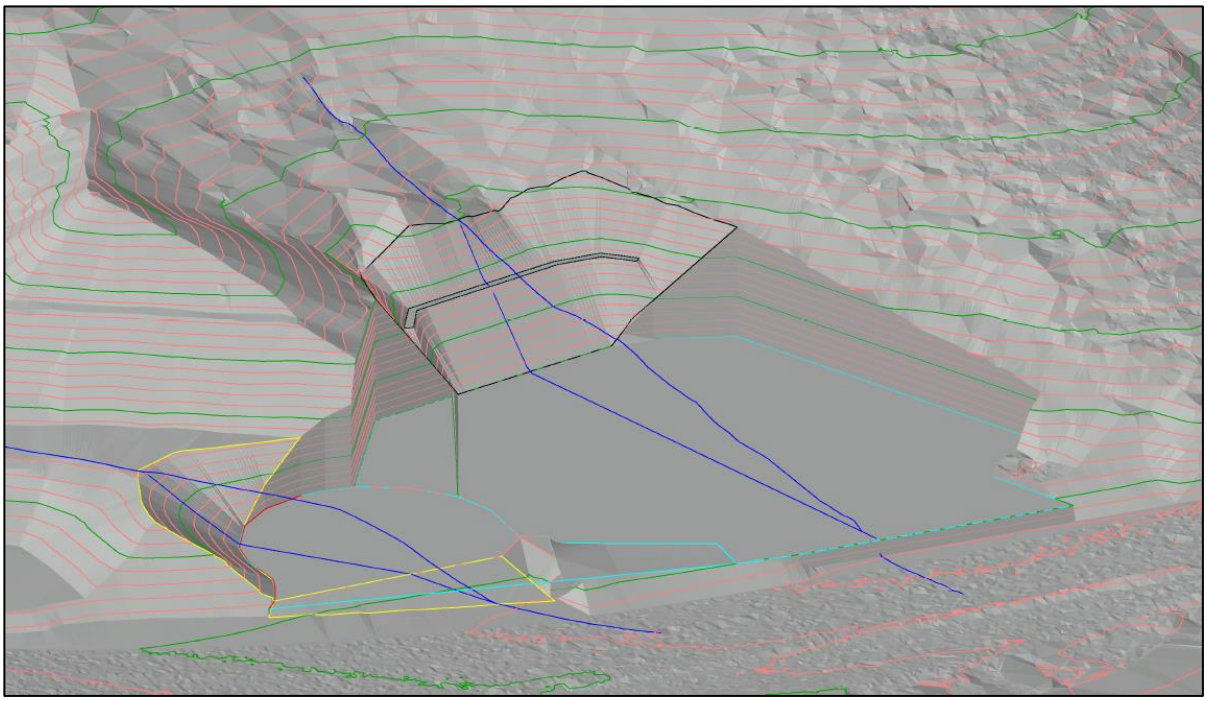


The proposed development comprises a double Y-shaped multi-storey residential building. The level of the proposed building platform is 20.5mPD. The proposed run-in/out and EVA is located at the south of the site and will be linked to Ting Kok Road.

5) GEOTECHNICAL CONSIDERATIONS

The following section gives an assessment on the geotechnical aspects of the proposed development:-

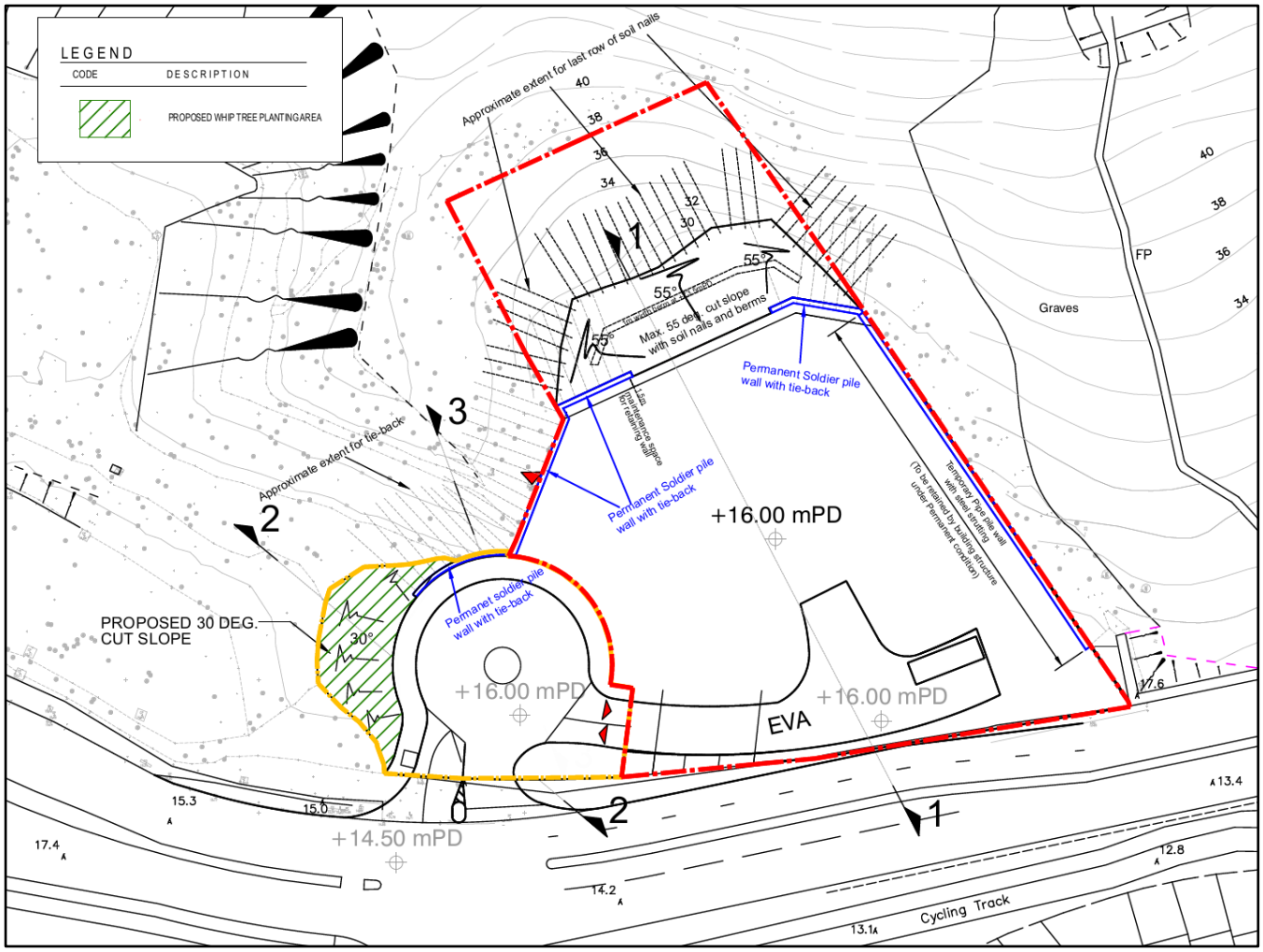
5.1 Site formation and Excavation and Lateral support works

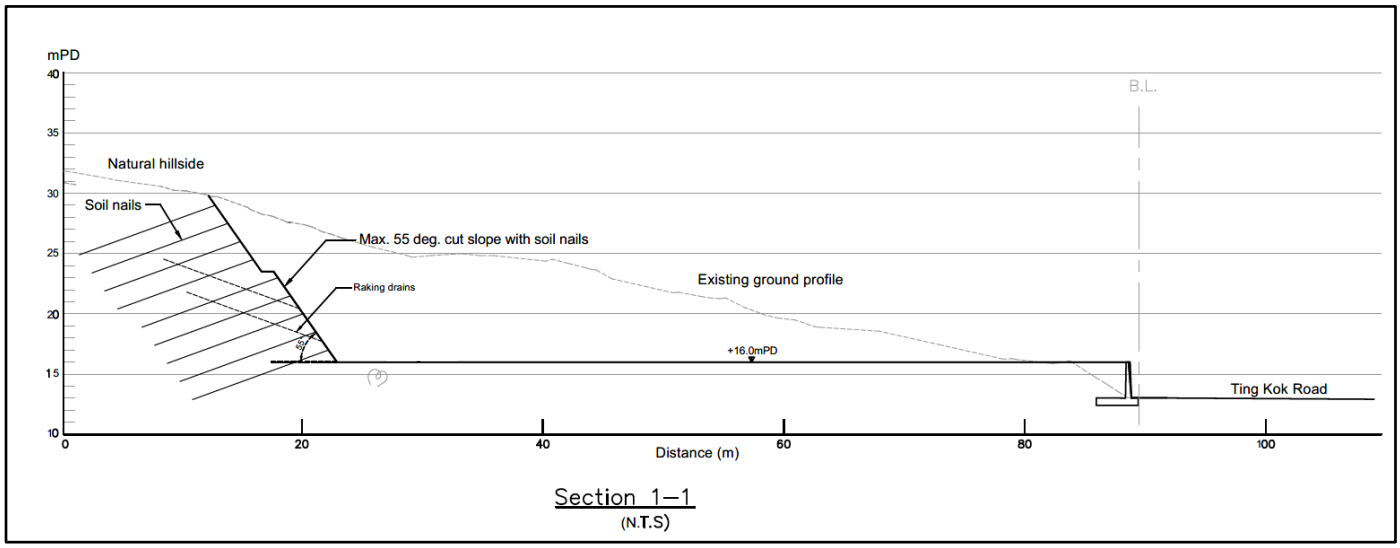


In view of the level difference between the existing ground levels of about +30mPD near the northern part of the site and +16mPD for the building platform of proposed building (i.e. a maximum of approximately 16m depth including pile cap), bored pile wall, sheet pile wall, pipe pile wall or solider pile wall with tie-back/struts or other retaining structures would be adopted to retain the level difference. Where underground obstruction is encountered, preboring technique will be undertaken if necessary. A 30 degree open cut slope is proposed for the formation of the roundabout to the west of the site.

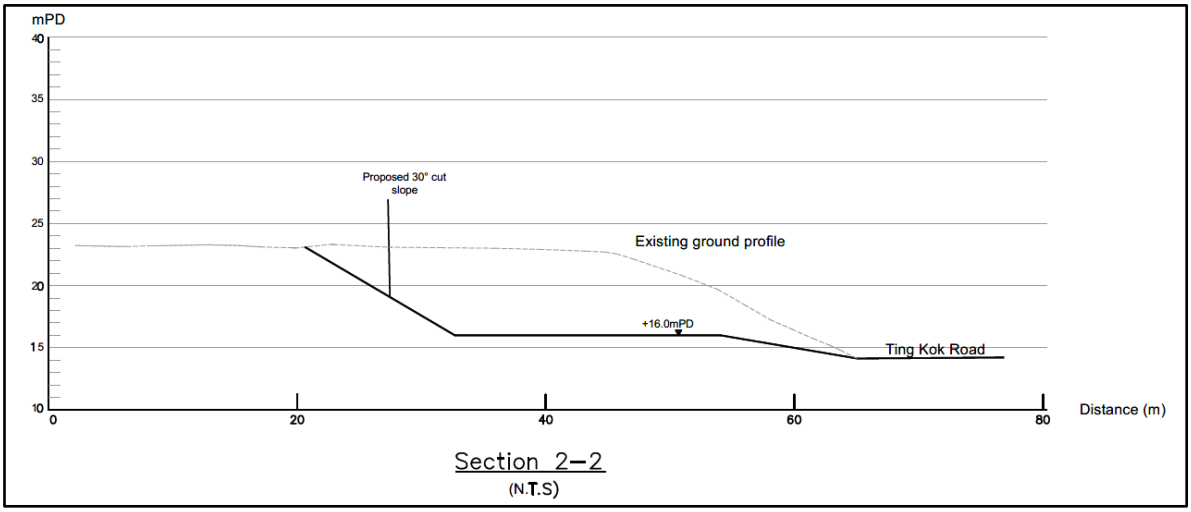
The effect of the proposed ELS works to the surrounding buildings, roads and utilities will be further assessed in detailed design. The ELS works should be designed in a manner that the effect of the proposed works should be minimal.

Preliminary site formation plan and section are as follows:

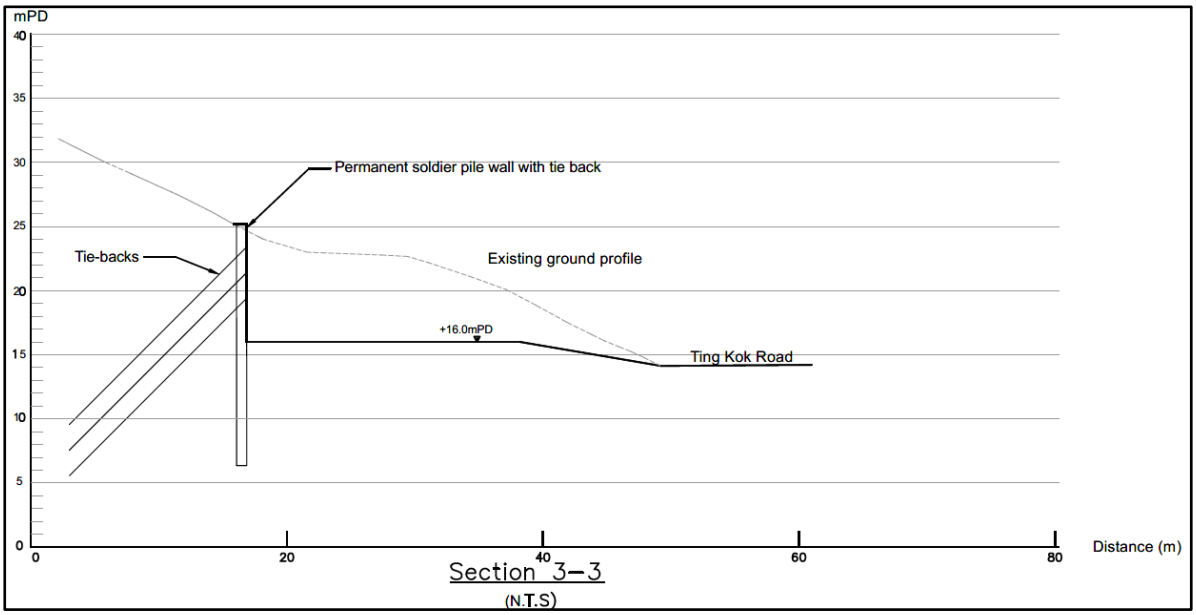




Section 1–1
(N.T.S)



Section 2–2
(N.T.S)



Section 3–3
(N.T.S)

5.2 Impact on Existing Slope Features

Feature No. 7NE-A/C7

Eastern portion of the feature would be removed during the site formation works. The western end of the feature may be remained.

Feature No. 7NE-A/C59

The whole feature would be removed during the site formation works.

Feature No. 7NE-A/C60

A small slope near eastern end of feature may be modified during the site formation works. The middle and western portion of this feature would be remained.

Feature No. 7NE-A/C61

The eastern end portion of feature may be removed during the site formation works. The middle and western portion of this feature would be remained.

Feature No. 7NE-A/CR163

The small portion at western end of the feature may be modified during the site formation works. The middle and eastern portion of this feature would be remained.

Feature No. 7NE-A/CR164

This feature would be removed during the site formation works.

Feature No. 7NE-A/C169

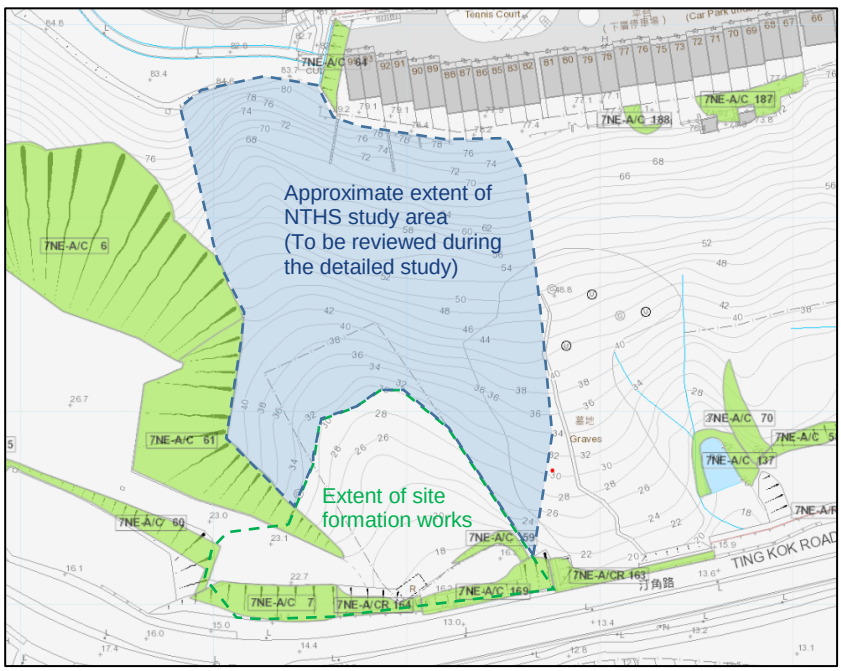
This feature would be removed during the site formation works.

The effect of the proposed works on these features will be further assessed during detailed design stage. All newly formed slopes and retaining walls (if any) will be registered in accordance with GEO Circular No. 15. The slope registration of all affected existing slopes and retaining walls will be updated. Maintenance manuals for all new or affected slopes and walls will be prepared or reviewed at completion of the slope works in accordance with Geoguide 5 (GEO, 2003). In general, the maintenance responsibility of slopes/retaining walls is determined based on the ownership of land, which is conferred by a lease document issued by the Lands Department, such as a government lease or conditions of grant, conditions of sale, and conditions of exchange. Owners may also be liable under specific lease conditions for the maintenance of slopes/retaining wall adjoining their lot.

5.3 Stability of Natural Terrain

Site B is located on a southerly facing slope. The proposed development may be affected by natural terrain hazards from the ground above site to the north and north-east.

Based on the preliminary assessment, the site satisfied the “Alert Criteria” according to GEO report no. 138 and detail natural terrain hazard studies are required. Detailed site reconnaissance of the surrounding terrain should be undertaken to identify any possible natural terrain hazards to the site such as areas of steep colluvial deposits or unstable boulders etc. Proposed mitigation will be dependant on the nature and scale of any identified risk which shall be determined at the detailed design stage. The approximate extent of the NTHS study area is shown on the figure below.



5.4 Proposed Foundation

The choice of foundation types will depend on the geological conditions encountered, loading requirements, the construction methodology and sequence and effect of proposed works to the nearby structures. The foundation scheme to be adopted shall be determined in term of cost and efficiency of the foundation construction.

In view of the large loading of the multi-storey residential building, it is proposed to transfer the loading to the deeper soil/rock strata using pile foundation.

The foundation system for the above structure will be designed to resist the following loads:

- Dead and live vertical loads from the superstructure
- Lateral wind load
- Soil and water loads from basement structure

Based on the height and configuration of the proposed building and the available information on the geology of the site, the following foundation types are considered feasible for the buildings.

Large Diameter Bored Pile

Bored piles are considered to be feasible for supporting high-rise buildings. All pile would be founded on Grade III or better rockhead with total core recovery > 85%. According to table 2 of the “Code of Practice for Foundations “, these pile may have a bearing capacity of 5000kPa. Bases on the currently available ground investigate records, the rockhead level is located varies from +4mPD to +22mPD.

Since the construction bored pile involves the use of temporary steel casing installed down to hard soil stratum /bedrock, its effect on adjacent building and structure shall be insignificant.

Mini-pile/Socketed H-pile foundation

Mini-piles or Socket H-pile socket into socked into bedrock are considered to be feasible for supporting building platform. All socketed piles would be embedded into the Grade III or better rock with total core recovery > 85%. Based on the currently available ground investigation records, the rockhead level is located varies from +4mPD to +22mPD.

The proposed mini-piles or Socket H-pile foundation should be designed in a way that the effect of the adjacent buildings and structure is significant. The effect of the proposed mini-pile/ socketed H-pile foundation on adjacent buildings, structure, slopes and retaining wall shall be assessed.

Footings

The utilization of footings to support some portions of the development may be feasible. In accordance with the Code of Practice for Foundations [BD, 2017], the allowable bearing pressure of the footing shall be as follows:

Description of rock or soil	Allowable bearing pressure (without wind)	
	Dry	Submerged
Slightly to moderately decomposed moderately strong granite or volcanic rock of material weathering grade III or better, and with not less than 85% TCR of the designated grade, which has a minimum UCS of rock material not less than 25 MPa (or an equivalent point load index strength PLI50 not less than 1 MPa)	5000kPa	
Moderately decomposed, moderately strong to moderately weak rock of material weathering grade better than IV, with a total core recovery of more than 50% of the grade	3000kPa	
Highly to completely decomposed, moderately weak to weak rock of material weathering grade V or better, with SPT N-value ≥ 200	1000kPa	
Non-cohesive soil: Very dense – SPT N-value > 50	500kPa	250kPa
Non-cohesive soil: Dense – SPT N-value 30-50; requires pick for excavation; 50mm peg hard to drive	300kPa	150kPa

The effect of the proposed bored pile/mini-pile / socketted H-pile / footing foundation on adjacent buildings, structures and slopes shall be insignificant and will be further assessed during detailed design stage.

6) MONITORING SCHEME

A comprehensive monitoring programme, which comprises the followings, shall be implemented on site in order to monitor the effect of the proposed works on the surrounding ground, and safeguard the adjacent utilities and structures:

1. Settlement check points around the site;

2. Settlement check points on surrounding utilities;

3. Tilting checkpoints on nearby buildings;

4. Vibration checkpoints around the site; and

5. Piezometers/standpipes at locations around the site.

The initial readings of all the above monitoring points and piezometers/standpipes shall be taken prior to the commencement of construction works on site and these devices shall be monitored regularly throughout the construction works.

7) CONCLUSION

This report has discussed all the relevant issues regarding the geotechnical assessment of the proposed development at Site B.

Detailed site reconnaissance of the surrounding terrain should be undertaken to identify any possible natural terrain hazards to the site such as areas of steep colluvial deposits or unstable boulders etc. Proposed mitigation will be dependant on the nature and scale of any identified risk which shall be determined at the detailed design stage.

Pile foundation is recommended for the proposed multi-storey building. The utilization of mini-pile/socket H-pile/footings to support some portions of the development may be feasible.

All existing structures, slopes and retaining walls affecting or being affected by the proposed development will be assessed. If necessary, precautionary or upgrading works will be carried out in detailed design to ensure that the surrounding structures, slopes and retaining walls will not be adversely affected.

With reference to the preceding discussions, it is considered that the proposed development is **geotechnically feasible**.