ARUP

Appendix D

Traffic Impact Assessment

Application for Amendment of Plan under Section 12A of the Town Planning Ordinance (Cap. 131) for Proposed Residential Development at Various Lots in D.D. 32 and Adjoining Government Land, Wong Yi Au, Tai Po, New Territories

Traffic Impact Assessment Report

3rd Issue | July 2025

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 292635-02

Arup Hong Kong Ltd
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Kowloon
Hong Kong
www.arup.com

ARUP

Contents

			Page
1	**INTRODUCTION**		**1**
	1.1	Background	1
	1.2	Objectives of this Report	1
	1.3	Scope of Study	1
	1.4	Structure of the Report	2
2	**EXISTING TRAFFIC AND PEDESTRIAN CONDITIONS**		**3**
	2.1	Existing Road Network	3
	2.2	Existing Junction and Link Performance	3
	2.3	Existing Pedestrian Conditions	6
	2.4	Existing Public Transport Facilities	7
3	**THE SUBJECT DEVELOPMENT**		**8**
	3.1	Development Schedule	8
	3.2	Proposed Road Connection to the Application Site	8
	3.3	Internal Transport Facilities Provision	10
	3.4	Proposed Shuttle Service	12
4	**TRAFFIC AND PEDESTRIAN IMPACT ASSESSMENT**		**14**
	4.1	Traffic Trip Generation and Attraction of Proposed Development	14
	4.2	Future Traffic Growth and Assessment Scenarios	16
	4.3	Assessment Scenarios	19
	4.4	Junction and Link Capacity Assessment	19
	4.5	Pedestrian Impact Assessment	25
5	**CONSTRUCTION TRAFFIC IMPACT ASSESSMENT**		**29**
	5.1	Trip Generation and Attraction at Construction Stage	29
	5.2	Assessment Scenario	29
	5.3	Junction Capacity Assessment at Construction Stage	30
	5.4	Link Capacity Assessment at Construction Stage	31
6	**CONCLUSION**		**33**
	6.1	Summary	33
	6.2	Conclusion	34

Figures

Figure 1.1 Location of the Application Site and its Environs
Figure 2.1 Existing Road Network and Identified Junctions and Road Links to be Assessed
Figure 2.2 Year 2024 Existing Traffic Flow
Figure 2.3 Identified Footpaths to be Assessed
Figure 2.4 Existing Public Transport Services in the Vicinity
Figure 3.1 Extract of Master Layout Plan
Figure 3.2 Proposed Road Connection Proposal and Road / Junction Modification Scheme
Figure 3.3 Swept Path Analysis for 12m Long Coach, 8m Long Light Bus, 5m Long Taxi and 7m Long Maintenance Vehicle (Approaching)
Figure 3.4 Swept Path Analysis for 12m Long Coach and 7m Long Maintenance Vehicle (Leaving)
Figure 3.5 Assessment on Forward Sight Distances Along Proposed Access Road
Figure 3.6 Visibility Assessment for Motorists Along Yung Yi Road, Ha Wong Yi Au Road and Proposed Access Road
Figure 3.7 Visibility Assessment for Pedestrians Along Yung Yi Road, Ha Wong Yi Au Road and Proposed Access Road
Figure 3.8 Key Design Parameters of Modified Roundabout at Yung Yi Road
Figure 3.9 Ingress Vehicular Route of the Application Site
Figure 3.10 Egress Vehicular Route of the Application Site
Figure 3.11 G/F Layout Plan
Figure 3.12 B/F Layout Plan
Figure 4.1 Year 2033 Reference Traffic Flow
Figure 4.2 Year 2033 Design Traffic Flow
Figure 4.3 Net Development Traffic Flow During Operational Stage
Figure 4.4 Identified Junctions and Road Links to be Assessed Under Proposed Road Network
Figure 4.5 Proposed Junction Improvement Works at J1: Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai
Figure 4.6 Identified Footpaths to be Assessed Under Proposed Road Network
Figure 5.1 Year 2031 Reference Traffic Flow During Construction Stage
Figure 5.2 Year 2031 Design Traffic Flow During Construction Stage
Figure 5.3 Net Development Traffic Flow During Construction Stage

Appendix

Appendix A Junction Calculation Sheets
Appendix B Junction Improvement Scheme to be Implemented by Other Project

1 INTRODUCTION

1.1 Background

1.1.1 The Application Site with a site area of about 14,879 m^2, is located at Various Lots in D.D. 32 and adjoining Government land at Wong Yi Au, Tai Po, New Territories. The location of the Application Site and its environs is shown in **Figure 1.1**.

1.1.2 The Applicant intends to rezone the Application Site from "Green Belt" ("GB") to a tailormade "Residential (Group B) 13" ("R(B)13") zone at Various Lots in D.D.32 and Adjoining Government Land, Wong Yi Au, Tai Po to facilitate the proposed residential development (hereinafter referred to as the "Proposed Development"). An Indicative Scheme has been formulated to demonstrate the technical feasibility and suitability of the proposed amendment. An indicative access road is proposed to connect the Application Site and external transport network. In addition, a saltwater pumping station is proposed in the vicinity of the existing saltwater network near Yung Yi Road to support the Proposed Development.

1.1.3 Arup Hong Kong Limited ("Arup") was commissioned to prepare a Traffic Impact Assessment ("TIA") report in support of the Section 12A Planning Application to facilitate the development proposal at the Application Site.

1.2 Objectives of this Report

1.2.1 The principal objective of this report is to support the Section 12A Planning Application by addressing the traffic-related issues and ensuring that the Proposed Development would be feasible in traffic terms without causing adverse impact on the surrounding road network.

1.3 Scope of Study

1.3.1 The tasks for this TIA study are outlined as follows:

- Carry out traffic surveys at critical junctions and road links to appreciate the current traffic conditions;
- Update the inventory regarding traffic circulation patterns, traffic conditions, as well as the constraints of the existing and future committed road network in the vicinity based on the latest information available;
- Carry out pedestrian surveys at pedestrian facilities in the vicinity to appreciate the current pedestrian conditions;
- Review the access arrangement for the Proposed Development and to make recommendations;

- Recommend car parking provisions, goods vehicle loading/unloading arrangements for the Proposed Development and provide justifications on the proposed internal transport facilities;
- Assess the volume of traffic likely to be generated by the Proposed Development;
- Set up the reference scenario without the Proposed Development;
- Identify the likely change in traffic generation should the Application Site be under the design scenario; and
- Compare the above two traffic scenarios for evaluation of the likely traffic impact, if any, associated with the Proposed Development;
- Assess future traffic conditions, taking into account any future traffic growth, as well as the traffic generated by the Proposed Development and other planned/committed development, if any, to be built in the vicinity;
- Assess future pedestrian walking conditions, taking into account any future pedestrian growth, as well as the pedestrian trips generated by the Proposed Development.

1.4 Structure of the Report

1.4.1 The structure of this TIA report is as follows:

Chapter	Title	Aims
1	Introduction	Provide project background and scope of this Study
2	Existing Traffic and Pedestrian Conditions	Review and appreciate the existing traffic and pedestrian conditions
3	The Subject Development	Provide information of the Proposed Development
4	Traffic and Pedestrian Impact Assessment	Illustrate the results of Traffic and Pedestrian Impact Assessment
5	Conclusion	Summarize the findings of this Study

2 EXISTING TRAFFIC AND PEDESTRIAN CONDITIONS

2.1 Existing Road Network

2.1.1 Currently, there is no vehicular access and footpath connecting between the Application Site and the external road network.

2.1.2 **Ha Wong Yi Au Road** is a single-track access road running in east-west direction. It connects to Yung Yi Road and provides means of access to Yung Yi Villa.

2.1.3 **Yung Yi Road** is a single two-lane carriageway running in north-south direction. It links up with Ha Wong Yi Au Road and Tai Po Road – Yuen Chau Tsai.

2.1.4 **Tai Po Road – Yuen Chau Tsai** section between Kwong Wang Street and the slip road from Tolo Highway is a dual carriageway with two traffic lanes at eastern direction and three traffic lanes at westbound direction, and the section between the slip road to Tolo Highway and Tai Po Road – Tai Po Kau is a single two-lane carriageway running in east-west direction.

2.1.5 **Tolo Highway** is an expressway in dual four-lane configuration running in north-south direction. It serves as a major corridor connecting between Sha Tin and Tai Po.

2.2 Existing Junction and Link Performance

2.2.1 To appreciate the existing traffic conditions, comprehensive classified traffic counts were conducted at the following identified key junctions in the vicinity of the Application Site. These surveyed junctions are listed below, and their locations are shown in **Figure 2.1**.

J1	-	Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai	(Signalized Junction)
J2	-	Kwong Fuk Road Roundabout	(Roundabout)
J3	-	Slip Road to Tolo Highway / Tai Po Road – Yuen Chau Tsai	(Priority Junction)
J4	-	Yung Yi Road / Tai Po Road – Yuen Chau Tsai	(Priority Junction)
J5	-	Lookout Link / Tai Po Road – Tai Po Kau	(Priority Junction)

2.2.2 In addition, traffic count survey for critical road links in the vicinity as shown in **Figure 2.1** has been conducted during the same period to examine the current operational performance of road links.

2.2.3 The manual traffic count survey was undertaken on a typical weekday during the periods 07:00-10:00 and 17:00-20:00 hours in March 2024. The morning and evening peak hours were identified to be 07:30-08:30 and 17:15-18:15 respectively. The observed traffic flows during these peak hours are presented in **Figure 2.2**.

Junction Capacity Assessment

2.2.4 Junction capacity assessment was carried out at the identified key junctions. The assessment results are presented in **Table 2.2.1** below and the detailed junction calculation sheets are enclosed in **Appendix A**.

Table 2.2.1 Year 2024 Existing Junction Performance

Junction		Type	Performance (1)	
			AM	PM
J1	Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai	Signalized	-4%	1%
J2	Kwong Fuk Road Roundabout	Roundabout	0.99	0.62
J3	Slip Road to Tolo Highway / Tai Po Road – Yuen Chau Tsai	Priority	0.65	0.60
J4	Yung Yi Road / Tai Po Road – Yuen Chau Tsai	Priority	0.36	0.27
J5	Lookout Link / Tai Po Road – Tai Po Kau	Priority	0.15	0.08

Note:
(1) Figures shown represent "Reserve Capacity" ("RC") in % for signalized junctions and "Design Flow Capacity" ("DFC") ratio for priority junctions and roundabouts.

2.2.5 As shown in **Table 2.2.1**, most of the identified junctions are operating with spare capacities during both morning and evening peak hours, except Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai (J1).

Link Capacity Assessment

2.2.6 Road link capacity assessment has also been carried out to examine the volume to capacity ("V/C") ratio of the assessed road links, and the assessment results are presented in **Table 2.2.2** below. The assessment framework for the road links is based on the ratio of surveyed traffic volume over the link capacity (V/C) to measure the utilization of the road links.

Table 2.2.2 Year 2024 Existing Link Performance

Road Section		Direction	Link Capacity (pcu/hr)	Traffic Flows (pcu/hr)		Volume/Capacity (V/C) Ratio	
				AM	PM	AM	PM
L1	Nam Wan Road *between Plover Cove Road and Tai Po Road – Yuen Chau Tsai*	NB	2,800	875	810	0.31	0.29
		SB	2,800	1,050	965	0.38	0.34
L2	Tai Po Road – Yuen Chau Tsai *between Nam Wan Road and Kwong Wang Street*	EB	2,800	1,370	1,200	0.49	0.43
		WB	2,800	1,285	1,560	0.46	0.56
L3	Tai Po Road – Yuen Chau Tsai *between Kwong Wang Street and Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway*	EB	3,000	2,195	1,850	0.73	0.62
L4	Tai Po Road – Yuen Chau Tsai *Between Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai and Kwong Wang Street*	WB	4,700	1,925	2,215	0.41	0.47
L5	Tai Po Road – Yuen Chau Tsai *between Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai and Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway*	Two-way	2,500	1,415	1,400	0.57	0.56
L6	Tai Po Road – Yuen Chau Tsai *between Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway and Yung Yi Road*	Two-way	2,300	1,220	1,280	0.53	0.56
L7	Tai Po Road – Yuen Chau Tsai *between Yung Yi Road and Tai Po Road – Tai Po Kau*	Two-way	2,300	900	1,035	0.39	0.45
L8	Yung Yi Road *between Tai Po Road – Yuen Chau Tsai and Wong Yi Au Road*	Two-way	2,300	425	285	0.18	0.12
L9	Ha Wong Yi Au Road *Full Section*	Two-way	110	5	15	0.05	0.14
L10	Tolo Highway *between Slip Road from Tai Wan Road to Tolo Highway and Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai*	EB	8,200	5,870	6,075	0.72	0.74
		WB	8,200	4,295	4,975	0.52	0.61
L11	Tolo Highway *between Slip Road from to Tai Po Road – Yuen Chau Tsai to Tolo Highway and Slip Road from Tolo Highway to Chong San Road*	EB	8,200	8,070	6,280	0.98	0.77
		WB	8,200	6,835	7,600	0.83	0.93
L12	Slip Road from Tolo Highway *between Tolo Highway and Tai Po Road – Yuen Chau Tsai*	EB	1,800	615	670	0.34	0.37
L13	Slip Road to Tolo Highway *between Tai Po Road – Yuen Chau Tsai and Tolo Highway*	WB	1,800	580	610	0.32	0.34
L14	Slip Road to Tolo Highway *between Tai Po Road – Yuen Chau Tsai and Tolo Highway*	EB	1,800	1,210	835	0.67	0.46
L15	Slip Road from Tolo Highway *between Tolo Highway and Tai Po Road – Yuen Chau Tsai*	WB	1,800	875	1,165	0.49	0.65

2.2.7 As shown in **Table 2.2.2**, all the identified road links in the vicinity of the Application Site are currently operating satisfactorily during morning and evening peak hours.

2.3 Existing Pedestrian Conditions

2.3.1 To appreciate the existing pedestrian conditions, comprehensive pedestrian count surveys were undertaken on a typical weekday during the periods of 07:00-10:00 and 17:00-20:00 hours in March 2024 at concerned pedestrian facilities in the vicinity of the Application Site. The location of the surveyed footpaths is shown in **Figure 2.3**.

2.3.2 Level of Services ("LOS") assessment on the existing footpaths has been carried out based on the definitions presented in the Highways Capacity Manual ("HCM") 2000. **Table 2.3.1** shows the various LOS "quantified" in terms of pedestrian flow rates.

Table 2.3.1 Level of Service (LOS) for Walkway*

LOS	Flow rate for Walkway (ped/min/m)	Description
A	≤16	Pedestrians basically 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 exist, 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 by 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: Extracted from Exhibit 11-8 of Highway Capacity Manual (HCM) 2000.

2.3.3 For the purpose of this assessment, a LOS of "C" or better would be considered acceptable for existing links. At a LOS of "D" or worse, it is determined that mitigation measures or improvement schemes should be considered to achieve a LOS of "C" or better. **Table 2.3.2** presents the results of LOS assessment on the surveyed footpaths.

Table 2.3.2 Year 2024 Existing LOS Performance

Location		Actual Width (m)	Effective Clear Width [2] (m)	Two-way Peak 15-minute Flow (ped/15-min)		Flow Rate [3] (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tai Po Road – Yuen Chau Tsai Footpath	1.8 [1]	0.8	24	15	2	2	A	A
F2	Tai Po Road – Yuen Chau Tsai Footpath	1.8 [1]	0.8	61	20	6	2	A	A
F3	Yung Yi Road Footpath	1.6 [1]	0.6	67	16	8	2	A	A
F4	Ha Wong Yi Au Road Footpath	1.7	0.7	62	14	6	2	A	A
F5	Tai Po Road – Yuen Chau Tsai Footpath	1.2	0.2	49	22	17	8	B	A
F6	Yung Yi Road Footpath	2.0	1.0	67	13	5	1	A	A
F7	Yung Yi Road Footpath	2.5	1.5	28	54	2	3	A	A

Notes:
(1) Critical footpath sections near the pedestrian crossing facilities at Yung Yi Road are selected for LOS assessment.
(2) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides.
(3) Pedestrian flow rates are computed based on effective clear width.

2.3.4 As shown in **Table 2.3.2**, the surveyed footpaths are currently operating satisfactorily with "LOS B" or above during morning and evening peak hours.

2.4 Existing Public Transport Facilities

2.4.1 The nearest public transport facilities, which include several franchised buses and Green Minibus ("GMB") service routes, are located approximately 400m from the Application Site along Tai Po Road – Yuen Chau Tsai as shown in **Figure 2.4**. A summary of the public transport services is presented in **Table 2.4.1**.

Table 2.4.1 Existing Franchised Bus and GMB Services

Route No.	Origin / Destination		Peak Headway (min.)
Franchised Bus			
72	Tai Po (Tai Wo)	Cheung Sha Wan	15
72A	Tai Wai Station	Tai Po Industrial Estate	20
73A	Fanling (Wah Ming)	Yu Chui Court	20
74A	Tai Po	Kai Yip	60
Green Minibus (GMB)			
28A	Tai Po Market Station	Yau King Lane	30
28K	Tai Po Road	Sha Tin (Pak Hok Ting Street)	6

3 THE SUBJECT DEVELOPMENT

3.1 Development Schedule

3.1.1 The key development parameters of the Proposed Development are summarized in **Table 3.1.1** and the extract of Master Layout Plan ("MLP") of the Proposed Development is illustrated in **Figure 3.1**.

Table 3.1.1 Key Development Parameters of the Proposed Development

Key Development Parameters (1)	
Application Site Area (About) (m^2)	14,879
Domestic Plot Ratio	2.4 (2)
Non-domestic Plot Ratio	0
Domestic GFA (About) (m^2) (2)	35,710 (2)
Non-domestic GFA (m^2)	0
Number of Flats (About) (3)	500 (3)
Anticipated Population (About) (4)	1,400 (4)
Number of Blocks	4

Notes:
(1) Individual numbers may not add up to total due to rounding.
(2) Clubhouse GFA of 1606.97m^2 (4.5 % of total domestic GFA) is exempted from GFA calculation.
(3) With an average flat size of 71.42 m^2.
(4) A person per flat (PPF) ratio of 2.8 is adopted based on the PPF in Tai Po District Council in 2021 Population Census.

3.2 Proposed Road Connection to the Application Site

3.2.1 To enhance the accessibility of the Application Site, a road connection proposal and a series of road / junction modification works has been proposed as shown in **Figure 3.2** and the details are summarized in the sections below.

3.2.2 Swept path analysis for 12m long coach has been carried out and the results are demonstrated in **Figures 3.3** and **3.4**.

Proposed Modification Works at the Junction of Yung Yi Road and Tai Po Road – Yuen Chau Tsai

3.2.3 Shuttle service for coaches has been proposed to serve the Proposed Development (see **Chapter 3.4** for more details). To facilitate the manoeuvring of 12m long coaches between Tai Po Road – Yuen Chau Tsai and the Application Site, it is proposed to widen an approximately 50m long section of Yung Yi Road near Tai Po Road - Yuen Chau Tsai from existing 7.3m to about 8.6m wide at straight section to cater for 12m long coach, as shown in **Figure 3.2**. The affected footpaths will be re-provided along both sides of the carriageway.

Proposed Modification Works at the Existing Turning Facilities near Ling Liang Church M.H. Lau Secondary School

3.2.4 Similarly, it is proposed to modify the existing turning facility at Yung Yi Road near Ling Liang Church M.H. Lau Secondary School to provide sufficient vehicular manoeuvring space and enhance traffic circulation, as shown in **Figure 3.2**.

Proposed Modification Works at Ha Wong Yi Au Road

3.2.5 The northern end of the proposed access road is connected to Ha Wong Yi Au Road. It is proposed to widen the full section of Ha Wong Yi Au Road from existing 3.7m wide single-track access road to 7.3m wide single two-lane carriageway to enhance the traffic accessibility of the road, as shown in **Figure 3.2**.

Proposed New Access Road Connecting to Ha Wong Yi Road

3.2.6 In order to provide vehicular and pedestrian access to Application Site, a new single two-lane carriageway with footpath is proposed to connect between the Application Site and Ha Wong Yi Au Road, as shown in **Figure 3.2**. The road configuration of the access road is proposed based on the estimated traffic and pedestrian flow demand of the Proposed Development which will be discussed in **Chapter 4**. The traffic engineering design parameters of the proposed access road in accordance with relevant Transport Planning and Design Manual ("TPDM") requirements is summarized in **Table 3.2.1**.

Table 3.2.1 Traffic Engineering Design Parameters of Proposed Access Road

Parameters	
Road Configuration	Minimum 7.3m wide single two-lane carriageway
Design Speed	50 km/hr
Inner Curve Radius	Minimum 44m
Gradient	Maximum 10%
Sight Distances to be provided along the Access Road	Minimum 50m

3.2.7 A 15m long taxi lay-by and a 24m long GMB lay-by are proposed on the proposed new access road to meet the potential public transport demand arising from the development, as shown in **Figure 3.2**. Swept path analysis for 5m long taxi and 8m long light bus has been carried out at the proposed transport facilities and the results are shown in **Figure 3.3**.

3.2.8 A 6m wide vehicular access is proposed at the proposed saltwater pumping station on Yung Yi Road, as shown in **Figure 3.2**. Swept path analysis for 7m long maintenance vehicle has been carried out at the proposed vehicular access of the saltwater pumping station and the results are shown in **Figures 3.3** and **3.4**.

3.2.9 A 7.3m wide vehicular access is proposed at the north of the Application Site, as shown in **Figure 3.2**. The major ingress and egress routes for vehicular traffic approaching and leaving the Application Site

are illustrated in **Figures 3.9** and **3.10**. Under the proposed road connection scheme, all the vehicular accesses / access roads of existing local village houses along Ha Wong Yi Road and Yung Yi Road will be maintained.

3.2.10 The proposed access road and saltwater pumping station are currently at the preliminary design phase. The detailed design will be developed during the subsequent detailed design stage.

3.3 Internal Transport Facilities Provision

3.3.1 The required internal transport facilities provision for the proposed residential development in accordance with Hong Kong Planning Standards and Guidelines ("HKPSG") are summarized in **Tables 3.3.1**.

Table 3.3.1 Internal Transport Facilities Provision for the Proposed Residential Development

Use	Facilities (L x W x H)	HKPSG Requirement	HKPSG Required Provision		Proposed Provision
			Low-end	High-end	
Private Housing 40<FS≤70: 409 flats 70<FS≤100: 24 flats 100<FS≤130: 24 flats 130<FS≤160: 11 flats FS>160: 32 flats Total 500 flats, 4 blocks	**Private Car Parking Space** (5m x 2.5m x 2.4m)	Ancillary Parking Space Global Parking Standard (GPS): 1 car space per 4-7 flats Demand Adjustment Ratio (R1) / Flat Size (FS) (m^2 GFA): FS≤40: 0.5; 40<FS≤70: **1.2**; 70<FS≤100: **2.4**; 100<FS≤130: **4.1**; 130<FS≤160: **5.5**; FS>160: **7.0** Accessibility Adjustment Ratio (R2): Within a 500m-radius of rail station: 0.75; Outside a 500m-radius of rail station: **1.00** Development Intensity Adjustment Ratio (R3) / Domestic Plot Ratio (PR): 0.00<PR≤1.00: 1.30; 1.00<PR≤2.00: 1.10; 2.00<PR≤5.00: **1.00**; 5.00<PR≤8.00: 0.90; PR>8.00: 0.75 Parking Requirement = GPS x R1 x R2 x R3	40<FS≤70: 71 nos. 70<FS≤100: 9 nos. 100<FS≤130: 15 nos. 130<FS≤160: 9 nos. FS>160: 32 nos. Total: 136 nos.	40<FS≤70: 123 nos. 70<FS≤100: 15 nos. 100<FS≤130: 25 nos. 130<FS≤160: 16 nos. FS>160: 56 nos. Total: 235 nos.	**255 nos.** (including Accessible Car Parking Space)
		Visitor Parking Space: 5 visitor spaces per block in addition to the recommendations, or as determined by the Authority.	20 nos.		
		Total	156 nos.	255 nos.	
	Accessible Car Parking Space (5m x 3.5m x 2.4m)	3 spaces for 151-250 total number of car parking spaces in the lot; 4 spaces for 251-350 total number of car parking spaces in the lot;	3 nos.	4 nos.	**4 nos.**
	Motorcycle Parking Space (2.4m x 1m x 2.4m)	1 space per 100-150 flats excluding non-residential elements.	4 nos.	5 nos.	**6 nos.** (1)
	HGV Loading/Unloading Bay (11m x 3.5m x 4.7m)	Minimum of 1 L/UL bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority	4 nos.		**4 nos.**

Notes:
(1) Addition 25% of motorcycle parking spaces to be provided as per TD comment.

3.3.2 To cater for the proposed shuttle service (see **Chapter 3.4** for more details), a 24m long coach lay-by which comprises 1 no. pick-up/drop-off space (12m (L) x 3.5m (W) x 3.8m (H)) and 1 no. stacking space (12m (L) x 3.5m (W) x 3.8m (H)) for residential shuttle bus will be provided within the Application Site.

3.3.3 There are no specific guidelines in accordance with HKPSG requirement of the internal transport facilities provision for the proposed saltwater pumping station. To meet the operational requirements of the proposed saltwater pumping station at Yung Yi Road, a LGV parking space (7m (L) x 3.5m (W) x 3.6m (H)) is proposed to be included within the facility.

3.3.4 The proposed total provision number of internal transport facilities for the Proposed Development and proposed saltwater pumping station are summarized in **Table 3.3.3** for easy reference.

Table 3.3.3 Summary of Total Internal Transport Facilities Provision of the Proposed Development and Proposed Saltwater Pumping Station

Facilities (L x W x H)	**Proposed Provision**
For *Proposed Development*:	
Private Car Parking Space (5m x 2.5m x 2.4m) **Accessible Car Parking Space** (5m x 3.5m x 2.4m)	**255 nos.** (incl. 20 nos. visitor car parking spaces and 4 nos. accessible parking spaces)
Motorcycle Parking Space (2.4m x 1m x 2.4m)	**6 nos.**
HGV Loading/Unloading Bay (11m x 3.5m x 4.7m)	**4 nos.**
Coach Lay-by for Residential Shuttle Bus (24m x 3.5m x 3.8m)	**1 no.**
For *Proposed Saltwater Pumping Station*:	
LGV Parking Space (7m x 3.5m x 3.6m)	**1 no.**

3.3.5 For the Proposed Development, the HGV loading/unloading bays and coach lay-by for residential shuttle bus will be provided on ground floor, while the other internal transport facilities will be provided on the basement floor, which will be accessed via the ramp system. The G/F and B/F layout plans are shown in **Figures 3.11** and **3.12**.

3.4 Proposed Shuttle Service

3.4.1 Currently, the nearest public transport facilities are located approximately 400m away from the Application Site along Tai Po Road – Yuen Chau Tsai. In view of the remote site location and limited public transport facilities in the vicinity, shuttle service is proposed to provide feeder service to Tai Po Market MTR station.

Passenger Demand Forecast

3.4.2 The anticipated population of the Proposed Development is about 1,400. According to "Travel Characteristics Survey (TCS) 2011" published by Transport Department, the daily mechanised trip rate is 1.83 trips per person and the morning peak hour accounted for about 12% of the daily trips. Based on this travel pattern, it is estimated that the Proposed Development would generate a total of 308 passenger trips / hr (i.e., 1,400 × 1.83 × 0.12) during the morning peak hour. The anticipated passenger trips generated in the morning peak hour is summarized in **Table 3.4.1**.

Table 3.4.1 Passenger Trips Generated from The Proposed Development in Morning Peak Hour

Development Parameters	
No. of Flats	500 flats
Population	1,400 residents
Peak Hours Trip Generation (1)	**308 pax/hr**

Notes:

(1) According to "TCS 2011" published by Transport Department, the daily mechanised trip rate is 1.83 trips per person and the morning peak hour accounted for about 12% of the daily trips.

3.4.3 With reference to "2021 Population Census" published by Census and Statistics Department, the modal split and the corresponding passenger demand from the Proposed Development are estimated and summarized in **Table 3.4.2**.

Table 3.4.2 Estimated Passenger Demand from the Proposed Development in Peak Hour by Mode of Transport

Mode of Transport	Proportion (about) (1)	Passenger Demand from the Proposed Development (pax/hr)
Public Transport	83%	**255**
Private Car/ Passenger Van	6%	19
On Foot	11%	**34**
Total	100%	308

Notes:

(1) Based on the main mode of transport to place of work in Tai Po District extracted from "2021 Population Census".

3.4.4 Considering the remote location and being conservative in the assessment, it is proposed to combine the passenger demand for people travelled on foot and by public transport, in order to estimate the passenger demand of public transport associated with the Proposed Development.

3.4.5 As shown in **Table 3.4.2**, it is estimated that the total passenger demand of public transport associated with the Proposed Development in the morning peak hour would be approximately 289 pax/hr, i.e. 255 (Public Transport) + 34 (On Foot).

Proposed Shuttle Service

3.4.6 In view of the anticipated passenger demand, it is proposed to provide shuttle service for the proposed residential development. Details of the proposed shuttle service are summarised in **Table 3.4.3**.

Table 3.4.3 Proposed Shuttle Service for the Proposed Development

Item	Details
Deployment of Vehicle	60-seater Coach
Average Handling Capacity per vehicle	60 passengers
Level of Service in Peak Hour	Average 5 trips/hr
Hourly Capacity	**Approx. 300 pax/hr**

3.4.7 The proposed shuttle service would provide adequate capacity (approx. **300** pax/hr) to cater for the peak hour passenger trip generation (approx. **289** pax/hr) in the morning peak period.

3.4.8 The applications of shuttle service will be subject to Transport Department's approval depending on the service details applied and the actual operation of alternative public transport services nearer the time of population intake.

4 TRAFFIC AND PEDESTRIAN IMPACT ASSESSMENT

4.1 Traffic Trip Generation and Attraction of Proposed Development

Development Traffic Generation / Attraction

4.1.1 The likely amount of traffic generated and attracted by the proposed residential development was calculated based on 'Traffic Rates for Residential Development at 95% Confidence Level' adopted in the TPDM Vol. 1 Annex C Table 1. The adopted upper limit traffic trip rates and associated trips generated and attracted by the proposed residential development are shown in **Tables 4.1.1** and **4.1.2** respectively.

Table 4.1.1 Adopted Trip Generation and Attraction Rates for the Proposed Residential Development

Development Use	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Private Housing (pcu/hr/flat) Average Flat Size: 60m^2	0.1021	0.0709	0.0415	0.0464
Private Housing (pcu/hr/flat) Average Flat Size: 80m^2	0.1379	0.0905	0.0563	0.0689
Private Housing (pcu/hr/flat) Average Flat Size: 140m^2	0.3021	0.2234	0.2258	0.2226
Private Housing (pcu/hr/flat) Average Flat Size: 180m^2	0.3276	0.2407	0.2233	0.3097

Table 4.1.2 Traffic Generation and Attraction of Proposed Residential Development (pcu/hr)

Development Parameters	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
409 Flats Adopted traffic rates by groups of average flat size: 60m^2	42	29	17	19
24 Flats Adopted traffic rates by groups of average flat size: 80m^2	4	3	2	2
24 Flats Adopted traffic rates by groups of average flat size: 140m^2	8	6	6	6
43 Flats Adopted traffic rates by groups of average flat size: 180m^2	15	11	10	14
Total (pcu/hr)	**69**	**49**	**35**	**41**

4.1.2 As indicated in **Table 4.1.2**, the proposed residential development would generate a total of some 118 pcu/hr and 76 pcu/hr (two-way) during morning and evening peak hours respectively.

Traffic Generation / Attraction from Proposed Shuttle Service

4.1.3 The estimated traffic generation and attraction from the proposed shuttle service for the proposed residential development are derived from **Chapter 3.4** and summarized in **Table 4.1.3**.

Table 4.1.3 Estimated Trip Generation and Attraction of Proposed Shuttle Service (pcu/hr)

Proposed Level of Service in Peak Hours	AM Peak		PM Peak	
	GEN	ATT	GEN	ATT
5 trips/hr	10	10	10	10

4.1.4 The corresponding and total traffic generation and attraction of the Proposed Development are shown in **Table 4.1.4**.

Table 4.1.4 Estimated Development Traffic Generation and Attraction of the Proposed Development (pcu/hr)

Item	AM Peak		PM Peak	
	GEN	ATT	GEN	ATT
Private Housing	69	49	35	41
Proposed Shuttle Service	10	10	10	10
Total	79	59	45	51

4.1.5 As indicated in table above, the Proposed Development would generate a total of some **138 pcu/hr** and **96 pcu/hr (two-way)** during morning and evening peak hours respectively.

4.2 Future Traffic Growth and Assessment Scenarios

4.2.1 The Proposed Development is targeted for completion in Year 2030. In order to assess the traffic impact of the development-related traffic on the adjacent road network, Year 2033 (i.e. 3 years after completion) is adopted as the design year of the study.

4.2.2 The latest available 2019-based Base District Traffic Model (BDTM) no. NTE1 which covers Shatin and North District area (purchased from Transport Department) has been adopted for developing the traffic forecast. The BDTM covers models of validated year 2019, design years 2026 and 2031.

4.2.3 Considering the BDTM is only validated to year 2019, it has been further validated to the base year 2024 traffic condition, taking account the existing developments, traffic aids, junction layouts and method of control in the Study Area. In the model revalidation process, the trip matrices of base year BDTM have been refined and adjusted to match with 2024 traffic count data through the typical matrix estimation process. The refinement and adjustment were then carried forward to update the design year 2031 BDTM trip matrices.

4.2.4 To align with the design year of the Proposed Development, the updated 2031 BDTM would be further projected to suit the assessment purpose. A traditional growth factor approach is adopted to project the 2031 trip matrices to the design year of 2033.

Territorial Population and Employment Data Matrix (TPEDM)

4.2.5 Reference was made to 2019-based TPEDM published by Planning Department. **Table 4.2.1** below summarizes the estimated and projected population and employment data as well as their respective annual average growth rate of Tai Po District in Year 2019, 2026 and 2031.

Table 4.2.1 Annual Average Growth Rate by TPEDM (Tai Po District)

Year	2019	2026	2031
Population	250,050	285,850	263,800
Employment	86,750	83,700	78,550
Total	336,800	369,550	342,350
Annual Average Growth Rate	**0.14% (from 2019 to 2031)**	**-1.52% (from 2026 to 2031)**	**---**

4.2.6 As shown **Table 4.2.1**, the annual average growth rate of population and employment in Tai Po District from 2019 to 2031 is +0.14% and that from 2026 to 2031 is -1.52%.

4.2.7 For a conservative assessment, the annual growth rate of **+1.0% p.a.** was adopted in the matrix projection from 2031 to 2033.

Adjacent Developments

4.2.8 In addition to the development and public transport traffic flow, the traffic generated and attracted by adjacent major planned/committed developments in the vicinity as shown in **Table 4.2.2**, were taken into account for the traffic forecast.

Table 4.2.2 List of Adjacent Major Planned/Committed Developments

Development	Type	Parameters	Anticipated Intake Year
Fanling North New Development Area (NDA) (1)	Residential (Public and Private)	57,500 Public Housing units and 28,700 Private Housing units (Total 86,200 units)	2031
Kwu Tung North New Development Area (NDA) (1)	Residential (Public and Private)		
Proposed Public Housing Development at Queen's Hill Extension, Fanling (2)	Public Rental Housing	About 4,030 units	2030 / 2031
Public Housing Development in Tai Po Area 9 / Chung Nga Road East (3) and Chung Nga Road West (4)	Public Rental Housing	Tai Po Area 9 / Chung Nga Road East: 7,431 units Chung Nga Road West: 1292 units	2030 / 2031
Proposed Public Housing Development at Tai Hang (5)	Public Rental Housing	Assumed 3,900 units	Assumed to be completed by 2033
Public Housing Development in Fanling Area 48 (6)	Public Rental Housing	About 4,200 units	Assumed to be completed by 2033
Public Housing Development at To Yuen Tung, Ma Wo Road (7)	Public Rental Housing	About 2,300 units	2032 / 2033
Redevelopment of Bus Depot at the Junction of Dai Fuk Street and Dai Wah Street, Tai Po (8)	Bus Depot Development	About 52,360 m^2 non-domestic GFA	2025

Development	Type	Parameters	Anticipated Intake Year
Proposed Temporary Residential Institution (Transitional Housing) at Wong Yue Tan, Tai Po (9)	Public Rental Housing	About 1,236 units	2024
Proposed Temporary Residential Institution (Transitional Housing) at Shuen Wan, Tai Po (10)	Public Rental Housing	About 276 units	2025
Proposed Private Housing Development at 36 Lo Fai Road, Tai Po (11)	Private Housing	About 262 units	2024
Land Sharing Pilot Scheme at Lo Fai Road and Ting Kok Road, Wong Yue Tan, Tai Po (12)	Residential (Public and Private)	1,290 Public Housing units and 460 Private Housing units (Total 1,750 units)	2033
Pak Shek Kok Station Development (13)	Residential (Public and Private)	About 10,000 units	Assumed to be completed by 2033
Proposed Shuen Wan Golf Course (14)	Recreational	About 50 hectares	Assumed to be completed by 2033

Notes:

(1) Refer to LC Paper No. PWSC(2024-25)6 (dated 5 June 2024) available on Legislative Council's website.
(2) Refer to Approved Planning Brief (dated 19 May 2023) available on Planning Department's website.
(3) Refer to Approved Planning Application No. A/TP/672 available on Town Planning Board's website.
(4) Refer to Approved Planning Application No. A/TP/700 available on Town Planning Board's website.
(5) Refer to LC Paper No. CB(1)463/19-20(01) (dated March 2020) available on Legislative Council's website. The number of housing units is estimated by the site area and maximum domestic plot ratio of 6.5 according to the LC paper with an assumed average flat size of 50m^2.
(6) Refer to DC Discussion Paper No. 3/2023 (dated 16 January 2021) available on North District Council's website.
(7) Refer to LC Paper No. CB(1)520/2024(03) dated 6 May 2024 available on Legislative Council's website.
(8) Refer to Approved Planning Application No. A/TP/685 available on Town Planning Board's website.
(9) Refer to Approved Planning Application No. A/NE-TK/702 available on Town Planning Board's website.
(10) Refer to Approved Planning Application No. A/NE-TK/753 available on Town Planning Board's website.
(11) Refer to Sales Brochure of Villa Lucca dated 9 January 2025.
(12) Refer to RNTPC Paper No. 2/25 for Proposed Amendments to the Approved Tai Po Outline Zoning Plan No. S/TP/30.
(13) Refer to LC Paper No. CB(1)693/2022(03) (dated 25 October 2022) available on Legislative Council's website.
(14) Refer to DC Discussion Paper No. 3/2020 (dated 24 April 2020) available on Tai Po District Council's website.

4.3 Assessment Scenarios

4.3.1 To evaluate the associated traffic impact likely to be induced by the Proposed Development, two scenarios were analysed and compared.

4.3.2 The first scenario (i.e. Year 2033 Reference Scenario) refers to the traffic forecast without the Proposed Development, while the second scenario (i.e. Year 2033 Design Scenario) refers to the traffic forecast with the Proposed Development in place.

Scenario 1

Year 2033 Reference Scenario

= Year 2031 adjusted BDTM Flow × growth factor during the period of year 2031-2033

Plus traffic generations of other major planned/committed developments in the vicinity

Scenario 2

Year 2033 Design Scenario

= Year 2033 Reference Scenario

Plus traffic trips generated and attracted by the Proposed Development

4.3.3 The forecasted traffic flows for the above two scenarios are presented in **Figures 4.1 and 4.2** respectively. The net development traffic flows associated with the Proposed Development during operational stage are shown in **Figure 4.3**.

4.4 Junction and Link Capacity Assessment

Junction Capacity Assessment

4.4.1 Junction capacity assessment was carried out at the identified key junctions under the proposed road network as shown in **Figure 4.4** for Year 2033 Reference and Design scenarios. The assessment results are summarized in **Table 4.4.1**, and the detailed junction calculation sheets are enclosed in **Appendix A**.

Table 4.4.1 Year 2033 Future Junction Performance

Junction		Type	Performance (1)			
			2033 Reference		2033 Design	
			AM	PM	AM	PM
J1	Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai	Signalized	-10%	2%	-10%	2%
J2	Kwong Fuk Road Roundabout (2)	Roundabout	0.81	0.61	0.85	0.63
J3	Slip Road to Tolo Highway / Tai Po Road – Yuen Chau Tsai	Priority	0.77	0.66	0.78	0.67
J4	Yung Yi Road / Tai Po Road – Yuen Chau Tsai (3)	Priority	0.31	0.25	0.44	0.33
J5	Lookout Link / Tai Po Road – Tai Po Kau	Priority	0.19	0.12	0.19	0.12
J6	Ha Wong Yi Au Road / Yung Yi Road / Access Road from/to Ling Liang Church M.H. Lau Secondary School (3)	Roundabout	---	---	0.12	0.06

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for the signalized junctions and "Design Flow Capacity" (DFC) ratio for priority junctions and roundabouts.
(2) Taking into account the junction improvement works under Contract No. CV/2023/18: Site Formation and Infrastructure Works at To Yuen Tung, Tai Po, which is enclosed in **Appendix B**.
(3) Taking into account the road / junction modification schemes under the Proposed Development as discussed in **Chapter 3.2**.

4.4.2 The above results reveal that the identified key junctions would operate within capacities with the Proposed Development in Year 2033 except Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai (J1) during morning peak hours. Nonetheless, the results also revealed that the junction capacity of J1 with development traffic would remain similar as compared with the case without the Proposed Development.

4.4.3 Under the current application, the traffic contribution from the Proposed Development to J1 is minimal compared to the background traffic flow. The additional traffic generated and attracted by the Proposed Development to the junction is limited to 32 pcu/hr during the AM peak period and 28 pcu/hr during the PM peak period, representing less than 0.8% of the total junction traffic flows under the Year 2033 Design Scenario. The additional traffic load is therefore considered negligible.

Proposed Junction Improvement Works for J1

4.4.4 While the traffic impact of the Proposed Development on J1 is expected to be minimal, potential enhancements to the junction layout have been explored to improve its operational performance. These enhancements have taken into account the constraints posed by existing infrastructure near the junction, including subways, cycle tracks, slope structures, lift systems, and the bridge deck along Tai Po Road – Yuen Chau Tsai. The proposed scheme involves widening the southbound approach of Nam Wan Road from 9.2m to 10m. A schematic design of the proposed junction improvement is illustrated in **Figure 4.5**.

4.4.5 The proposed improvement is anticipated to deliver the following benefits to the junction:

- **Accommodation of Large/Heavy Vehicles**: Based on the survey findings, a significant proportion of heavy vehicles has been observed at this junction approach (i.e. AM Peak: 26%, PM Peak: 22%). Bus traffic is particularly notable, with an average frequency exceeding 1 veh/min during peak periods. The proposed widening will enhance lateral clearance, facilitating smoother and safer manoeuvring for larger vehicles.
- **Lane Realignment**: The proposed realignment of traffic lanes will result in straighter paths for southbound traffic along Nam Wan Road, enhancing forward movement efficiency.
- **Capacity Enhancement**: The proposed widening will increase the saturation flow at the junction approach, thereby improving the overall reserve capacity (RC) of the junction. The operational performance of J1 under Year 2033 Design Scenario with the implementation of proposed junction improvement is summarized in **Table 4.4.2**.

Table 4.4.2 Year 2033 Future Junction Performance at J1 – With Junction Improvement

Junction		Type	2033 Design Performance (1)	
			AM	PM
J1	Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai	Signalized	-9%	2%

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for the signalized junction.

4.4.6 The assessment results indicate that the operational performance of J1 under the Year 2033 Design Scenario would improve with the implementation of the proposed junction improvement, compared to the Year 2033 Reference Scenario.

4.4.7 Therefore, it is anticipated that the Proposed Development would not induce significant traffic impact to the surrounding road network. To further enhance the traffic conditions, improvement or new road network may be further considered in the long term from district perspective.

Link Capacity Assessment

4.4.8 Link capacity assessment was carried out at the identified road links for Year 2033 Reference and Design scenarios. Assessment results are summarized in **Table 4.4.3** below.

Table 4.4.3 Year 2033 Future Link Performance

Road Section		Direction	Link Capacity (pcu/hr)	Traffic Flows (pcu/hr)				Volume/Capacity (V/C) Ratio			
				2033 Reference		2033 Design		2033 Reference		2033 Design	
				AM	PM	AM	PM	AM	PM	AM	PM
L1	Nam Wan Road *between Plover Cove Road and Tai Po Road – Yuen Chau Tsai*	NB	2,800	810	715	815	720	0.29	0.26	0.29	0.26
		SB	2,800	1,095	885	1,100	890	0.39	0.32	0.39	0.32
L2	Tai Po Road – Yuen Chau Tsai *between Nam Wan Road and Kwong Wang Street*	EB	2,800	1,525	1,200	1,540	1,215	0.54	0.43	0.55	0.43
		WB	2,800	1,375	1,625	1,390	1,640	0.49	0.58	0.50	0.59
L3	Tai Po Road – Yuen Chau Tsai *between Kwong Wang Street and Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway*	EB	3,000	2,410	1,850	2,500	1,910	0.80	0.62	0.83	0.64
L4	Tai Po Road – Yuen Chau Tsai *Between Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai and Kwong Wang Street*	WB	4,700	2,135	3,660	2,225	2,415	0.45	0.78	0.47	0.51
L5	Tai Po Road – Yuen Chau Tsai *between Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai and Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway*	Two-way	2,500	1,515	1,385	1,620	1,460	0.61	0.55	0.65	0.58
L6	Tai Po Road – Yuen Chau Tsai *between Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway and Yung Yi Road*	Two-way	2,300	1,260	1,325	1,380	1,410	0.55	0.58	0.60	0.61
L7	Tai Po Road – Yuen Chau Tsai *between Yung Yi Road and Tai Po Road – Tai Po Kau*	Two-way	2,300	1,015	1,075	1,035	1,085	0.44	0.47	0.45	0.47
L8	Yung Yi Road *between Tai Po Road – Yuen Chau Tsai and Wong Yi Au Road*	Two-way	2,300	375	235	515	330	0.16	0.10	0.22	0.14
L9	Ha Wong Yi Au Road *Full Section*	Two-way	110 / 2,300 *(under design scenario)* (1)	10	15	150	110	0.09	0.14	0.06	0.05
L10	Tolo Highway *between Slip Road from Tai Wan Road to Tolo Highway and Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai*	EB	8,200	8,130	6,325	8,135	6,330	0.99	0.77	0.99	0.77
		WB	8,200	5,640	6,655	5,655	6,665	0.69	0.81	0.69	0.81

Road Section		Direction	Link Capacity (pcu/hr)	Traffic Flows (pcu/hr)				Volume/Capacity (V/C) Ratio			
				2033 Reference		2033 Design		2033 Reference		2033 Design	
				AM	PM	AM	PM	AM	PM	AM	PM
L11	Tolo Highway *between Slip Road from to Tai Po Road – Yuen Chau Tsai to Tolo Highway and Slip Road from Tolo Highway to Chong San Road*	EB	8,200	10,695	7,435	10,735	7,450	1.30	0.91	1.31	0.91
		WB	8,200	8,265	9,210	8,295	9,235	1.01	1.12	1.01	1.13
L12	Slip Road from Tolo Highway *between Tolo Highway and Tai Po Road – Yuen Chau Tsai*	EB	1,800	735	735	740	740	0.41	0.41	0.41	0.41
L13	Slip Road to Tolo Highway *between Tai Po Road – Yuen Chau Tsai and Tolo Highway*	WB	1,800	685	740	700	750	0.38	0.41	0.39	0.42
L14	Slip Road to Tolo Highway *between Tai Po Road – Yuen Chau Tsai and Tolo Highway*	EB	1,800	1,260	855	1,300	870	0.70	0.48	0.72	0.48
L15	Slip Road from Tolo Highway *between Tolo Highway and Tai Po Road – Yuen Chau Tsai*	WB	1,800	1,035	1,225	1,065	1,250	0.58	0.68	0.59	0.69
L16	New Access Road *between Ha Wong Yi Au Road and Site B* (1)	Two-way	2,300	---	---	140	95	---	---	0.06	0.04

Notes:
(1) Taking into account the road connection proposal and road / junction modification schemes under the Proposed Development as discussed in **Chapter 3.2**.

4.4.9 As shown in the table above, the majority of identified road sections would continue to have sufficient link capacities to cater for the future traffic demand with the Proposed Development by Year 2033, except Tolo Highway (L11). Nonetheless, the results also revealed that the link capacity of L11 with development traffic would remain similar as compared with the case without the Proposed Development. Therefore, it is anticipated that the Proposed Development would not induce significant traffic impact to the surrounding road network.

Potential Change of Development Trip Distribution with Northern metropolis in long-term

4.4.10 The Chief Executive's 2021 Policy Address released the Northern Metropolis Development Strategy. With consideration of the long term vision of Northern Metropolis and "Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030", the Application Site in Tai Po is located in NT North and within "Eastern Knowledge and Technology Corridor ("EKTC")", which could facilitate the interaction with the existing and Northern metropolis and the planned high-

technology and knowledge-based developments along / near this corridor such as Kwu Tung North NDA, Fanling North NDA, Lok Ma Chau Loop, San Tin Development Node, Hong Kong Science Park, Yuen Long Industrial Estate Extension, the Chinese University of Hong Kong ("CUHK") Expansion, Development in New Territories North ("NTN") etc. It is anticipated that the growth of knowledge driven economy would create job opportunities in NTN / along this corridor.

4.4.11 With reference to Housing, Town Planning and Development Committee Discussion Paper in Yuen Long District Council "Development Plan for the San Tin / Lok Ma Chau Development Node (Document No.: 12/2021)" dated 17 March 2021 and Legislative Council Paper "Administration's paper on development of the New Territories north (LC Paper No.: CB(1)887/20-21(01))" dated 10 May 2021 prepared by CEDD and PlanD, preliminary new 64,000 job opportunities would be created in San Tin Development Node (including "Enterprise and Technology Park" zone Beyond 2030. Therefore, together with other NDAs in NTN (such as Kwu Tung North NDA, Fanling NDA, Lok Ma Chau Loop), a total of **more than 100,000 job opportunities** will be provided in NTN beyond 2030.

4.4.12 In light of this, the development trip distribution of the Application Site to / from the NTN direction (particularly the commuting trips for work) may increase. In addition, it is anticipated that the traffic loading to (i) southbound of Tolo Highway during morning peak period and (ii) northbound of Tolo Highway during evening peak period could be reduced as more commuting traffic is expected to travel to NTN due to the change in development trip distribution in long term future.

Potential Change of Traffic Pattern due to Proposed Shatin Bypass

4.4.13 With reference to "Hong Kong Major Transport Infrastructure Development Blueprint " published by Transport and Logistics Bureau in December 2023, Shatin Bypass is one of the three major road proposals under the strategic studies on major transport infrastructure projects in the future.

4.4.14 The Proposed Shatin Bypass is about 15 km in length, connecting Fanling Highway in Tai Po to the north and the existing major roads near Cheung Sha Wan to the south. Shatin Bypass would provide a more direct connection between Tai Po and West Kowloon, and alleviate the pressure of the existing north-south corridors such as Tolo Highway and Tai Po Road.

4.4.15 With the development of North Metropolis and Shatin Bypass, it is anticipated that there will be significant improvement on the operation performance of Tolo Highway in terms of V/C ratio in long-term future.

4.5 Pedestrian Impact Assessment

4.5.1 Similar to the methodology adopted in the passenger demand forecast discussed in **Chapter 3.4**, the peak hour pedestrian trips generated from the Proposed Development by Mode of Transport is estimated with reference to "Travel Characteristics Survey (TCS) 2011" and "2021 Population Census". The pedestrian trips generation of the Proposed Development are deduced based on the estimated demand of pedestrian traveling *on foot* as indicated in **Table 3.4.2**, and the results are summarized in **Table 4.5.1**.

Table 4.5.1 Pedestrian Trips Generated and Attracted by Proposed Development

Pedestrian Trips	AM Peak	PM Peak (1)
	Two-way Pedestrian Flow	Two-way Pedestrian Flow
Ped/hr	34	34
Ped/15-min (2)	11	11

Note:
(1) For assessment purposes, the AM peak pedestrian trip generation and attraction are adopted for the PM peak period.
(2) A surge factor of 1.2 was applied on the pedestrian flows during the peak 15-minute period.

4.5.2 As indicated in **Table 4.5.1** above, the Proposed Development would generate a total of **11 ped/15-min (two-way)** during both morning and evening peak periods.

Assessment Scenarios

4.5.3 Similar to the vehicular traffic assessment, year 2033 is adopted as the design year of pedestrian assessment. An annual growth rate of +1.0% p.a. (same as the adopted growth rate for vehicular traffic assessment in **para. 4.2.7**) is adopted to produce the pedestrian forecast for Year 2024–2033 and additionally, the future pedestrian volumes generated by the Proposed Development.

4.5.4 Similarly, to evaluate the associated pedestrian impact likely to be induced by the for the Proposed Development, two scenarios were analysed and compared.

4.5.5 The first scenario (i.e. Year 2033 Reference Scenario) refers to the pedestrian forecast without the Proposed Development, while the second scenario (i.e. Year 2033 Design Scenario) refers to the pedestrian forecast with the Proposed Development in place.

Scenario 1

Year 2033 Reference Scenario

= Year 2024 existing pedestrian flows × growth factor during the period of year 2024-2033

Scenario 2

Year 2033 Design Scenario

= Year 2033 Reference Scenario

Plus pedestrian trips generated and attracted by the Proposed Development

Performance of Pedestrian Facilities in Year 2033

4.5.6 In order to address the performance of the concerned pedestrian facilities, LOS assessment of the concerned footpaths under the proposed road network as shown in **Figure 4.5**, has been conducted for Year 2033 Reference and Design scenarios, and the results are summarized in **Tables 4.5.2** and **4.5.3**.

Table 4.5.2 Year 2033 LOS Performance under Reference Scenario

Location		Actual Width (m)	Effective Clear Width [2] (m)	Two-way Peak 15-minute Flow (ped/15-min)		Flow Rate [3] (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tai Po Road – Yuen Chau Tsai Footpath	1.8 [1]	0.8	27	17	3	2	A	A
F2	Tai Po Road – Yuen Chau Tsai Footpath	1.8 [1]	0.8	67	22	6	2	A	A
F3	Yung Yi Road Footpath	1.6 [1]	0.6	74	18	9	2	A	A
F4	Ha Wong Yi Au Road Footpath	1.7	0.7	68	16	7	2	A	A
F5	Tai Po Road – Yuen Chau Tsai Footpath	1.2	0.2	54	25	18	9	B	A
F6	Yung Yi Road Footpath	2.0	1.0	74	15	5	1	A	A
F7	Yung Yi Road Footpath	2.5	1.5	31	60	2	3	A	A

Notes:
(1) Critical footpath sections near the pedestrian crossing facilities at Yung Yi Road are selected for LOS assessment.
(2) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides.
(3) Pedestrian flow rates are computed based on effective clear width.

Table 4.5.3 Year 2033 LOS Performance under Design Scenario

Location		Actual Width (m)	Effective Clear Width [2] (m)	Two-way Peak 15-minute Flow (ped/15-min)		Flow Rate [3] (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tai Po Road – Yuen Chau Tsai Footpath	1.5 [1]	0.5	28	21	4	3	A	A
F2	Tai Po Road – Yuen Chau Tsai Footpath	1.5 [1]	0.5	77	29	11	4	A	A
F3	Yung Yi Road Footpath	1.5 [1]	0.5	77	21	11	3	A	A
F4	Ha Wong Yi Au Road Footpath	1.7	0.7	79	27	8	3	A	A
F5	Tai Po Road – Yuen Chau Tsai Footpath	1.2	0.2	57	30	19	10	B	A
F6	Yung Yi Road Footpath	2.0	1.0	77	18	6	2	A	A
F7	Yung Yi Road Footpath	2.5	1.5	39	68	2	4	A	A
F8	Proposed Footpath along the New Access Road	1.5	0.5	11	11	2	2	A	A

Notes:
(1) Critical footpath sections near the pedestrian crossing facilities at Yung Yi Road under the proposed junction modification scheme of Yung Yi Road / Tai Po Road – Yuen Chau Tsai (J4) discussed in **Chapter 3.2** are selected for LOS assessment.
(2) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides.
(3) Pedestrian flow rates are computed based on effective clear width.

4.5.7 As shown in **Table 4.5.2** and **Table 4.5.3**, the concerned footpaths would be operating satisfactorily with "LOS A" in design year 2033 under both reference and design scenarios.

Design Scenario if No Shuttle Service is Provided

4.5.8 For conservative purposes, pedestrian assessment has been carried out assuming no shuttle service is provided, and the passenger demand of the Proposed Development for public transport would require to leave the site to Tai Po Road – Yuen Chau Tsai for taking public transport. The pedestrian trips generated and attracted by the Proposed Development under this design scenario are summarized in **Table 4.5.4** and the assessment results are summarized in **Table 4.5.5**.

Table 4.5.4 Pedestrian Trips Generated and Attracted by Proposed Development under Design Scenario if No Shuttle Service is Provided

Pedestrian Trips	AM Peak	PM Peak [1]
	Two-way Pedestrian Flow	Two-way Pedestrian Flow
Ped/hr	289 [2]	289
Ped/15-min [3]	87	87

Note:
(1) For assessment purposes, the AM peak pedestrian trip generation and attraction are adopted for the PM peak period.

(2) Refer to Chapter 3.4, the total passenger demand of public transport associated with the Proposed Development in the morning peak hour is assumed to be approximately 289 pax/hr, i.e. 255 (Public Transport) + 34 (On Foot).
(3) A surge factor of 1.2 was applied on the pedestrian flows during the peak 15-minute period.

Table 4.5.5 Year 2033 LOS Performance under Design Scenario if No Shuttle Service is Provided

Location		Actual Width (m)	Effective Clear Width [2] (m)	Two-way Peak 15-minute Flow (ped/15-min)		Flow Rate [3] (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tai Po Road – Yuen Chau Tsai Footpath	1.5 [1]	0.5	32	42	5	6	A	A
F2	Tai Po Road – Yuen Chau Tsai Footpath	1.5 [1]	0.5	149	84	20	12	B	A
F3	Yung Yi Road Footpath	1.5 [1]	0.5	100	44	14	6	A	A
F4	Ha Wong Yi Au Road Footpath	1.7	0.7	155	103	15	10	A	A
F5	Tai Po Road – Yuen Chau Tsai Footpath	1.2	0.2	79	69	27	23	C	C
F6	Yung Yi Road Footpath	2.0	1.0	100	41	7	3	A	A
F7	Yung Yi Road Footpath	2.5	1.5	92	121	5	6	A	A
F8	Proposed Footpath along the New Access Road	1.5	0.5	87	87	12	12	A	A

Notes:
(1) Critical footpath sections near the pedestrian crossing facilities at Yung Yi Road under the proposed junction modification scheme of Yung Yi Road / Tai Po Road – Yuen Chau Tsai (J4) discussed in **Chapter 3.2** are selected for LOS assessment.
(2) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides.
(3) Pedestrian flow rates are computed based on effective clear width.

4.5.9 As shown in **Table 4.5.2**, **Table 4.5.3** and **Table 4.5.5**, the concerned footpaths would be operating satisfactorily with "LOS C" or above in design year 2033 under both reference and design scenarios.

4.5.10 In view of the above, it is considered that the concerned footpaths in the vicinity of the Application Site are currently operating satisfactorily during both morning and evening peak periods and would continue to operate within capacities in Year 2033 taking into account the pedestrian trips due to the Proposed Development. Therefore, it is anticipated that no adverse impact on pedestrian facilities would be induced by the Proposed Development.

5 CONSTRUCTION TRAFFIC IMPACT ASSESSMENT

5.1 Trip Generation and Attraction at Construction Stage

Table 5.1.1 Traffic Generation and Attraction of Proposed Development at Construction Stage

AM Peak		PM Peak	
Generation	**Attraction**	**Generation**	**Attraction**
20	20	20	20

5.1.1 As indicated in table above, it is estimated that the Proposed Development would generate a total of some 40 pcu/hr and 40 pcu/hr (two-way) at construction stage during morning and evening peak periods respectively.

5.2 Assessment Scenario

5.2.1 For conservative purposes, Year 2031 is adopted as the design year for the construction traffic impact assessment to evaluate the associated traffic impact likely to be induced by the Proposed Development at construction stage. Similarly, two assessment scenarios were analysed and compared:

Scenario 1

Year 2031 Reference Scenario at Construction Stage

= Year 2031 adjusted BDTM Flow

Plus traffic generations of other major planned/committed developments in the vicinity

Scenario 2

Year 2031 Design Scenario at Construction Stage

= Year 2031 Reference Scenario at Construction Stage

Plus Construction traffic trips generated and attracted by the Proposed Development

5.2.2 The forecasted traffic flows for the above two scenarios are presented in **Figures 5.1 and 5.2** respectively. The net development traffic flows associated with the Proposed Development during construction stage are shown in **Figure 5.3**.

5.3 Junction Capacity Assessment at Construction Stage

5.3.1 Junction capacity assessment was carried out at the identified key junctions for Year 2031 Construction scenarios. The assessment results are summarized in **Table 5.3.1** below, and the detailed junction calculation sheets are enclosed in **Appendix A**.

Table 5.3.1 Year 2031 Future Junction Performance at Construction Stage

Junction		Type	Performance (1)			
			2031 Reference		2031 Design	
			AM	PM	AM	PM
J1	Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai	Signalized	-6%	7%	-6% /-5% (2)	7% /7% (2)
J2	Kwong Fuk Road Roundabout (3)	Roundabout	0.77	0.57	0.78	0.58
J3	Slip Road to Tolo Highway / Tai Po Road – Yuen Chau Tsai	Priority	0.74	0.62	0.74	0.62
J4	Yung Yi Road / Tai Po Road – Yuen Chau Tsai (4)	Priority	0.30	0.24	0.34	0.28
J5	Lookout Link / Tai Po Road – Tai Po Kau	Priority	0.18	0.12	0.18	0.12
J6	Ha Wong Yi Au Road / Yung Yi Road / Access Road from/to Ling Liang Church M.H. Lau Secondary School (3)	Roundabout	---	---	0.09	0.04

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for the signalized junctions and "Design Flow Capacity" (DFC) ratio for priority junctions and roundabouts.
(2) Taking into account the proposed junction improvement at J1 as discussed in **Chapter 4.4**.
(3) Taking into account the junction improvement works under Contract No. CV/2023/18: Site Formation and Infrastructure Works at To Yuen Tung, Tai Po, which is enclosed in **Appendix B**.
(4) Taking into account the road / junction modification schemes under the Proposed Development as discussed in **Chapter 3.2**.

5.3.2 The above results reveal that the identified key junctions would operate within capacities with the Proposed Development in Year 2031 except Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai (J1) during morning peak hours. Nonetheless, the results also revealed that the junction capacity of J1 with construction traffic would remain similar compared with the case without the Proposed Development. This is because construction traffic associated with the Proposed Development is expected to access the Application Site via Tolo Highway, thereby bypassing the junction in question. As such, the traffic impact on J1 during the construction period is anticipated to be minimal. Overall, it is anticipated that the Proposed Development would not induce significant traffic impact to the surrounding road network during construction stage.

5.4 Link Capacity Assessment at Construction Stage

5.4.1 Link capacity assessment was carried out at the identified road links for Year 2031 Construction scenarios, and the results are summarized in **Table 5.4.1** below.

Table 5.4.1 Year 2031 Future Link Performance at Construction Stage

Road Section		Direction	Link Capacity (pcu/hr)	Traffic Flows (pcu/hr)				Volume/Capacity (V/C) Ratio			
				2031 Reference		2031 Design		2031 Reference		2031 Design	
				AM	PM	AM	PM	AM	PM	AM	PM
L1	Nam Wan Road *between Plover Cove Road and Tai Po Road – Yuen Chau Tsai*	NB	2,800	780	685	780	685	0.28	0.24	0.28	0.24
		SB	2,800	1,055	835	1,055	835	0.38	0.30	0.38	0.30
L2	Tai Po Road – Yuen Chau Tsai *between Nam Wan Road and Kwong Wang Street*	EB	2,800	1,460	1,100	1,460	1,100	0.52	0.39	0.52	0.39
		WB	2,800	1,320	1,585	1,320	1,585	0.47	0.57	0.47	0.57
L3	Tai Po Road – Yuen Chau Tsai *between Kwong Wang Street and Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway*	EB	3,000	2,315	1,755	2,335	1,775	0.77	0.59	0.78	0.59
L4	Tai Po Road – Yuen Chau Tsai *Between Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai and Kwong Wang Street*	WB	4,700	2,055	2,230	2,075	2,250	0.44	0.47	0.44	0.48
L5	Tai Po Road – Yuen Chau Tsai *between Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai and Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway*	Two-way	2,500	1,455	1,300	1,475	1,320	0.58	0.52	0.59	0.53
L6	Tai Po Road – Yuen Chau Tsai *between Slip Road from Tai Po Road – Yuen Chau Tsai to Tolo Highway and Yung Yi Road*	Two-way	2,300	1,205	1,220	1,245	1,260	0.52	0.53	0.54	0.55
L7	Tai Po Road – Yuen Chau Tsai *between Yung Yi Road and Tai Po Road – Tai Po Kau*	Two-way	2,300	975	1,030	975	1,030	0.42	0.45	0.42	0.45
L8	Yung Yi Road *between Tai Po Road – Yuen Chau Tsai and Wong Yi Au Road*	Two-way	2,300	360	225	400	265	0.16	0.10	0.17	0.12
L9	Ha Wong Yi Au Road *Full Section*	Two-way	110 / 2,300 *(under design scenario)* (1)	10	15	50	55	0.09	0.14	0.02	0.02

Road Section		Direction	Link Capacity (pcu/hr)	Traffic Flows (pcu/hr)				Volume/Capacity (V/C) Ratio			
				2031 Reference		2031 Design		2031 Reference		2031 Design	
				AM	PM	AM	PM	AM	PM	AM	PM
L10	Tolo Highway *between Slip Road from Tai Wan Road to Tolo Highway and Slip Road from Tolo Highway to Tai Po Road – Yuen Chau Tsai*	EB	8,200	7,940	6,085	7,960	6,105	0.97	0.74	0.97	0.74
		WB	8,200	5,445	6,380	5,465	6,400	0.66	0.78	0.67	0.78
L11	Tolo Highway *between Slip Road from to Tai Po Road – Yuen Chau Tsai to Tolo Highway and Slip Road from Tolo Highway to Chong San Road*	EB	8,200	10,410	7,150	10,410	7,150	1.27	0.87	1.27	0.87
		WB	8,200	7,975	8,880	7,970	8,875	0.97	1.08	0.97	1.08
L12	Slip Road from Tolo Highway *between Tolo Highway and Tai Po Road – Yuen Chau Tsai*	EB	1,800	710	720	745	755	0.39	0.40	0.41	0.42
L13	Slip Road to Tolo Highway *between Tai Po Road – Yuen Chau Tsai and Tolo Highway*	WB	1,800	660	690	680	710	0.37	0.38	0.38	0.39
L14	Slip Road to Tolo Highway *between Tai Po Road – Yuen Chau Tsai and Tolo Highway*	EB	1,800	1,210	800	1,210	800	0.67	0.44	0.67	0.44
L15	Slip Road from Tolo Highway *between Tolo Highway and Tai Po Road – Yuen Chau Tsai*	WB	1,800	995	1,190	1,005	1,200	0.55	0.66	0.56	0.67
L16	New Access Road *between Ha Wong Yi Au Road and Site B* (1)	Two-way	2,300	---	---	40	40	---	---	0.02	0.02

Notes:
(1) Taking into account the road connection proposal and road / junction modification schemes under the Proposed Development as discussed in **Chapter 3.2**.

5.4.2 As shown in the table above, the majority of identified road sections would continue to have sufficient link capacities to cater for the future traffic demand with the Proposed Development by Year 2033, except Tolo Highway (L11). Nonetheless, the results also revealed that the link capacity of L11 with construction traffic would remain similar as compared with the case without the Proposed Development. Therefore, it is anticipated that the Proposed Development would not induce significant traffic impact to the surrounding road network at construction stage.

6 CONCLUSION

6.1 Summary

6.1.1 The Application Site is located at Various Lots in D.D. 32 and adjoining Government land at Wong Yi Au, Tai Po, New Territories.

6.1.2 The Applicant intends to rezone the Application Site from "Green Belt" ("GB") to a tailormade "Residential (Group B) 13" ("R(B)13") zone at Various Lots in D.D.32 and Adjoining Government Land, Wong Yi Au, Tai Po to facilitate the proposed residential development. An Indicative Scheme has been formulated to demonstrate the technical feasibility and suitability of the proposed amendment. An indicative access road is proposed to connect the Application Site and external transport network. In addition, a saltwater pumping station is proposed in the vicinity of the existing saltwater network near Yung Yi Road to support the Proposed Development.

6.1.3 This TIA report is in support of the Section 12A Planning Application to facilitate the development proposal at the Application Site.

6.1.4 To enhance the accessibility of the Application Site, a road connection proposal and a series of road / junction modification works has been proposed as summarized below:

- Proposed modification woks at the junction of Yung Yi Road and Tai Po Road – Yuen Chau Tsai;
- Proposed modification woks at the existing turning facility near Ling Liang Church M.H. Lau Secondary School;
- Proposed modification works at Ha Wong Yi Au Road; and
- Proposed new access road connecting to Ha Wong Yi Au Road.

6.1.5 The proposed provision of internal transport facilities for the proposed residential development is in full compliance with the HKPSG requirements, and they will be self-contained within the Application Site. In view of the remote location and limited public transport facilities in the vicinity, shuttle service for coach is proposed to provide feeder service to the nearby MTR Station.

6.1.6 The identified key junctions and road links in the vicinity were assessed with respect to traffic generation of the proposed development upon Year 2033 (3 years after the target Completion Year 2030), taking into account the traffic generation by the major planned developments in the vicinity.

6.1.7 Traffic impact assessment scenarios were set up for the proposed development, namely Year 2033 Reference scenario (without the proposed development) and Year 2033 Design scenario (with the proposed development in place).

6.1.8 Assessment results revealed that the traffic condition would be more or less the same in both Reference and Design scenarios in year 2033. It is anticipated that the performance of J1: Kwong Fuk Road / Nam Wan Road / Tai Po Road – Yuen Chau Tsai would be enhanced under Year 2033 Design Scenario with the proposed junction improvement (i.e. widening the southbound approach of Nam Wan Road at the junction from 9.2m to 10m) in place. The traffic impact due to the Proposed Development is considered insignificant and could be accommodated by the surrounding road network.

6.1.9 With the development of North Metropolis and Shatin Bypass, it is anticipated that there will be significant improvement on the operation performance of Tolo Highway in terms of V/C ratio in long-term future.

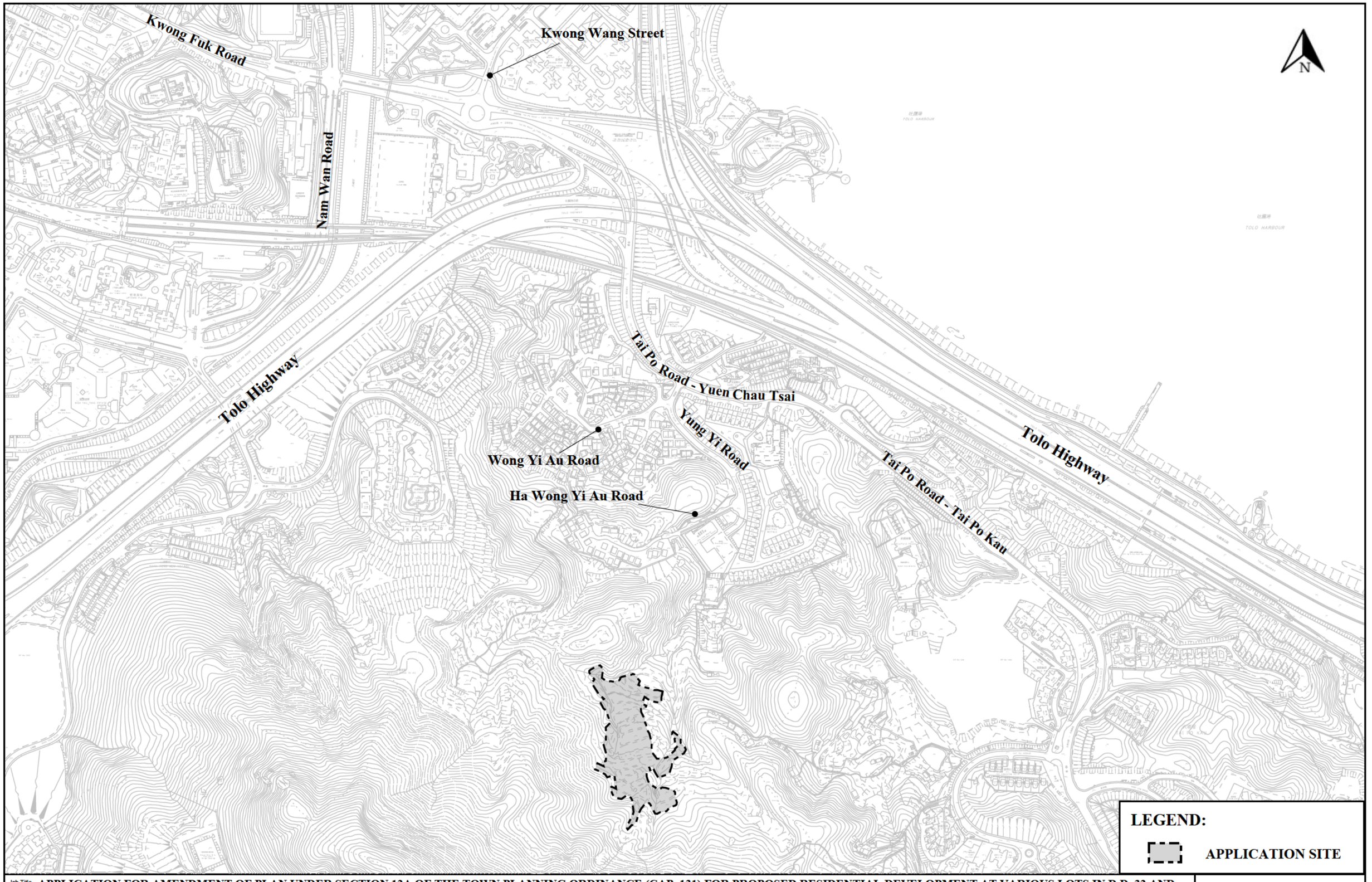
6.1.10 Pedestrian impact assessment was conducted, and the results indicated that concerned footpaths in the vicinity are currently operating satisfactorily during both morning and evening peak periods and would continue to operate within capacities in Year 2033 taking into account of the pedestrian trips due to the Proposed Development.

6.1.11 Construction traffic impact assessment scenarios were set up to evaluate the associated traffic impact induced by the Proposed Development at construction stage. It has revealed that the capacities of identified key junctions and road links with construction traffic would remain similar as compared with the case without the Proposed Development by Year 2031.

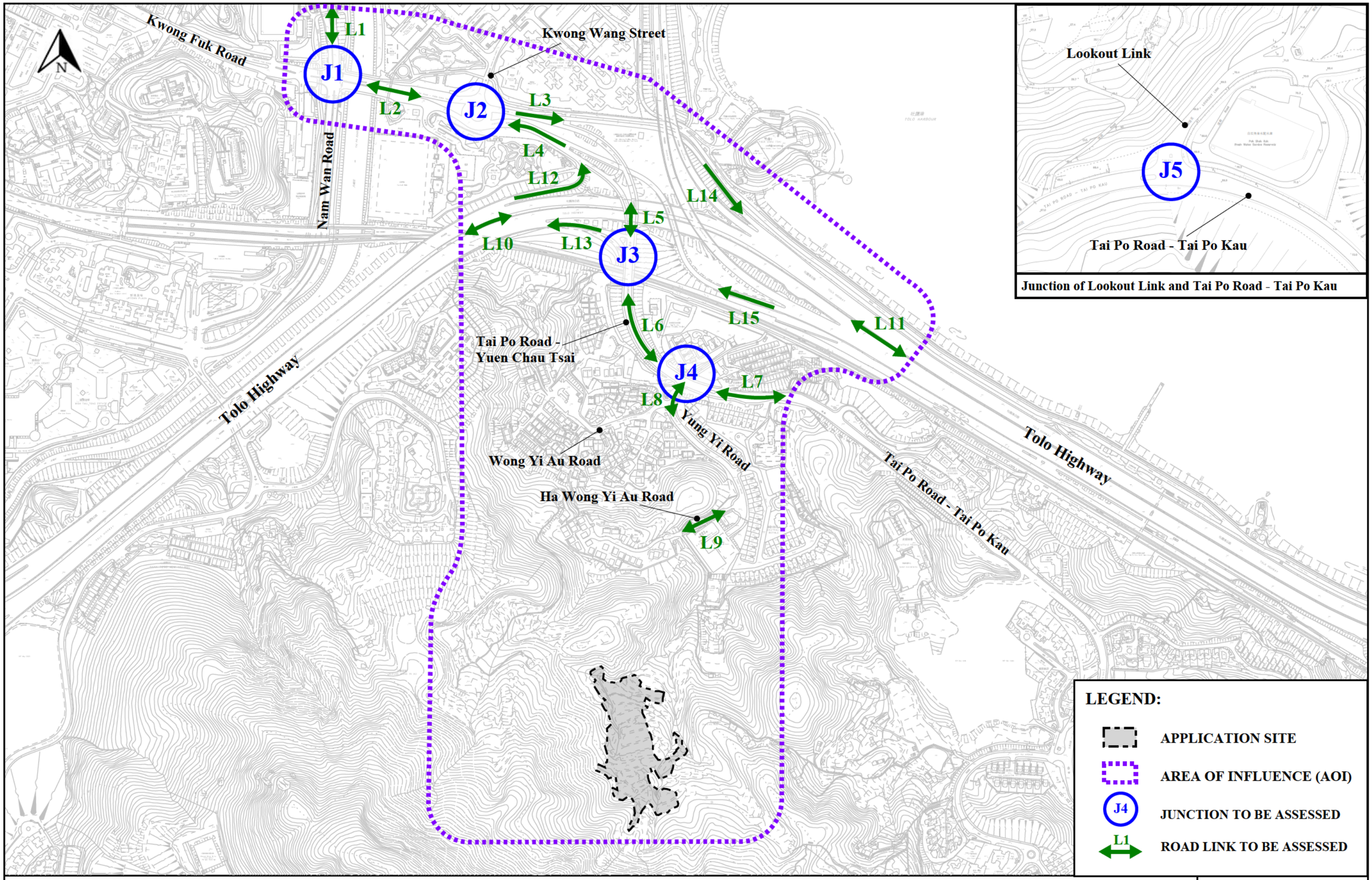
6.2 Conclusion

5.2.1 It is concluded that the Proposed Development will not impose adverse traffic and pedestrian impact on the surrounding road network and is thus feasible from the traffic engineering point of view.

Figures



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES			FIGURE 1.1
Date: 07/2025	Scale: 1:5,000 (A3)	Drawing Title: LOCATION OF THE APPLICATION SITE AND ITS ENVIRONS	ARUP
Drawn: WYJL	Job No.: 292635-02		

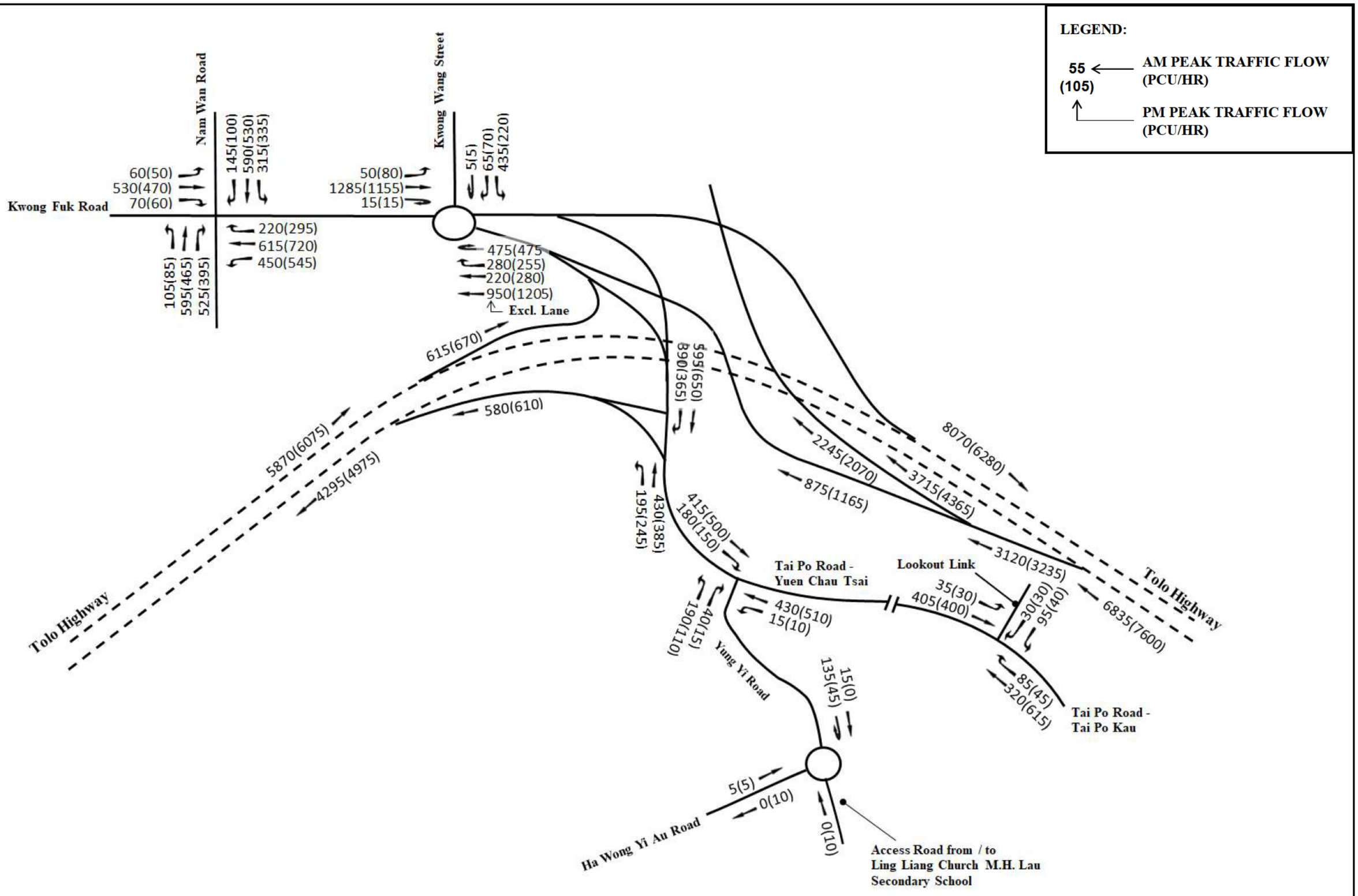


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

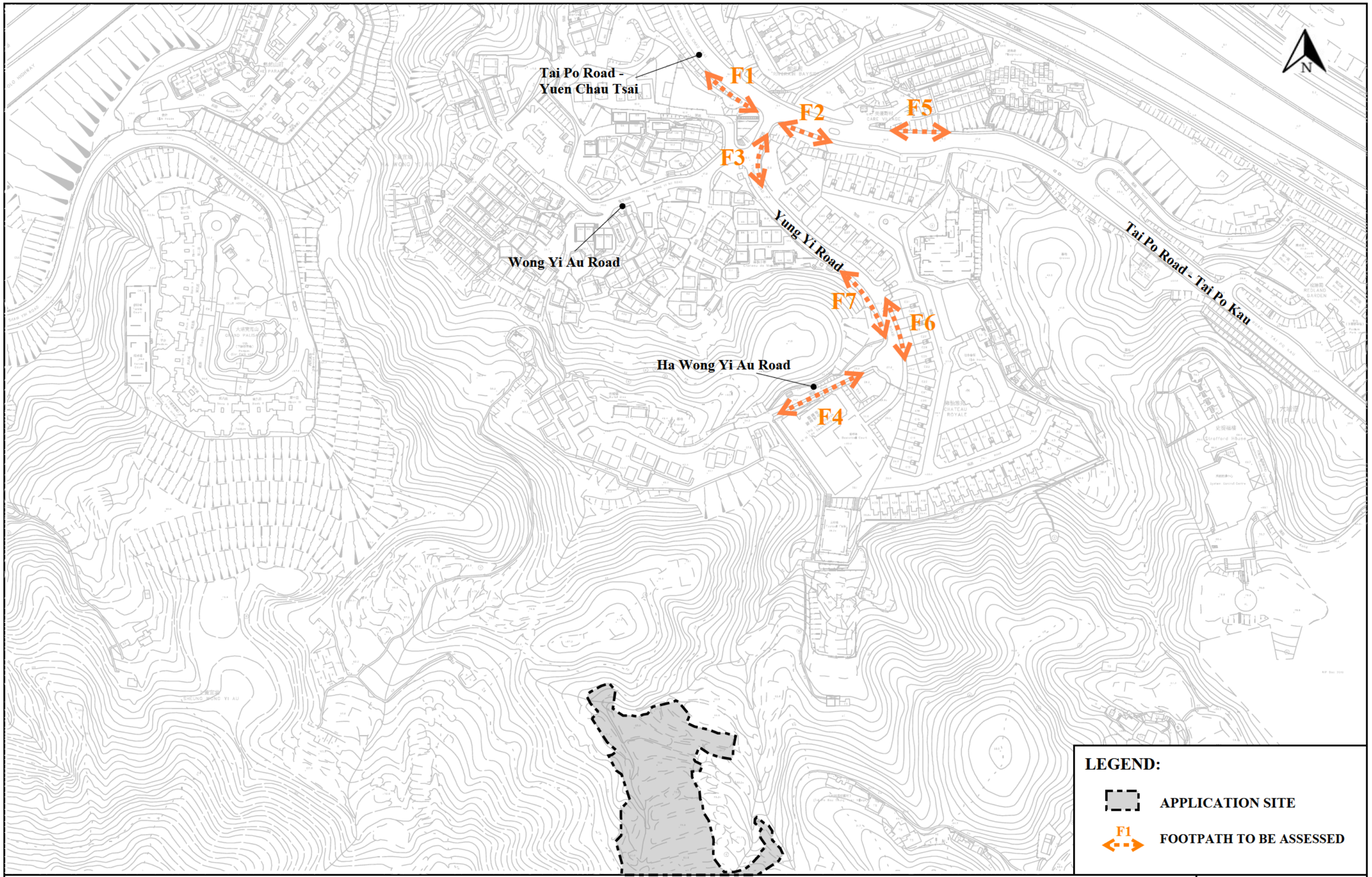
FIGURE 2.1

Date	Scale	Drawing Title
07/2025	1:5,000 (A3)	EXISTING ROAD NETWORK AND IDENTIFIED JUNCTIONS AND ROAD LINKS TO BE ASSESSED
Drawn	Job No.	
WYJL	292635-02	

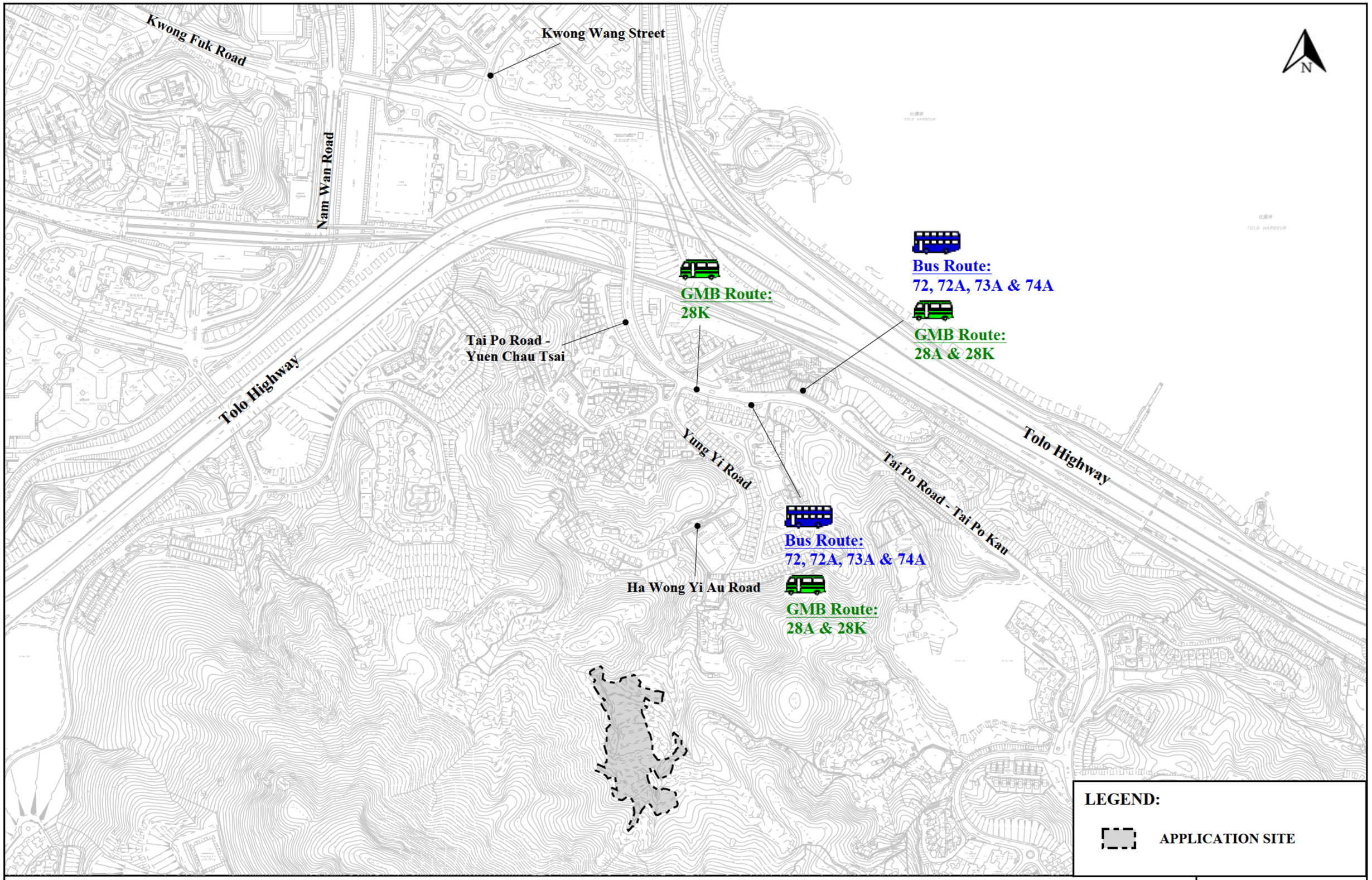
ARUP



Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES		FIGURE 2.2
Date: 07/2025	Scale: N.T.S	Drawing Title: YEAR 2024 EXISTING TRAFFIC FLOW	ARUP
Drawn: WYJL	Job No.: 292635-02		



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES			FIGURE 2.3
Date: 07/2025	Scale: 1:2,500 (A3)	Drawing Title: IDENTIFIED FOOTPATHS TO BE ASSESSED	ARUP
Drawn: WYJL	Job No.: 292635-02		

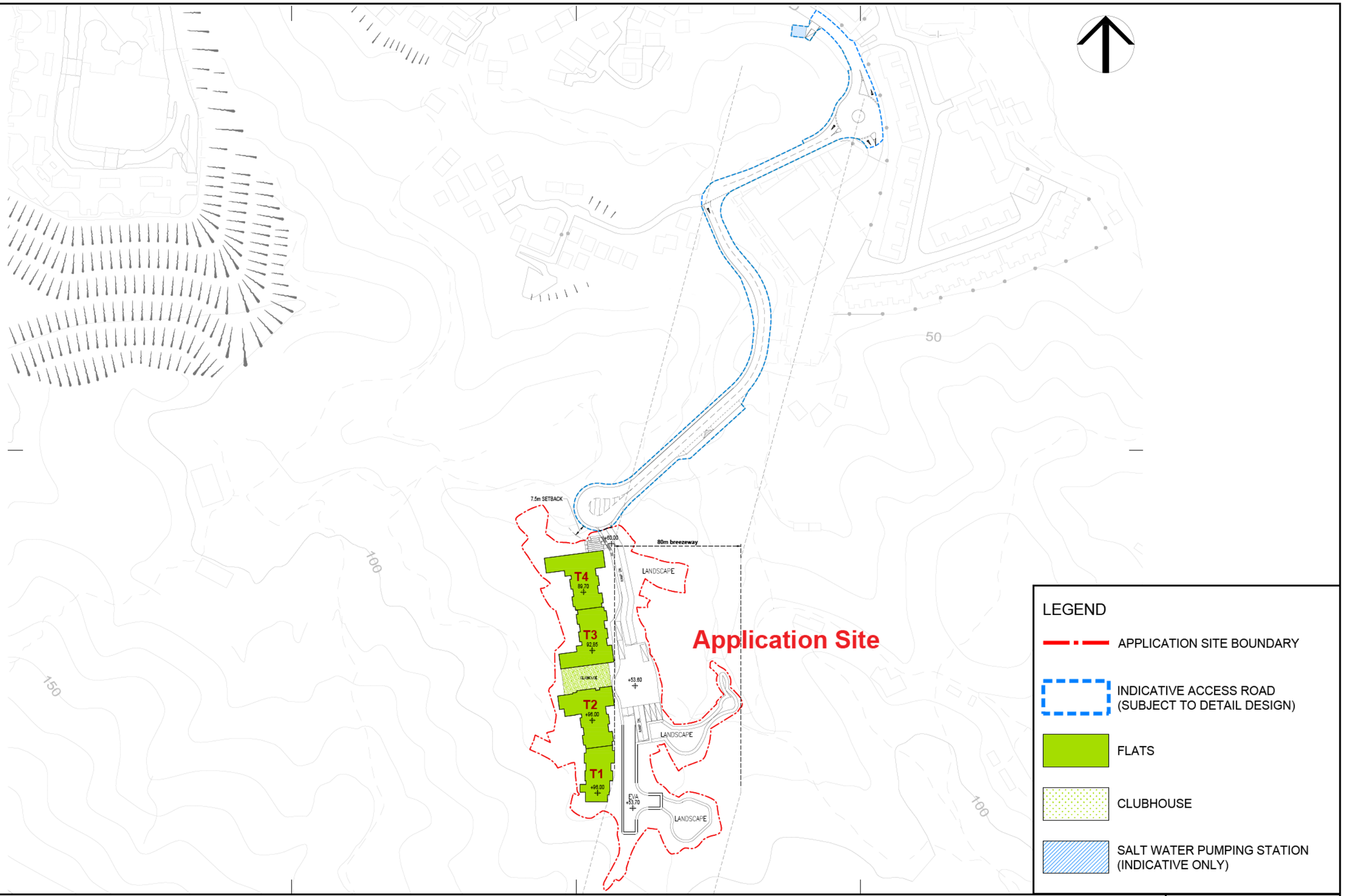


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

FIGURE 2.4

Date	Scale	Drawing Title
07/2025	1:5,000 (A3)	EXISTING PUBLIC TRANSPORT SERVICES IN THE VICINITY
Drawn	Job No.	
WYJL	292635-02	

ARUP



Job Title **APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES**

FIGURE 3.1

Date	Scale	Drawing Title
07/2025	1:2,000 (A3)	**EXTRACT OF MASTER LAYOUT PLAN**
Drawn	Job No.	
WYJL	292635-02	

ARUP

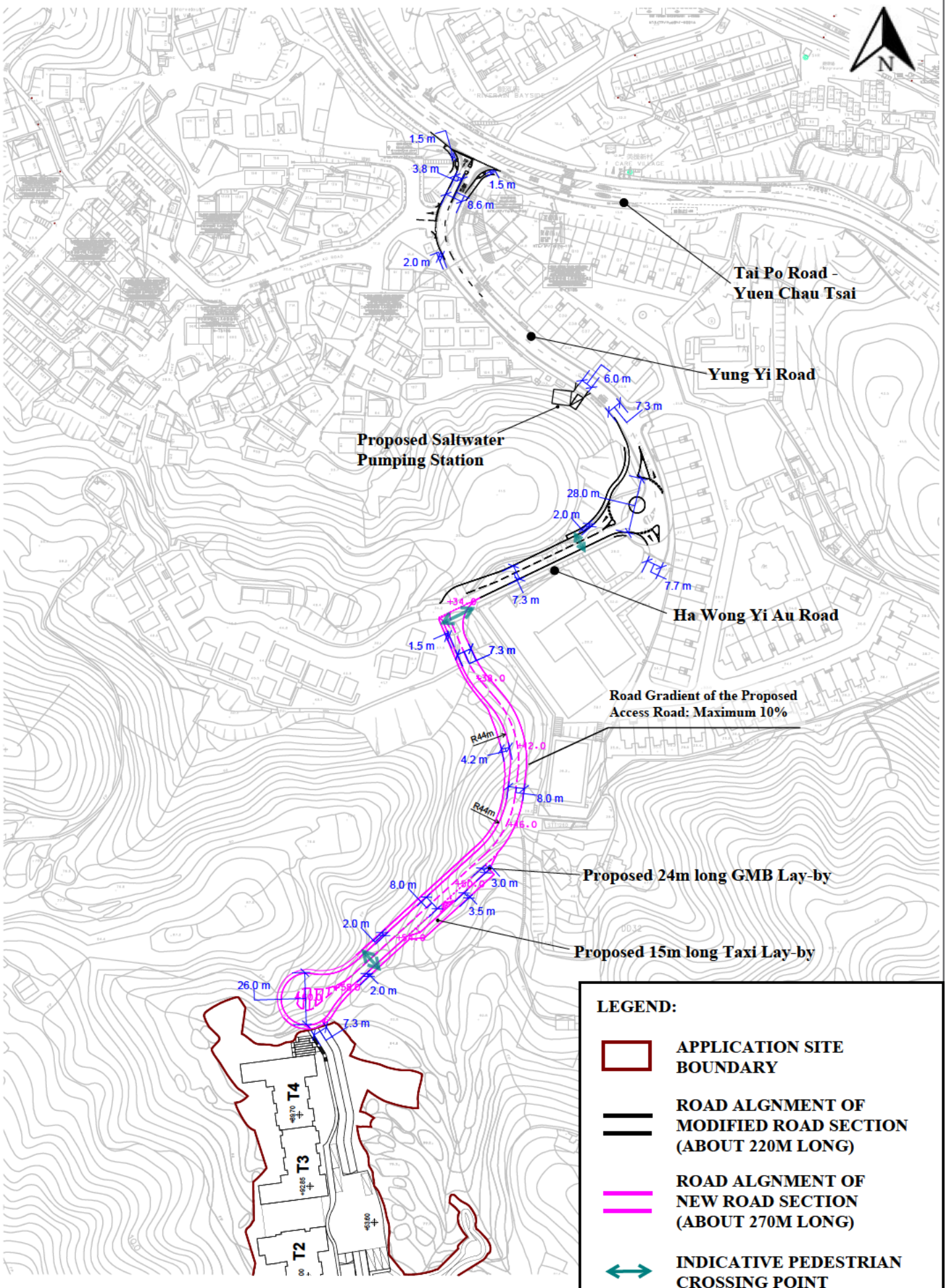
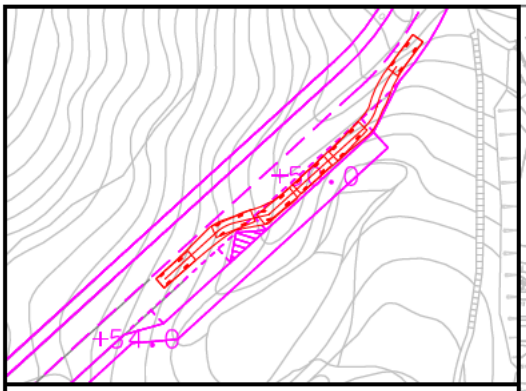
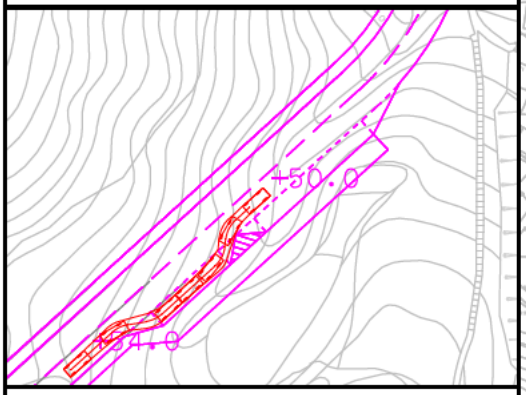


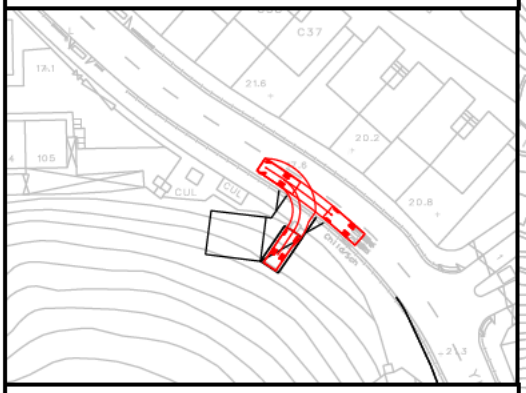
Figure No.	Scale	Figure Title
3.2	1:2,500 (A3)	PROPOSED ROAD CONNECTION PROPOSAL AND ROAD / JUNCTION MODIFICATION SCHEME
ARUP	Date	Source
	07/2025	



Swept Path Analysis for 8m Long Light Bus



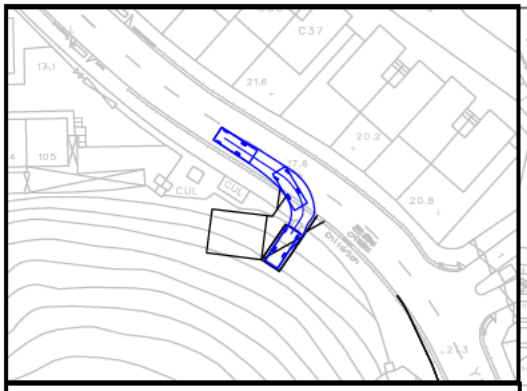
Swept Path Analysis for 5m Long Taxi



Swept Path Analysis for 7m Long Maintenance Vehicle

Swept Path Analysis for 12m Long Coach

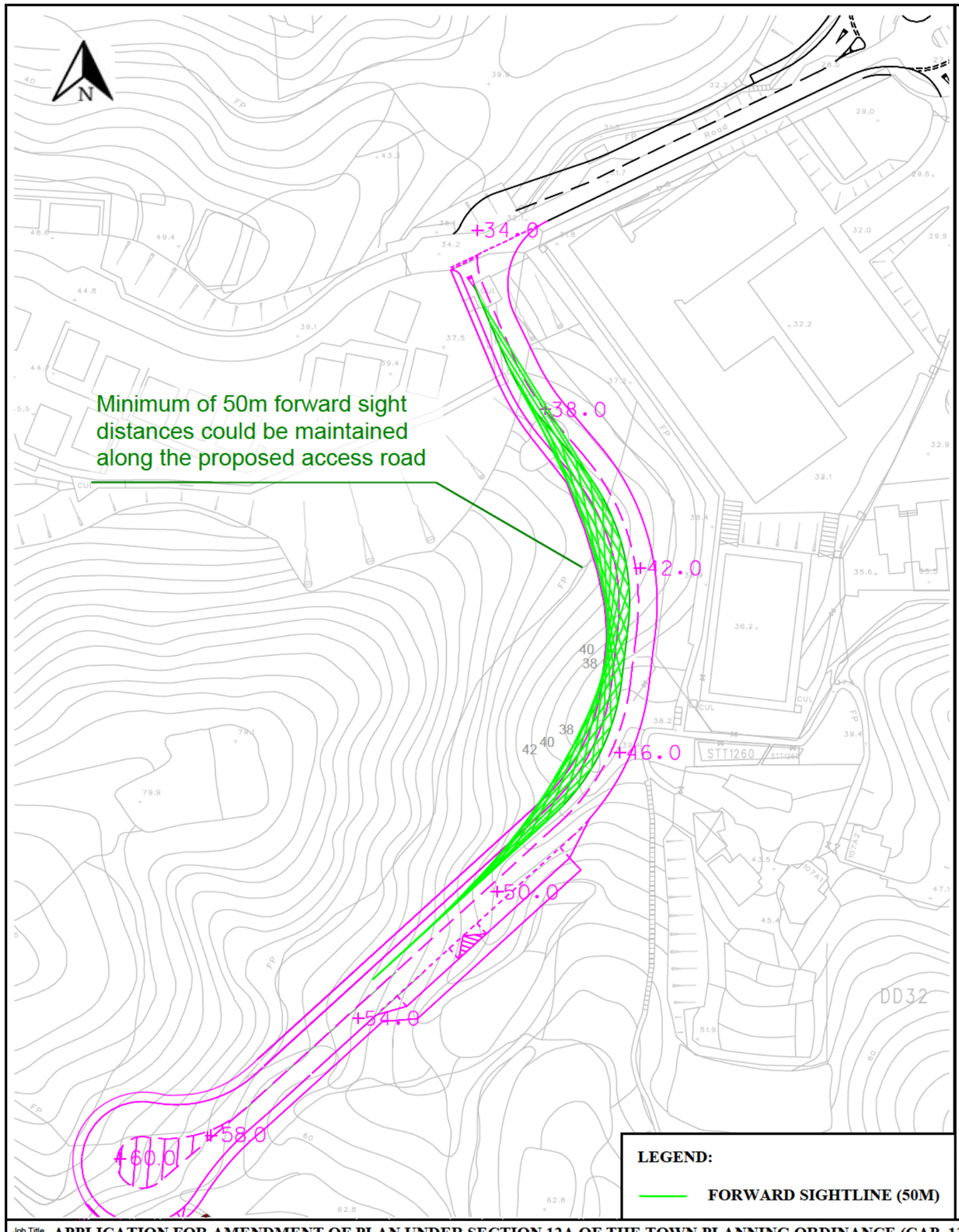
Figure No.	Scale	Figure Title
3.3	1:2,500 (A3)	SWEPT PATH ANALYSIS FOR 12M LONG COACH, 8M LONG LIGHT BUS, 5M LONG TAXI AND 7M LONG MAINTENENCE VEHICLE (APPROACHING)
ARUP	Date	Source
	07/2025	

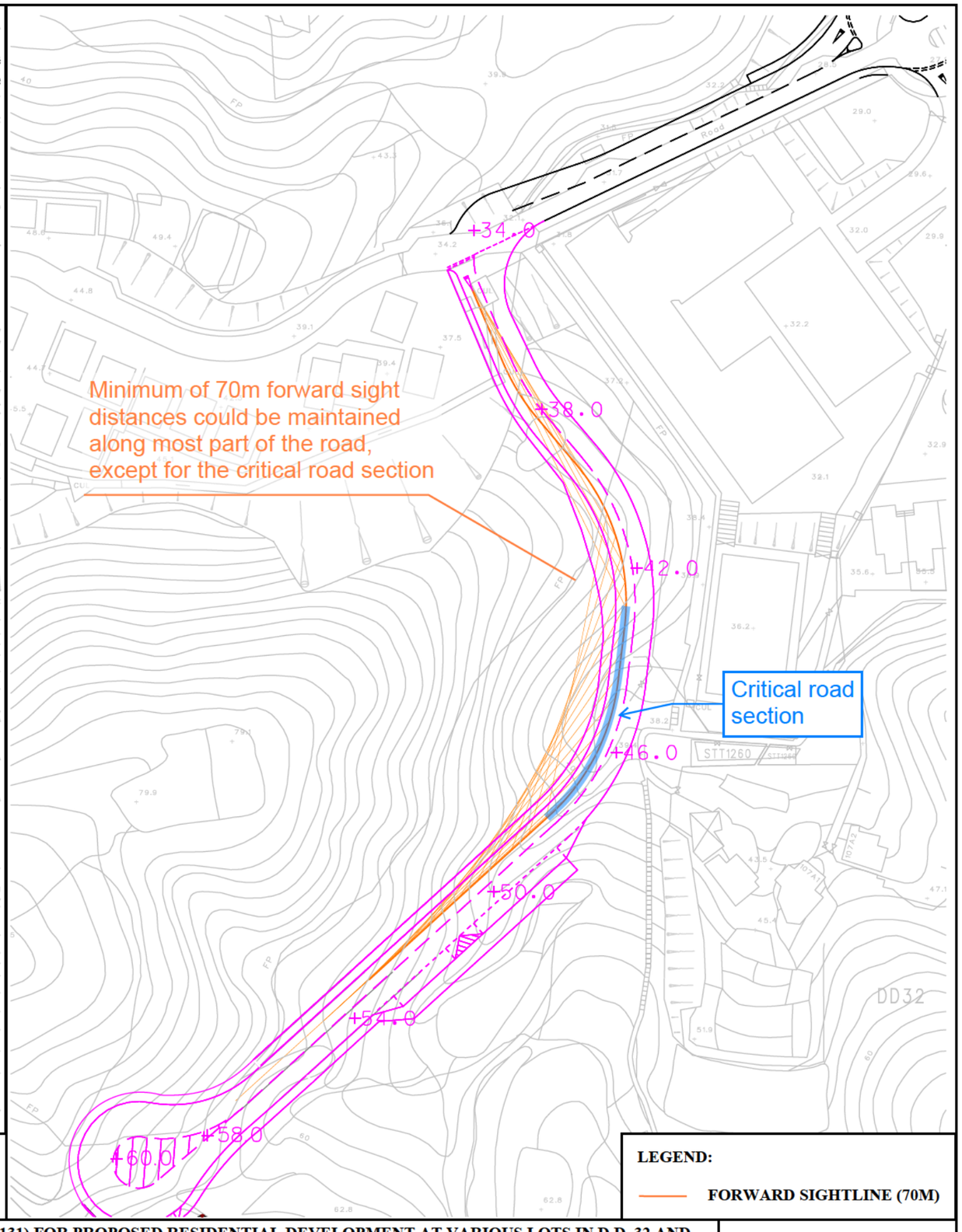


Swept Path Analysis for 7m Long Maintenance Vehicle

Swept Path Analysis for
12m Long Coach

Figure No.	Scale	Figure Title
3.4	1:2,500 (A3)	SWEPT PATH ANALYSIS FOR 12M LONG COACH AND 7M LONG MAINTENENCE VEHICLE (LEAVING)
ARUP	Date	Source
	07/2025	





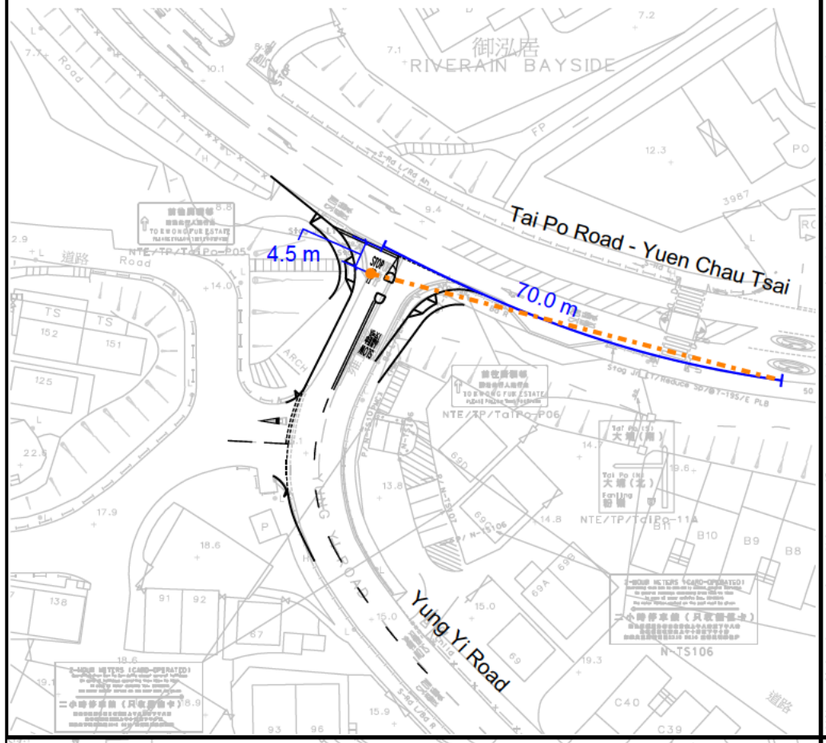
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

FIGURE 3.5

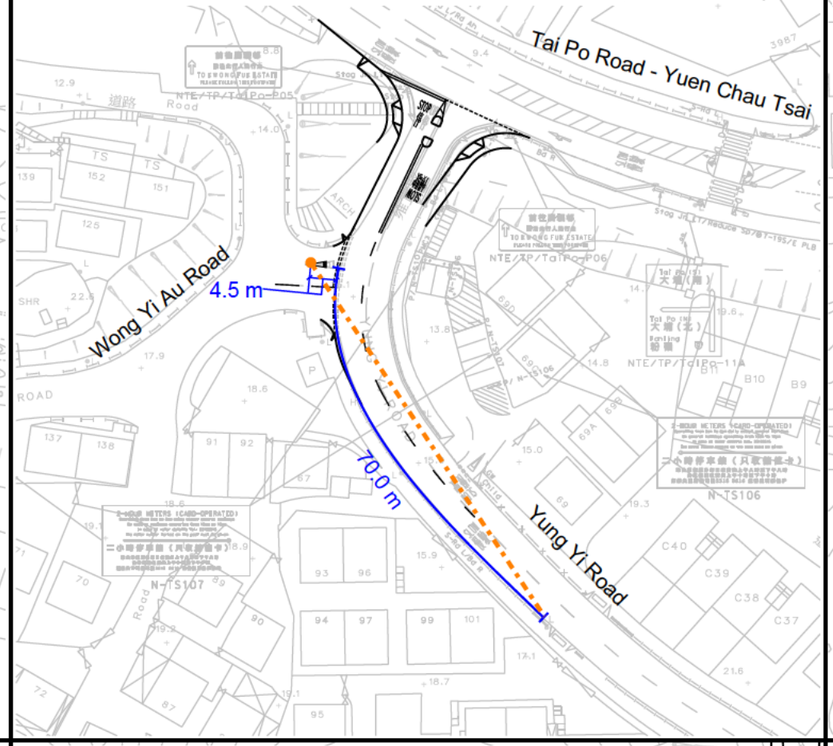
Date	Scale	Drawing Title
07/2025	1:1,000 (A3)	ASSESSMENT ON FORWARD SIGHT DISTANCES ALONG PROPOSED ACCESS ROAD
Drawn	Job No.	
WYJL	292635-02	

ARUP

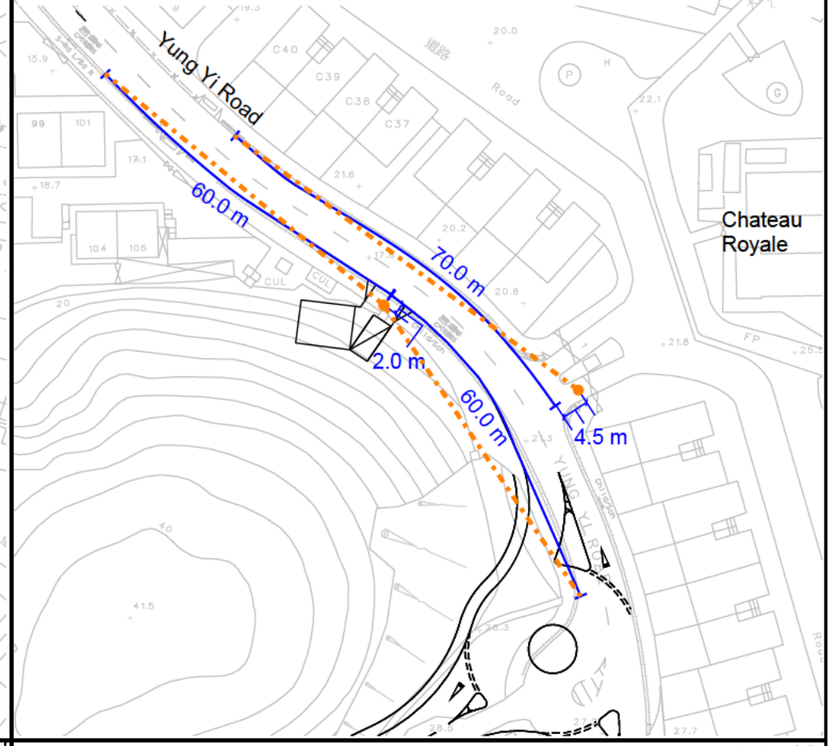
Location: *J/O Tai Po Road – Yuen Chau Tsai and Yung Yi Road*



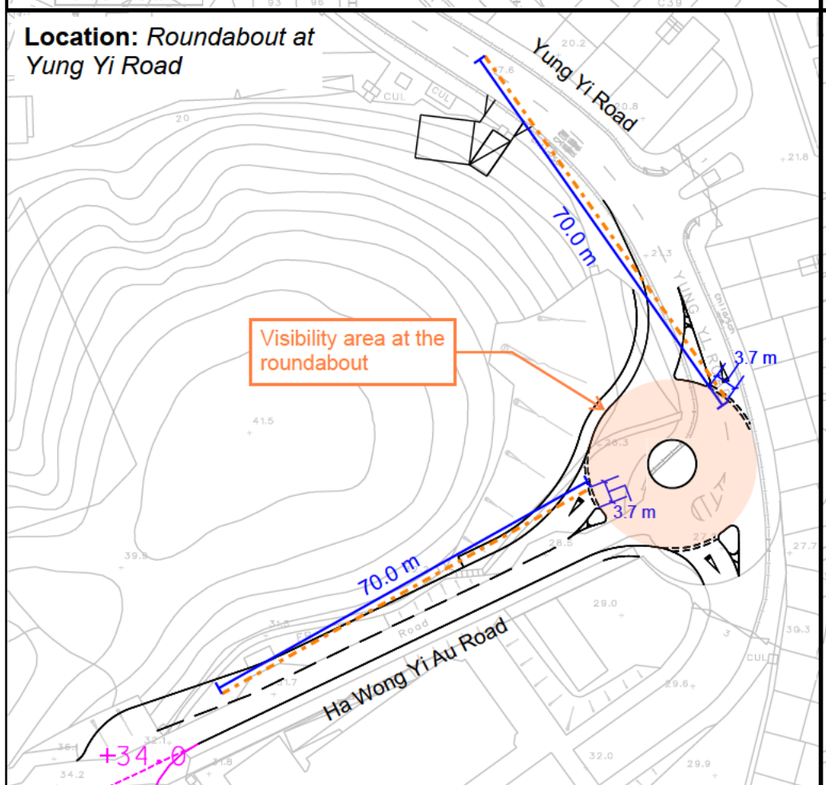
Location: *J/O Wong Yi Au Road and Yung Yi Road*



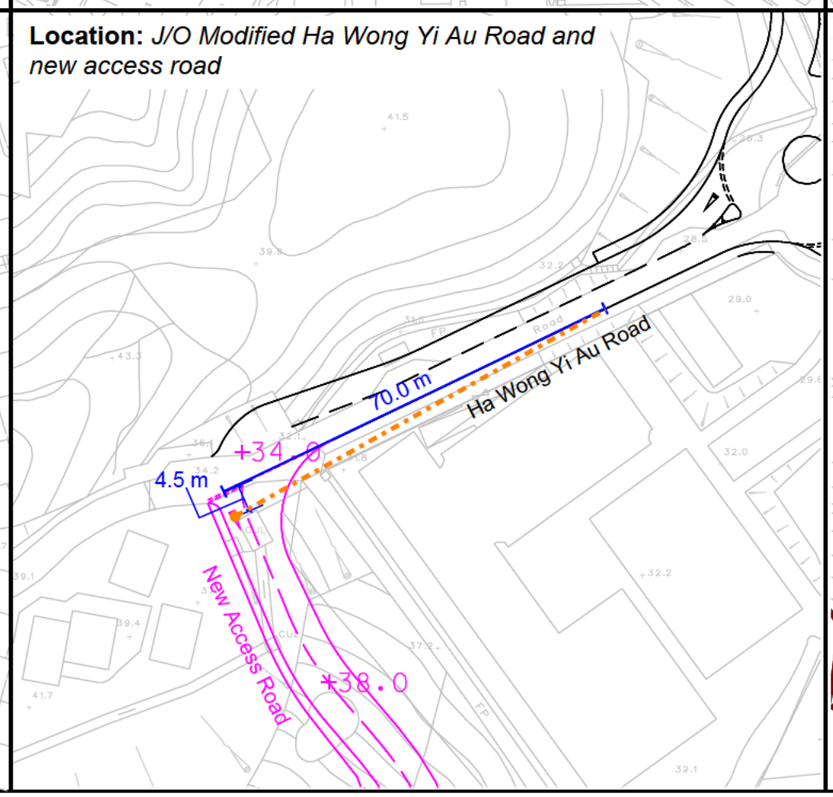
Location: *J/O Yung Yi Road and access to Chateau Royale*



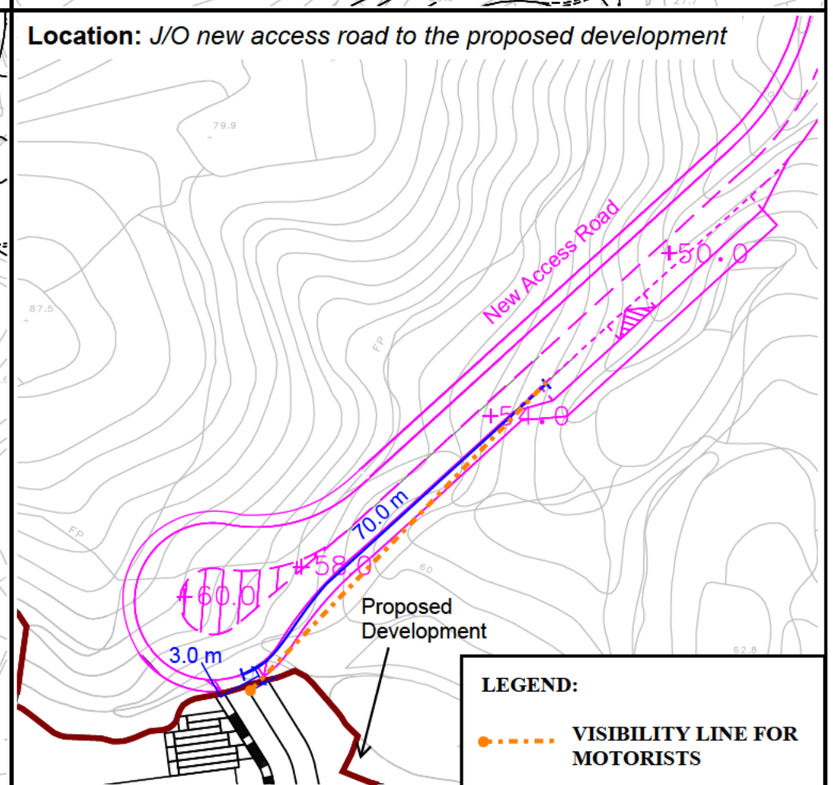
Location: *Roundabout at Yung Yi Road*



Location: *J/O Modified Ha Wong Yi Au Road and new access road*



Location: *J/O new access road to the proposed development*



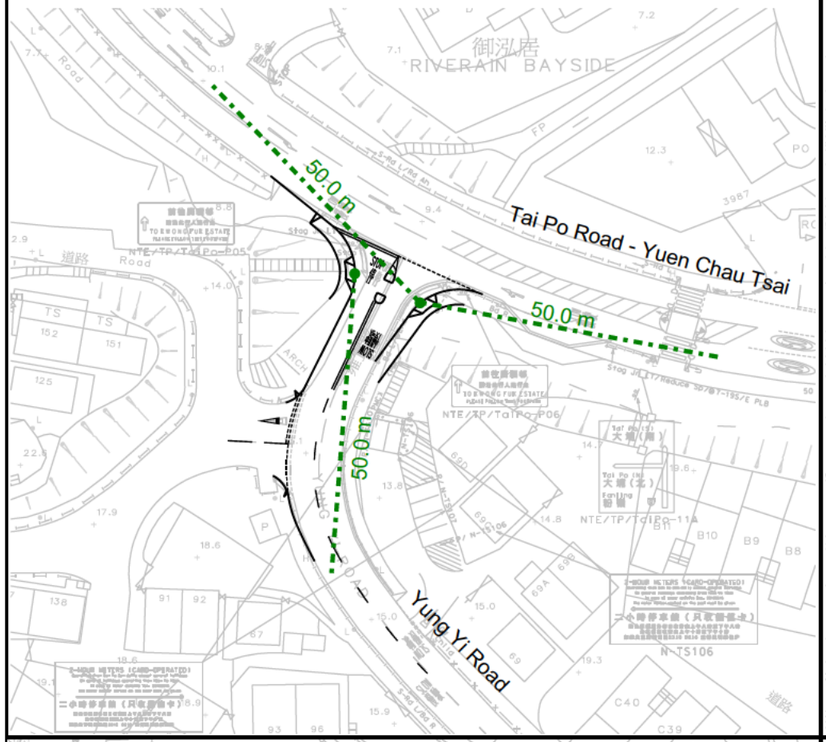
Job Title: **APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES**

FIGURE 3.6

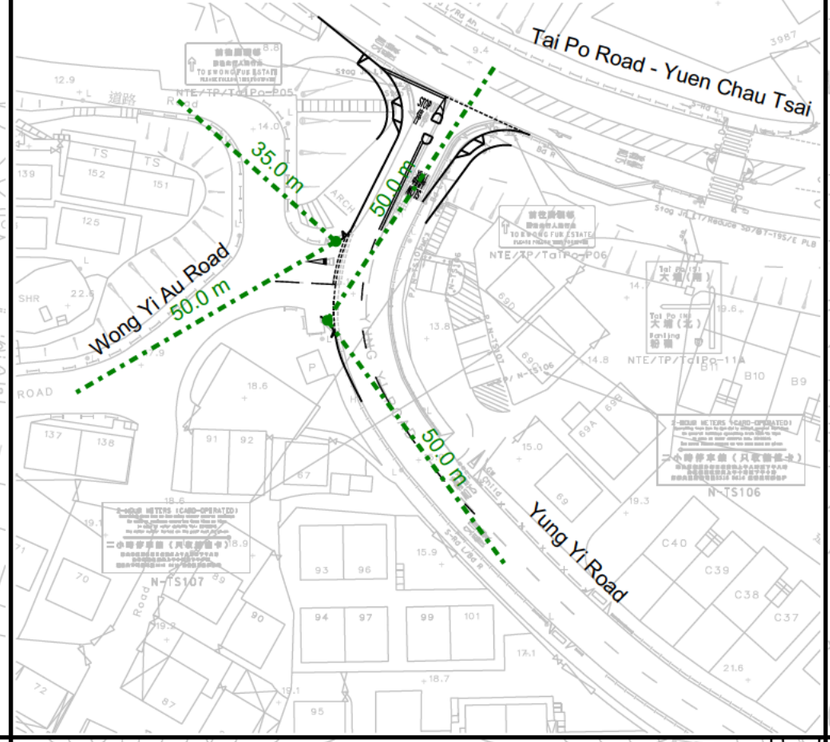
Date	Scale	Drawing Title
07/2025	1:1,000 (A3)	**VISIBILITY ASSESSMENT FOR MOTORISTS ALONG YUNG YI ROAD, HA WONG YI AU ROAD AND PROPOSED ACCESS ROAD**
Drawn: WYJL	Job No.: 292635-02	

ARUP

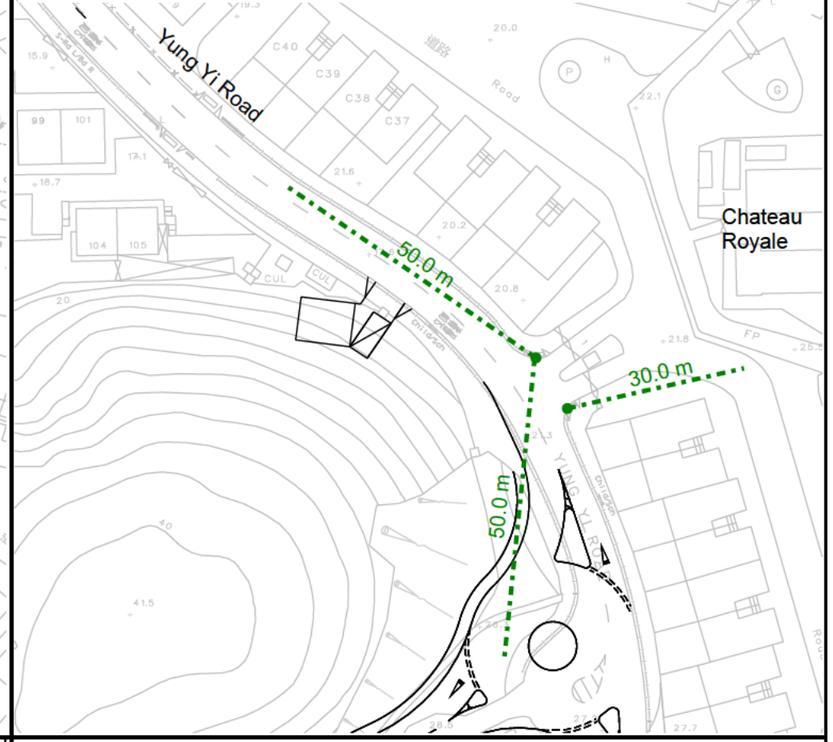
Location: *J/O Tai Po Road – Yuen Chau Tsai and Yung Yi Road*



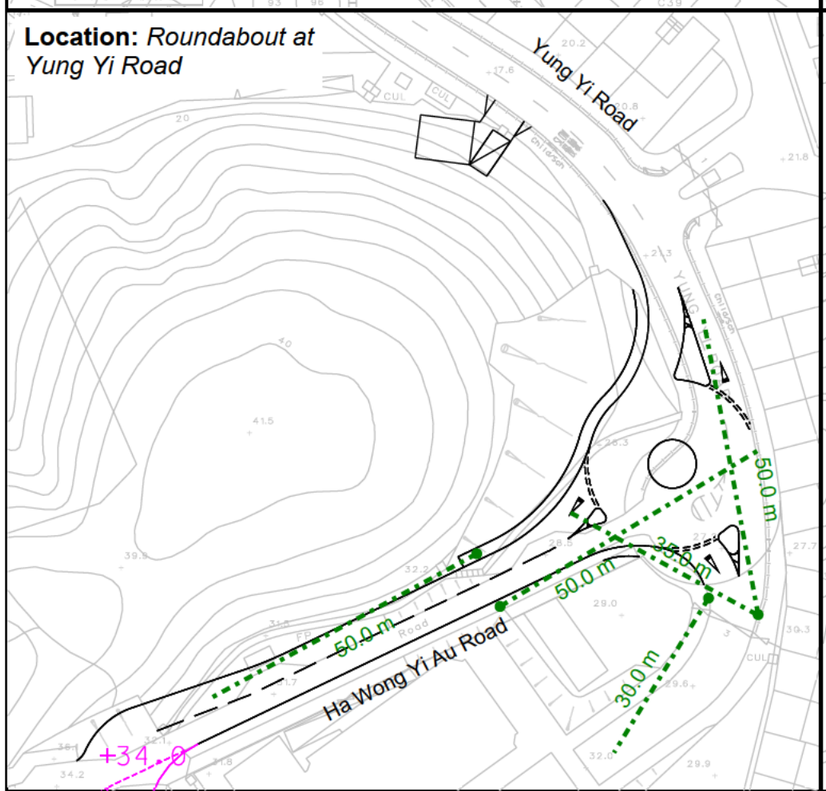
Location: *J/O Wong Yi Au Road and Yung Yi Road*



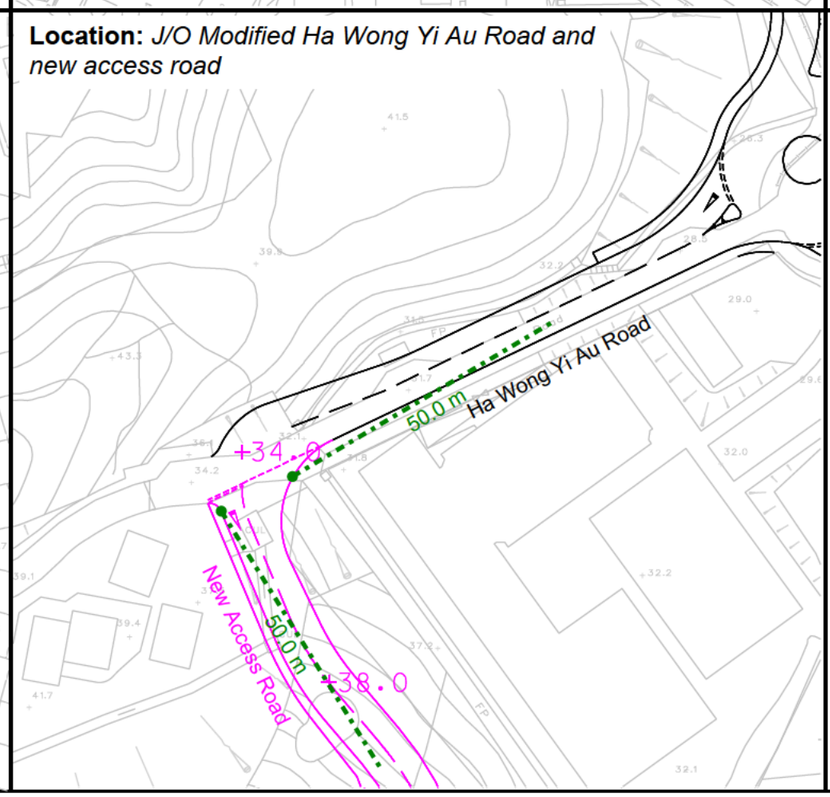
Location: *J/O Yung Yi Road and access to Chateau Royale*



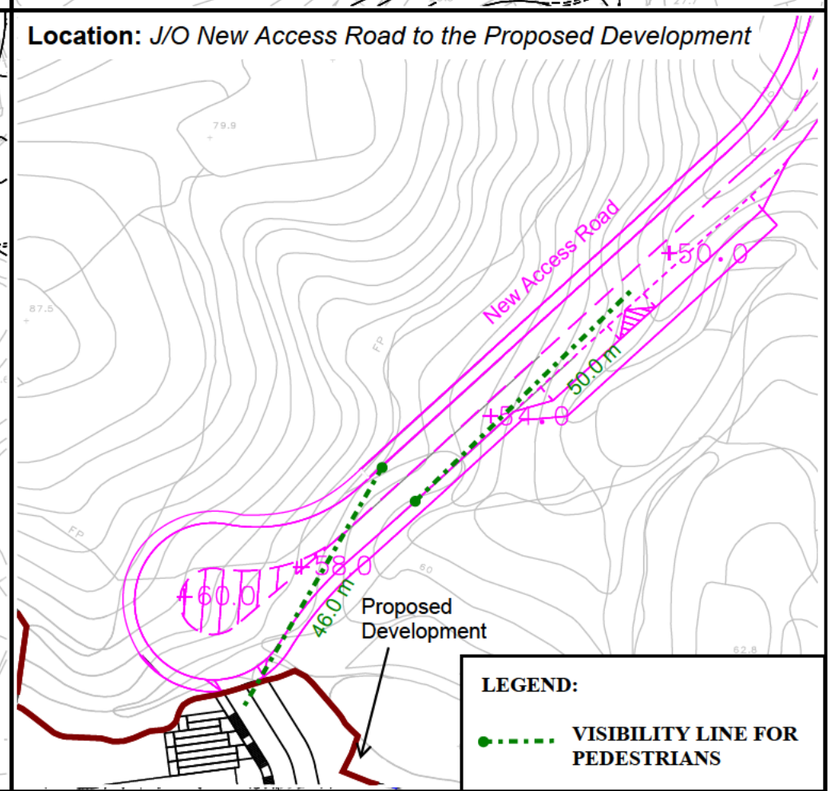
Location: *Roundabout at Yung Yi Road*



Location: *J/O Modified Ha Wong Yi Au Road and new access road*



Location: *J/O New Access Road to the Proposed Development*



LEGEND:

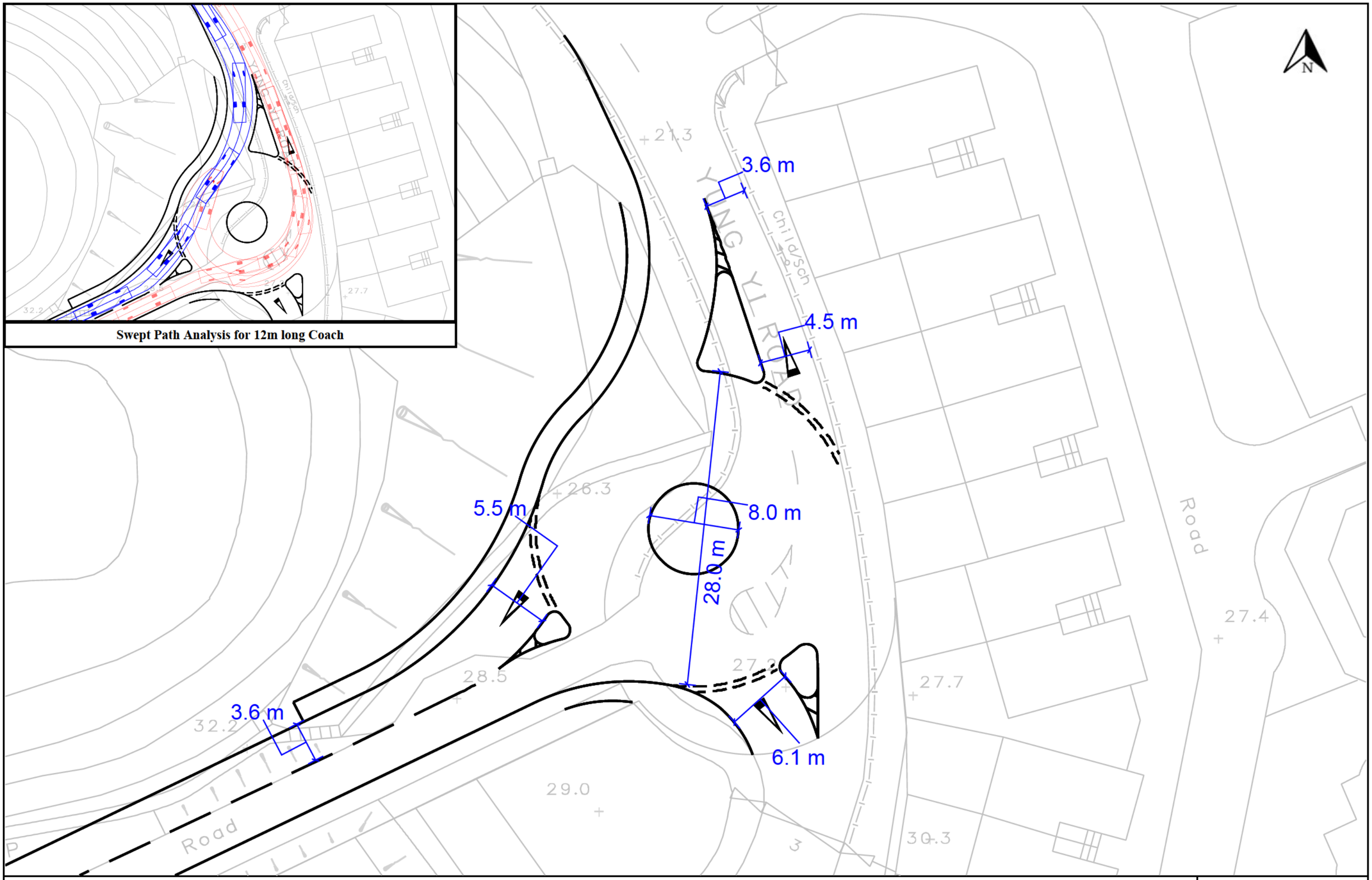
VISIBILITY LINE FOR PEDESTRIANS

Job Title: **APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES**

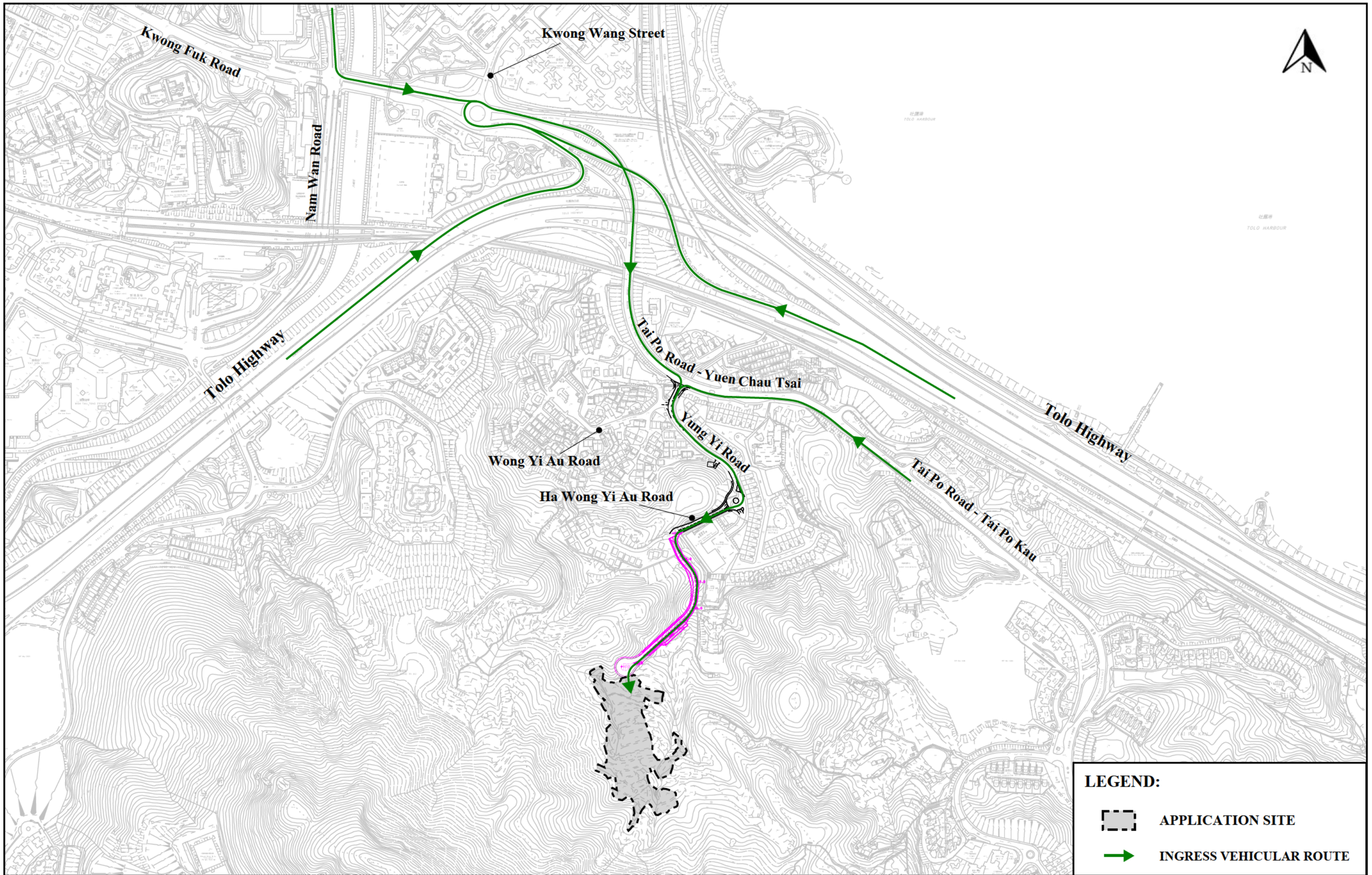
FIGURE 3.7

Date	Scale	Drawing Title
07/2025	1:1,000 (A3)	**VISIBILITY ASSESSMENT FOR PEDESTRIANS ALONG YUNG YI ROAD, HA WONG YI AU ROAD AND PROPOSED ACCESS ROAD**
Drawn: WYJL	Job No.: 292635-02	ARUP

Swept Path Analysis for 12m long Coach



Job Title	APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES		FIGURE 3.8
Date: 07/2025	Scale: 1:300 (A3)	Drawing Title: KEY DESIGN PARAMETERS OF MODIFIED ROUNDABOUT AT YUNG YI ROAD	ARUP
Drawn: WYJL	Job No.: 292635-02		

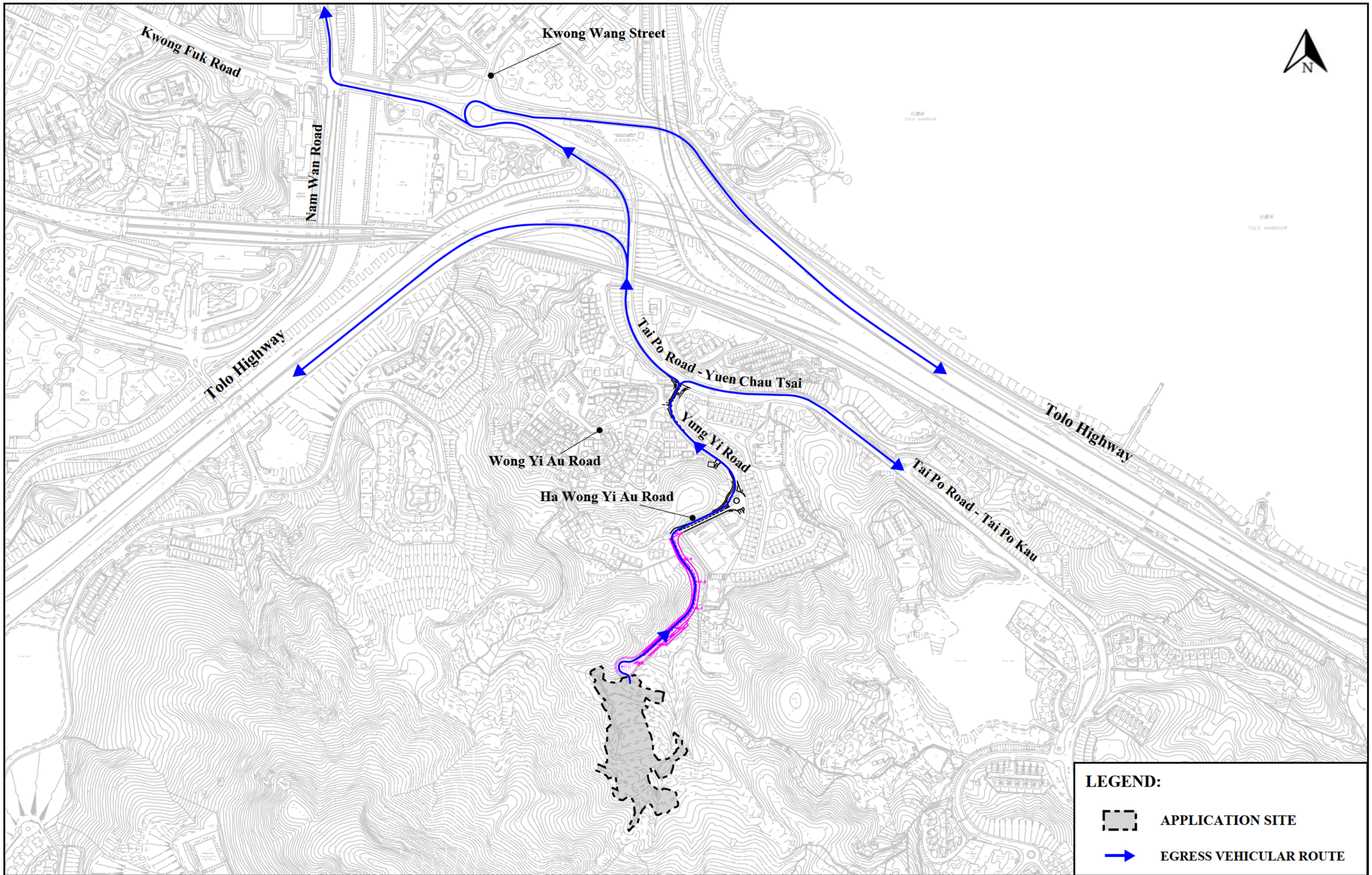


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

FIGURE 3.9

Date	Scale	Drawing Title
07/2025	1:5,000 (A3)	INGRESS VEHICULAR ROUTE OF THE APPLICATION SITE
Drawn	Job No.	
WYJL	292635-02	

ARUP

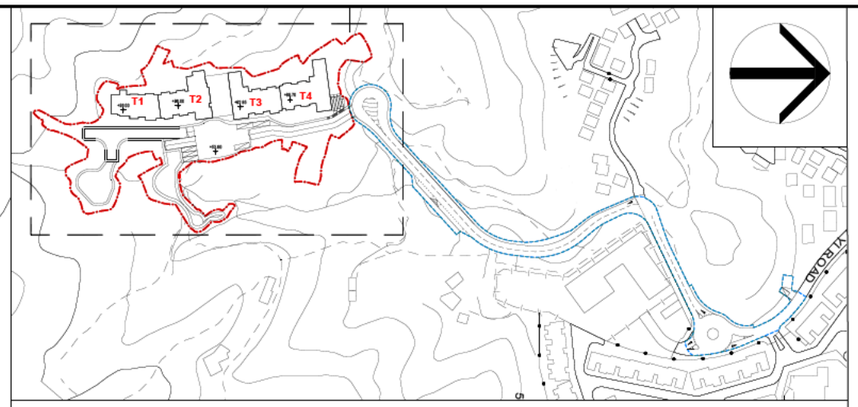


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

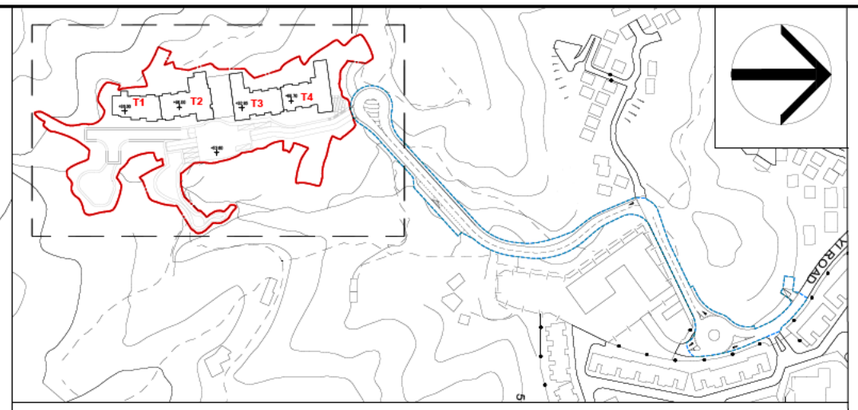
FIGURE 3.10

Date	Scale	Drawing Title
07/2025	1:5,000 (A3)	EGRESS VEHICULAR ROUTE OF THE APPLICATION SITE
Drawn	Job No.	
WYJL	292635-02	

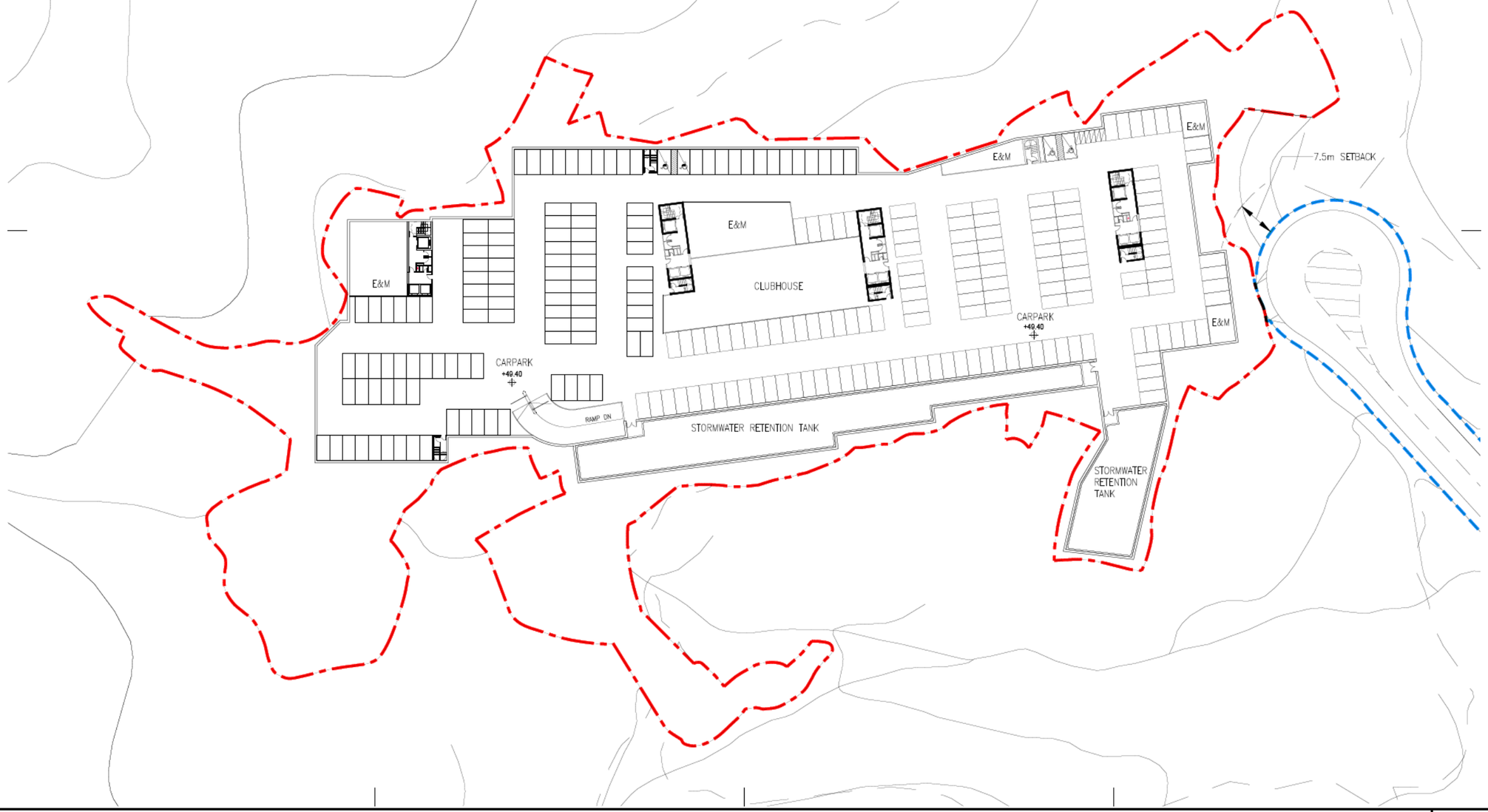
ARUP



Job Title: **APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES**		**FIGURE 3.11**
Date: 07/2025	Scale: **1:600 (A3)**	Drawing Title: **G/F LAYOUT PLAN**
Drawn: **WYJL**	Job No.: **292635-02**	ARUP



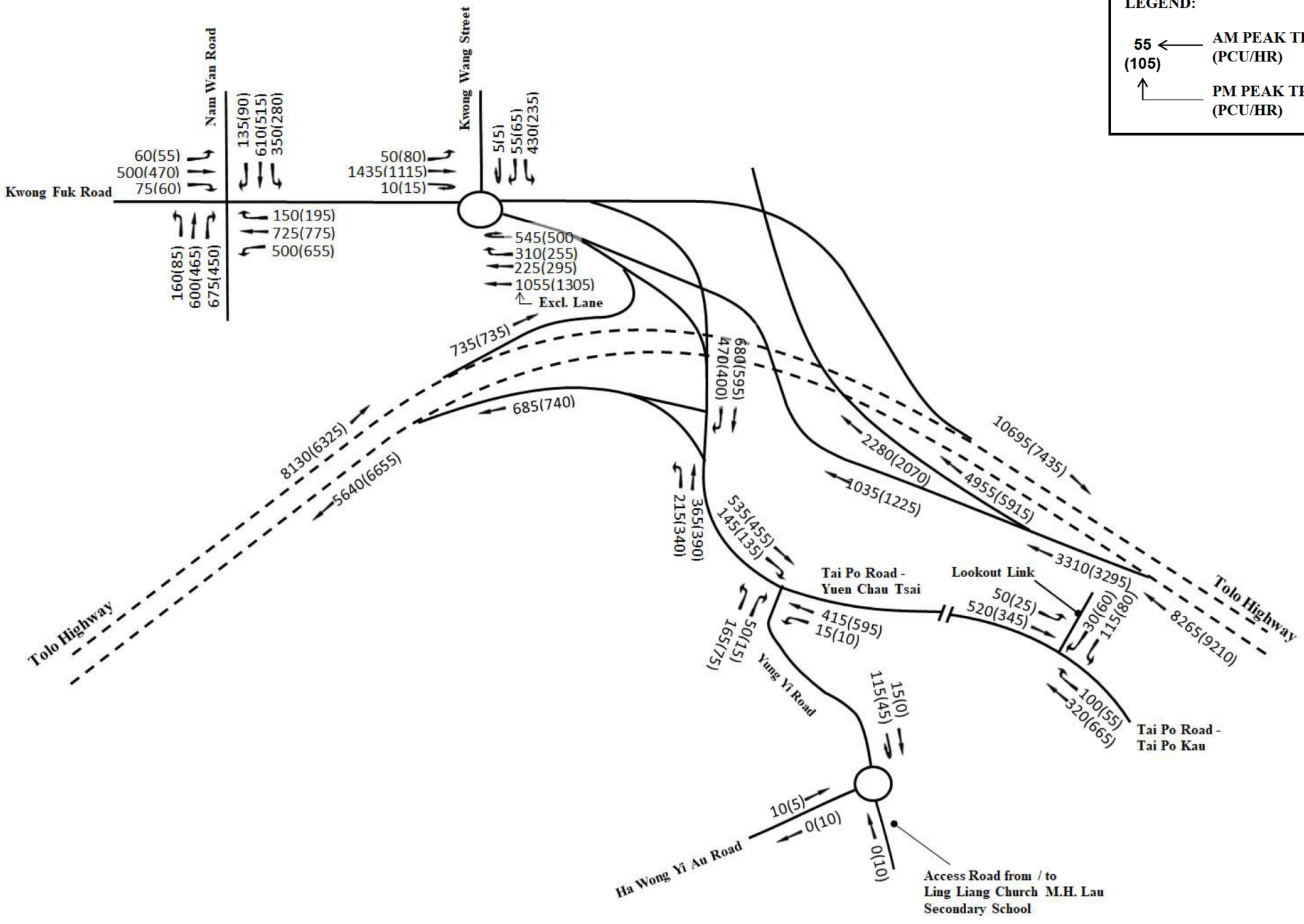
KEY PLAN SCALE 1:2000



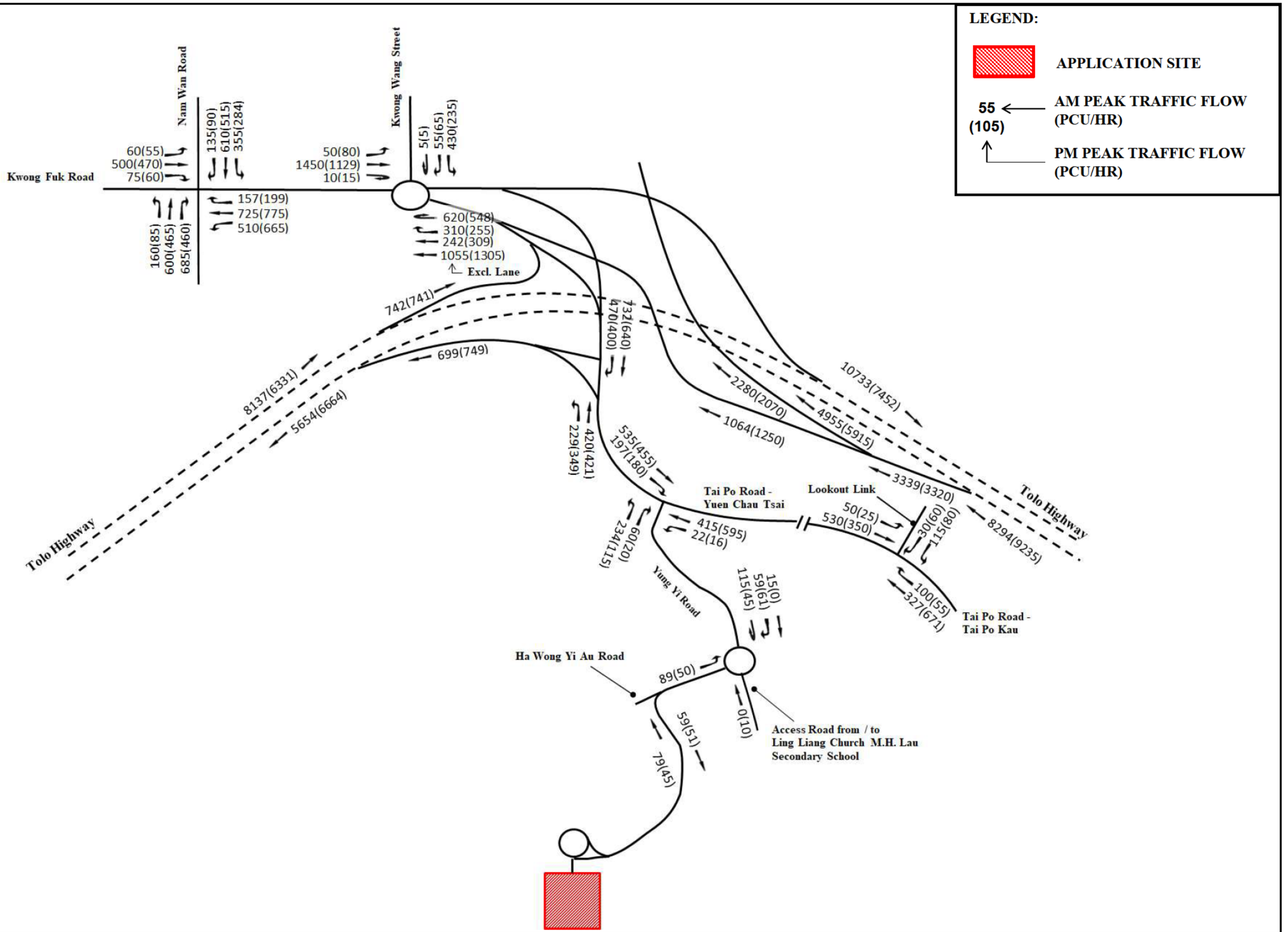
Job Title: **APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES**		**FIGURE 3.12**
Date: 07/2025	Scale: **1:600 (A3)**	Drawing Title: **B/F LAYOUT PLAN**
Drawn: **WYJL**	Job No.: **292635-02**	ARUP

LEGEND:

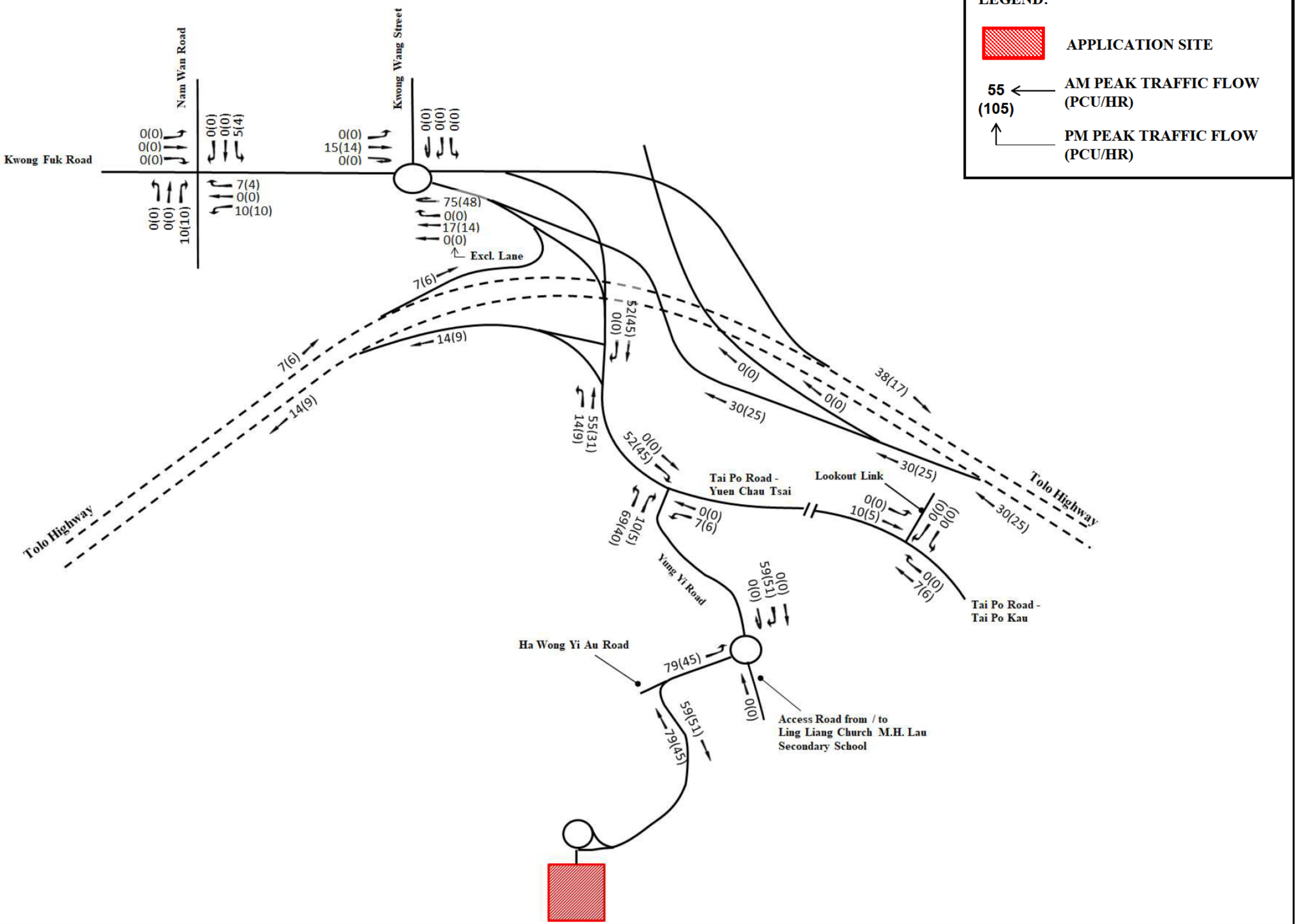
55 (105) — AM PEAK TRAFFIC FLOW (PCU/HR); PM PEAK TRAFFIC FLOW (PCU/HR)



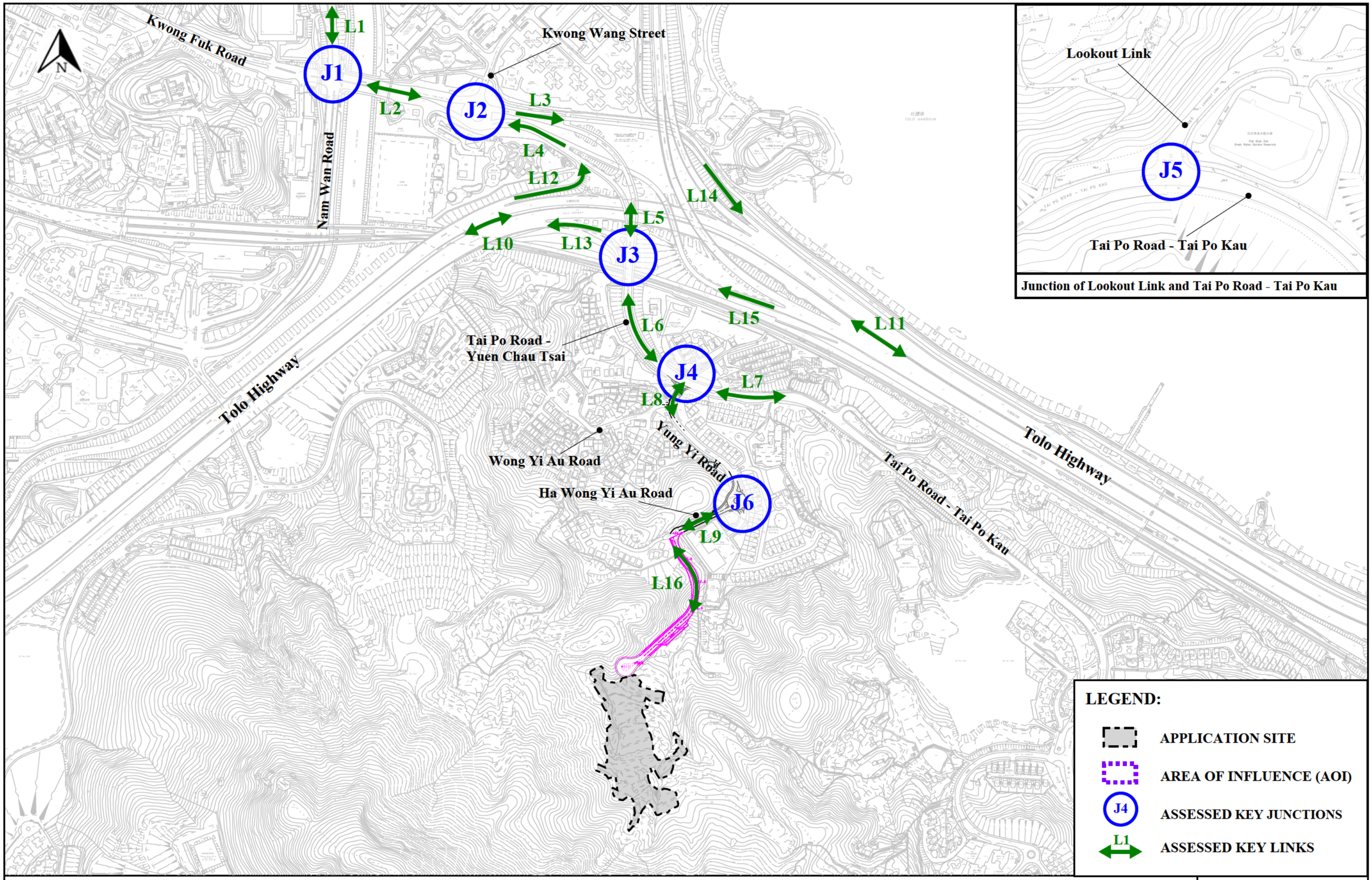
Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES			FIGURE 4.1
Date: 07/2025	Scale: N.T.S	Drawing Title: YEAR 2033 REFERENCE TRAFFIC FLOW	ARUP
Drawn: WYJL	Job No.: 292635-02		



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES			FIGURE 4.2
Date: 07/2025	Scale: N.T.S	Drawing Title: YEAR 2033 DESIGN TRAFFIC FLOW	ARUP
Drawn: WYJL	Job No.: 292635-02		



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES			FIGURE 4.3
Date: 07/2025	Scale: N.T.S	Drawing Title: NET DEVELOPMENT TRAFFIC FLOW DURING OPERATIONAL STAGE	ARUP
Drawn: WYJL	Job No.: 292635-02		

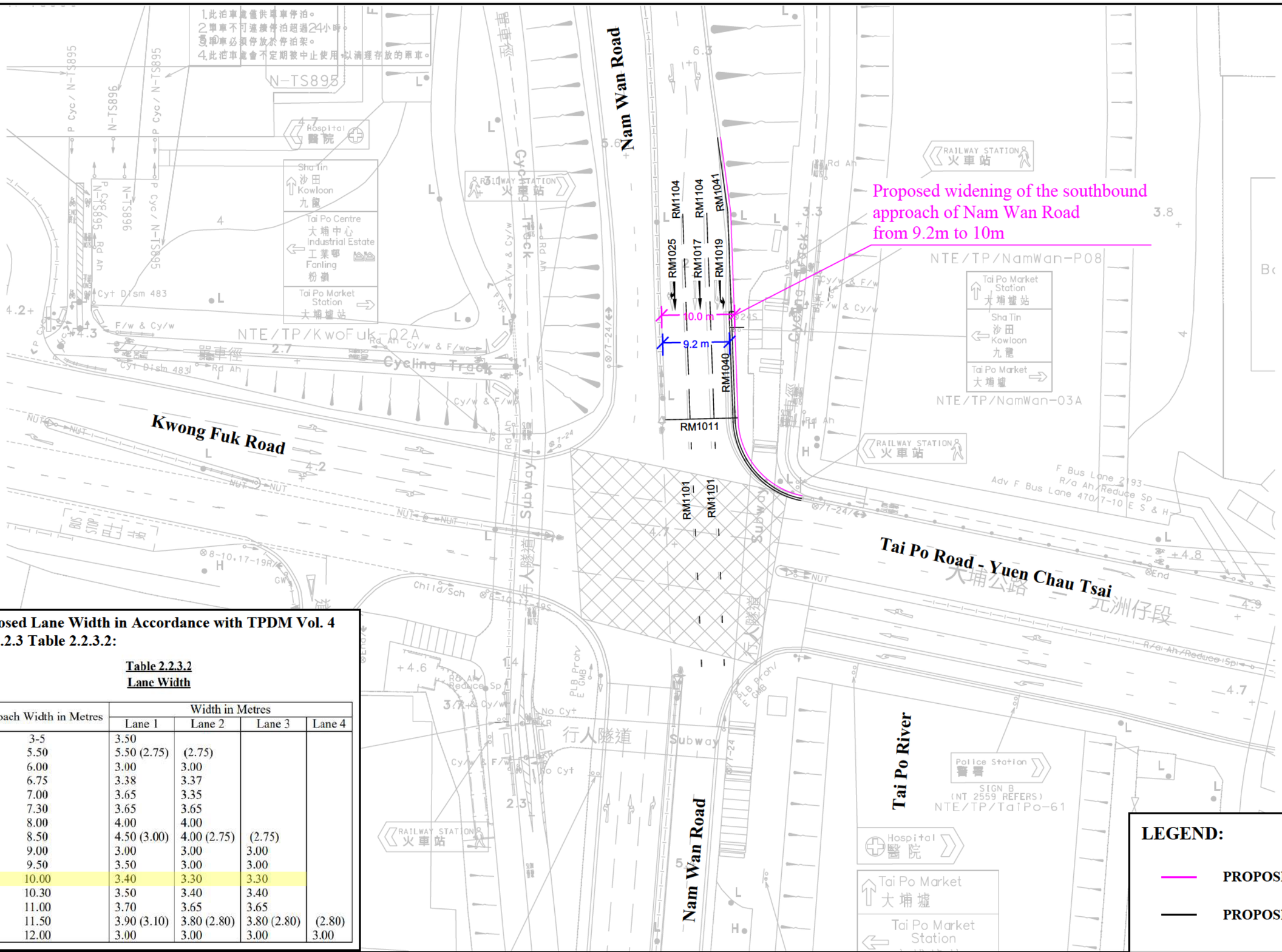


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

FIGURE 4.4

Date	Scale	Drawing Title
07/2025	1:5,000 (A3)	IDENTIFIED JUNCTIONS AND ROAD LINKS TO BE ASSESSED UNDER PROPOSED ROAD NETWORK
Drawn	Job No.	
WYJL	292635-02	

ARUP



Proposed Lane Width in Accordance with TPDM Vol. 4 Ch. 2.2.3 Table 2.2.3.2:

Table 2.2.3.2
Lane Width

Approach Width in Metres	Width in Metres			
	Lane 1	Lane 2	Lane 3	Lane 4
3-5	3.50			
5.50	5.50 (2.75)	(2.75)		
6.00	3.00	3.00		
6.75	3.38	3.37		
7.00	3.65	3.35		
7.30	3.65	3.65		
8.00	4.00	4.00		
8.50	4.50 (3.00)	4.00 (2.75)	(2.75)	
9.00	3.00	3.00	3.00	
9.50	3.50	3.00	3.00	
10.00	3.40	3.30	3.30	
10.30	3.50	3.40	3.40	
11.00	3.70	3.65	3.65	
11.50	3.90 (3.10)	3.80 (2.80)	3.80 (2.80)	(2.80)
12.00	3.00	3.00	3.00	3.00

LEGEND:

PROPOSED ROAD KERB

PROPOSED ROAD MARKING

Job Title **APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES**

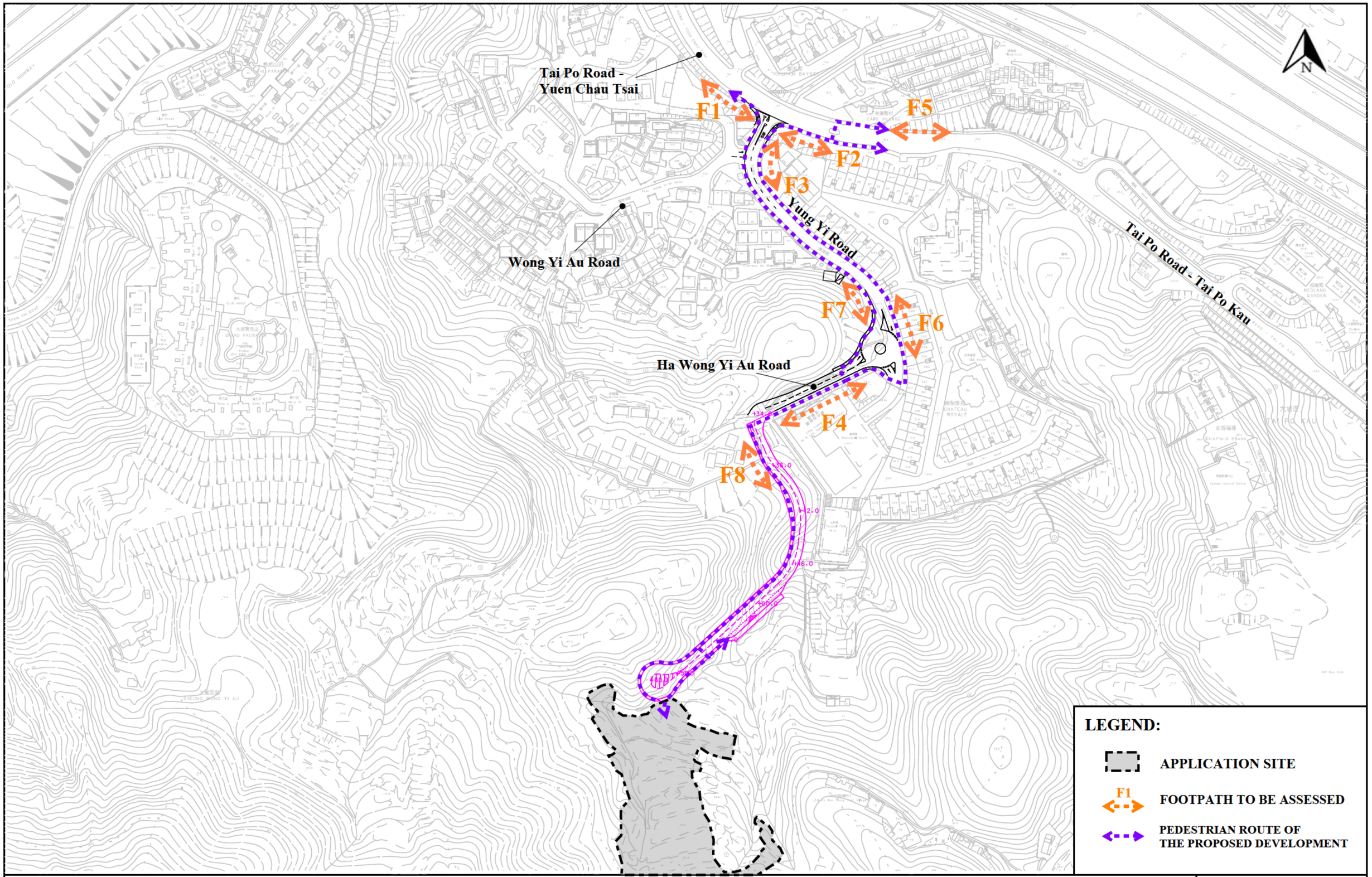
FIGURE 4.5

Date	Scale
07/2025	1:500 (A3)
Drawn	Job No.
WYJL	292635-02

Drawing Title

PROPOSED JUNCTION IMPROVEMENT WORKS AT J1: KWONG FUK ROAD / NAM WAN ROAD / TAI PO ROAD - YUEN CHAU TSAI

ARUP

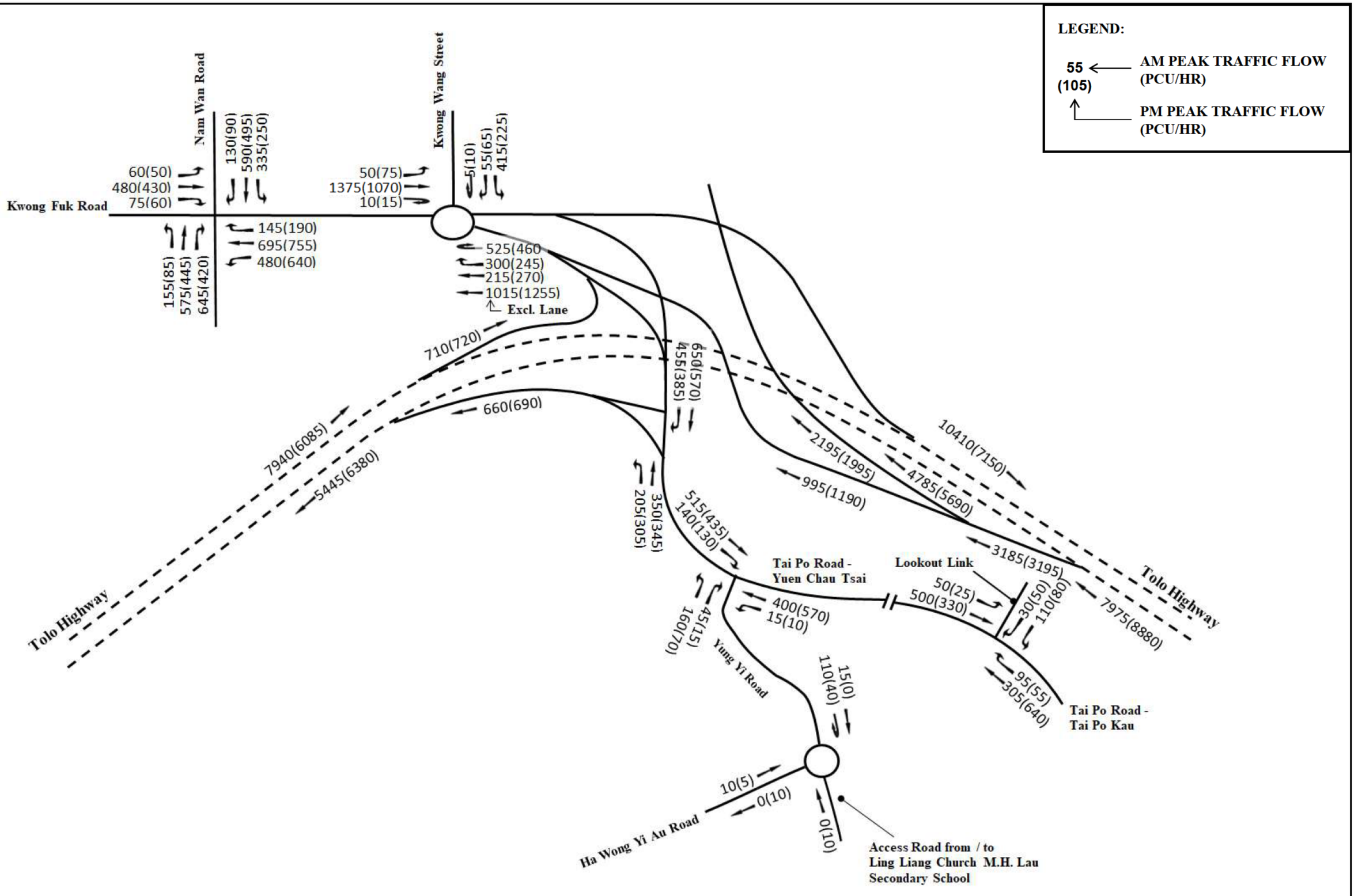


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES

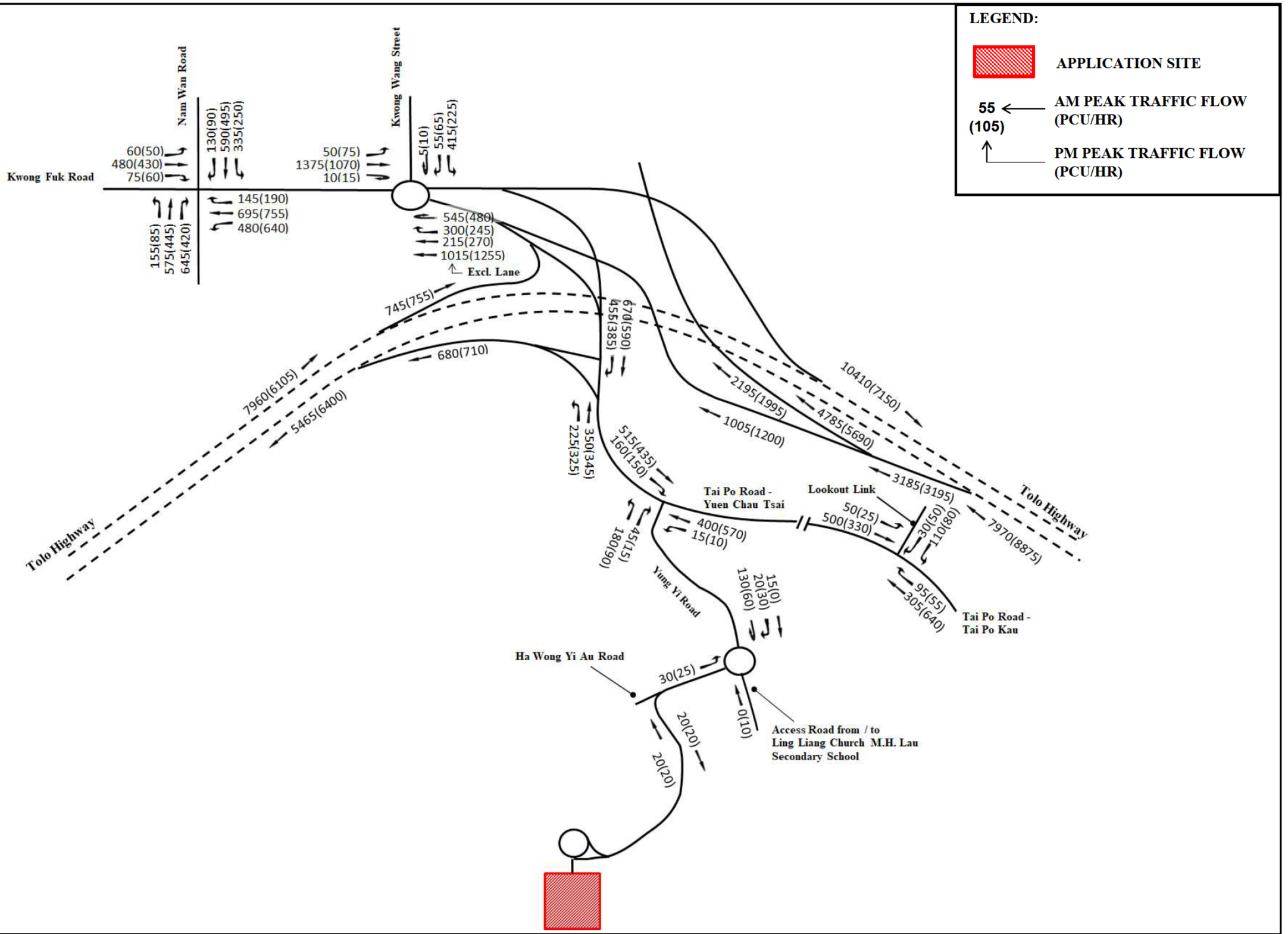
FIGURE 4.5

Date	Scale	Drawing Title
06/2025	1:2,500 (A3)	IDENTIFIED FOOTPATHS TO BE ASSESSED UNNDER PROPOSED ROAD NETWORK
Drawn	Job No.	
WYJL	292635-02	

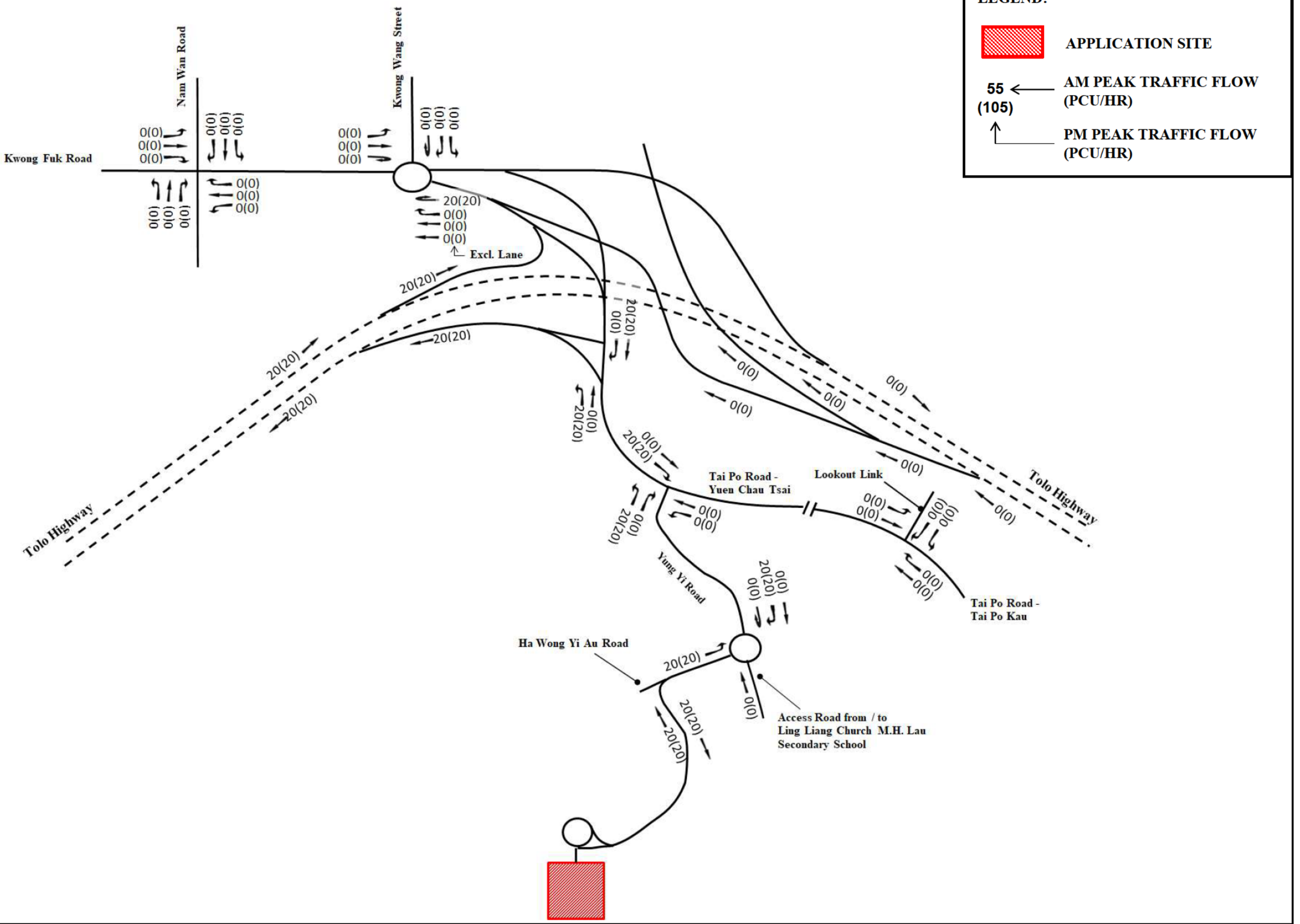
ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES		FIGURE 5.1
Date: 06/2025	Scale: N.T.S	Drawing Title: YEAR 2031 REFERENCE TRAFFIC FLOW DURING CONSTRUCTION STAGE
Drawn: WYJL	Job No.: 292635-02	ARUP



Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES		FIGURE 5.2
Date: 06/2025	Scale: N.T.S	Drawing Title: YEAR 2031 DESIGN TRAFFIC FLOW DURING CONSTRUCTION STAGE
Drawn: WYJL	Job No.: 292635-02	ARUP

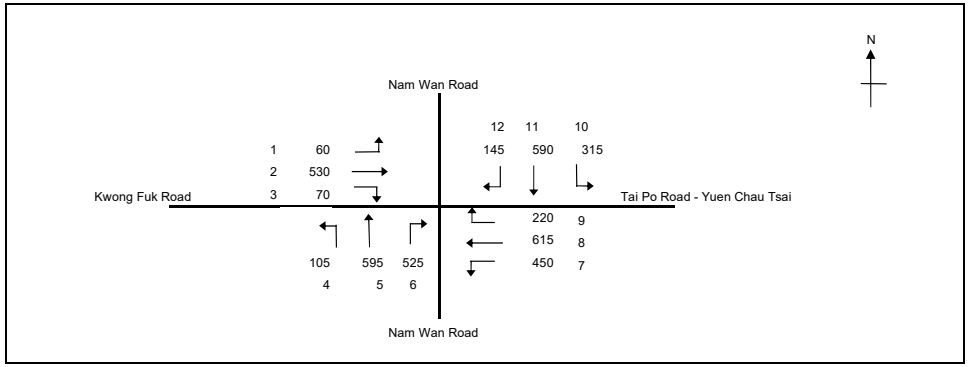


Job Title: APPLICATION FOR AMENDMENT OF PLAN UNDER SECTION 12A OF THE TOWN PLANNING ORDINANCE (CAP. 131) FOR PROPOSED RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 32 AND ADJOINING GOVERNMENT LAND, WONG YI AU, TAI PO, NEW TERRITORIES			FIGURE 5.3
Date: 06/2025	Scale: N.T.S	Drawing Title: NET DEVELOPMENT TRAFFIC FLOW DURING CONSTRUCTION STAGE	ARUP
Drawn: WYJL	Job No.: 292635-02		

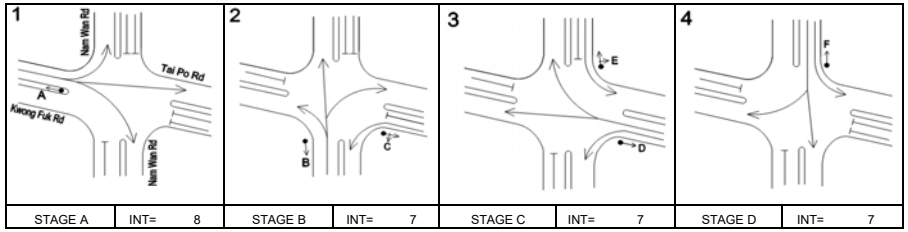
Appendix A

Junction Calculation Sheets

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2024 Observed Flows (AM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.757
Loss time		L =	25 sec
Total Flow		=	3916 pcu
Co	= (1.5*L+5)/(1-Y)	=	174.7 sec
Cm	= L/(1-Y)	=	102.8 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-5.8 %
Cp	= 0.9*L/(0.9-Y)	=	157.1 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-4 %



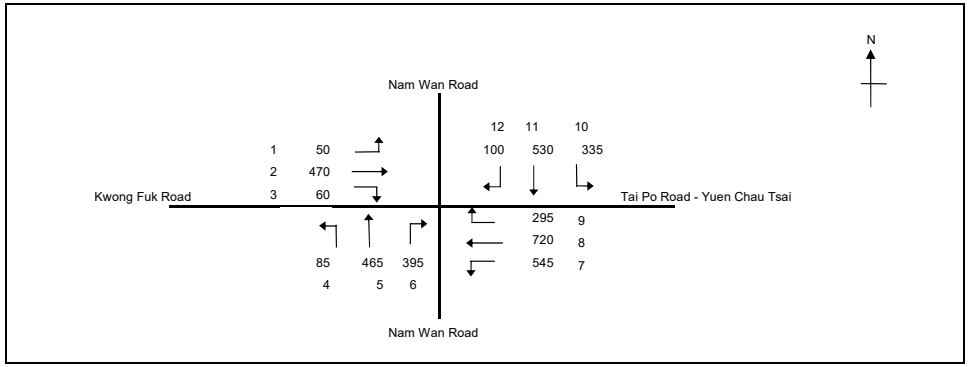
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

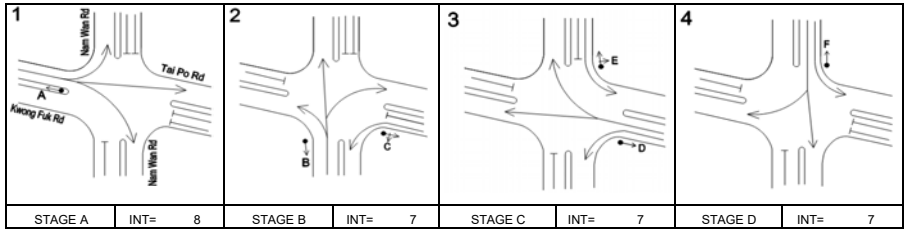
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	244		304	0.20	1931			1931	0.157	0.157		21	21	0.958
2,3	A	3.5		1	25			2105		286	70	356	0.20	2080		188	2268	0.157			21	21	0.958
4,5	B	2.8		1	15		N	1895	105	287		392	0.27	1846			1846	0.212	0.212		29	29	0.938
5,6	B	3.0		1	21			2055		308	120	428	0.28	2015			2015	0.212			29	29	0.938
6	B	3.0		1	19			2055			405	405	1.00	1905			1905	0.212			29	29	0.938
7	B,C	3.2		1	11		N	1935	450			450	1.00	1703			1703	0.264			36	55	0.615
8	C	3.2		1				2075		427		427	0.00	2075			2075	0.206	0.206		28	28	0.941
8,9	C	3.2		1	17			2075		188	220	408	0.54	1981			1981	0.206			28	28	0.941
11	D	3.0		1				2055		372		372	0.00	2055			2055	0.181	0.181		25	25	0.928
11,12	D	3.1		1	19			2065		218	145	363	0.40	2002			2002	0.181			25	25	0.928
10	C,D	3.1		1	17		N	1925	315			315	1.00	1769			884	0.356			48	58	0.786

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2024 Observed Flows (PM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.707
Loss time		L =	25 sec
Total Flow		=	3784 pcu
Co	= (1.5*L+5)/(1-Y)	=	145.1 sec
Cm	= L/(1-Y)	=	85.4 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	0.8 %
Cp	= 0.9*L/(0.9-Y)	=	116.7 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	1 %



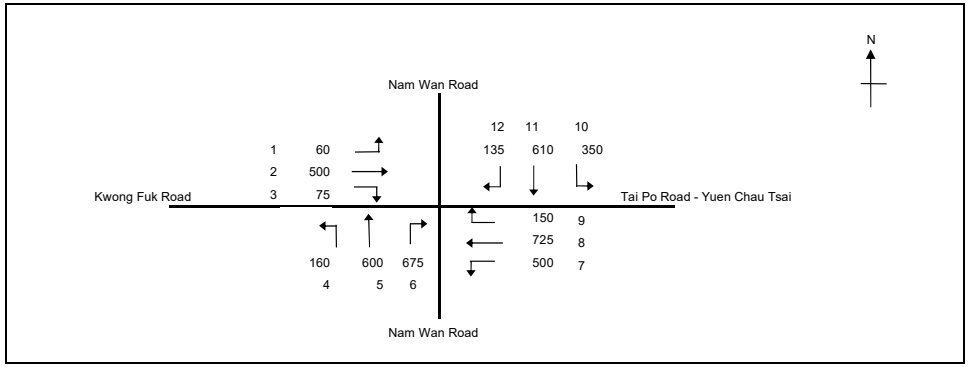
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

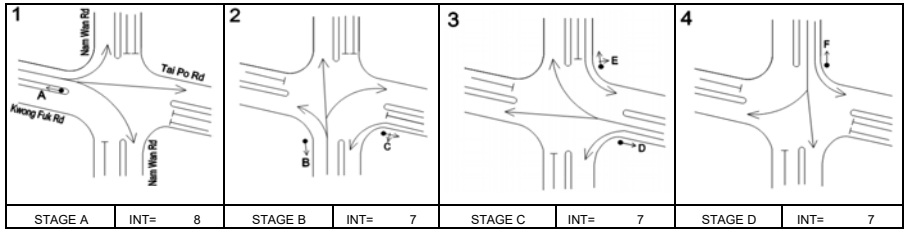
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	50	216		266	0.19	1933			1933	0.138	0.138		18	18	0.918
2,3	A	3.5		1	25			2105		254	60	314	0.19	2081		200	2281	0.138			18	18	0.918
4,5	B	2.8		1	15		N	1895	85	217		302	0.28	1843			1843	0.164	0.164		22	22	0.894
5,6	B	3.0		1	21			2055		248	83	331	0.25	2019			2019	0.164			22	22	0.894
6	B	3.0		1	19			2055			312	312	1.00	1905			1905	0.164			22	22	0.894
7	B,C	3.2		1	11		N	1935	545			545	1.00	1703			1703	0.320			43	54	0.711
8	C	3.2		1				2075		521		521	0.00	2075			2075	0.251	0.251		34	34	0.885
8,9	C	3.2		1	17			2075		199	295	494	0.60	1971			1971	0.251			34	34	0.885
11	D	3.0		1				2055		318		318	0.00	2055			2055	0.155	0.155		21	21	0.885
11,12	D	3.1		1	19			2065		212	100	312	0.32	2014			2014	0.155			21	21	0.885
10	C,D	3.1		1	17		N	1925	335			335	1.00	1769			884	0.379			51	60	0.758

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2033 Reference Flows (AM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.800
Loss time		L =	25 sec
Total Flow		=	4248 pcu
Co	= (1.5*L+5)/(1-Y)	=	212.6 sec
Cm	= L/(1-Y)	=	125.1 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-10.9 %
Cp	= 0.9*L/(0.9-Y)	=	225.2 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-10 %



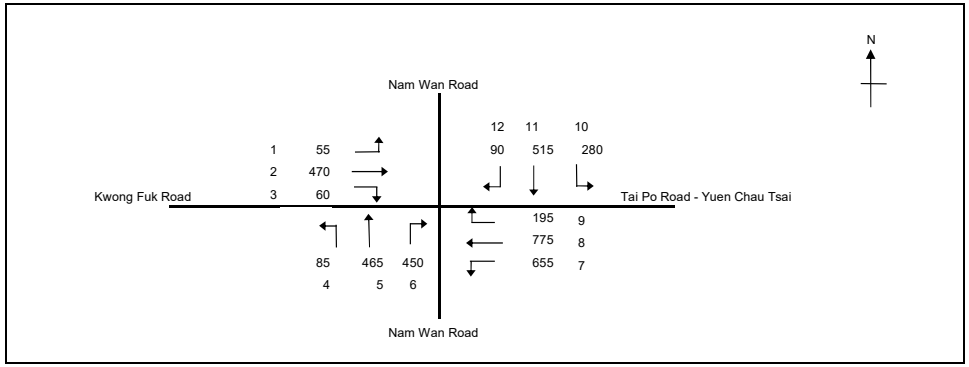
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

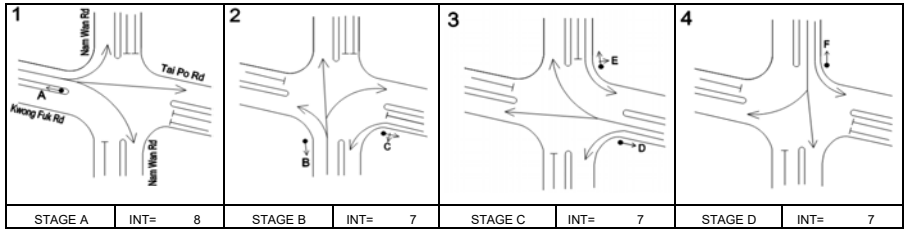
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	232		292	0.21	1929			1929	0.151	0.151		19	19	1.020
2,3	A	3.5		1	25			2105		268	75	343	0.22	2078		188	2265	0.151			19	19	1.020
4,5	B	2.8		1	15		N	1895	160	298		458	0.35	1831			1831	0.250	0.250		32	32	1.001
5,6	B	3.0		1	21			2055		302	198	500	0.40	1998			1998	0.250			32	32	1.001
6	B	3.0		1	19			2055			477	477	1.00	1905			1905	0.250			32	32	1.001
7	B,C	3.2		1	11		N	1935	500			500	1.00	1703			1703	0.294			38	58	0.648
8	C	3.2		1				2075		444		444	0.00	2075			2075	0.214	0.214		28	28	0.978
8,9	C	3.2		1	17			2075		281	150	431	0.35	2013			2013	0.214			28	28	0.978
11	D	3.0		1				2055		377		377	0.00	2055			2055	0.183	0.183		24	24	0.978
11,12	D	3.1		1	19			2065		233	135	368	0.37	2007			2007	0.183			24	24	0.978
10	C,D	3.1		1	17		N	1925	350			350	1.00	1769			884	0.396			51	57	0.889

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2033 Reference Flows (PM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.700
Loss time		L =	25 sec
Total Flow		=	3827 pcu
Co	= (1.5*L+5)/(1-Y)	=	141.7 sec
Cm	= L/(1-Y)	=	83.4 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	1.8 %
Cp	= 0.9*L/(0.9-Y)	=	112.6 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	2 %



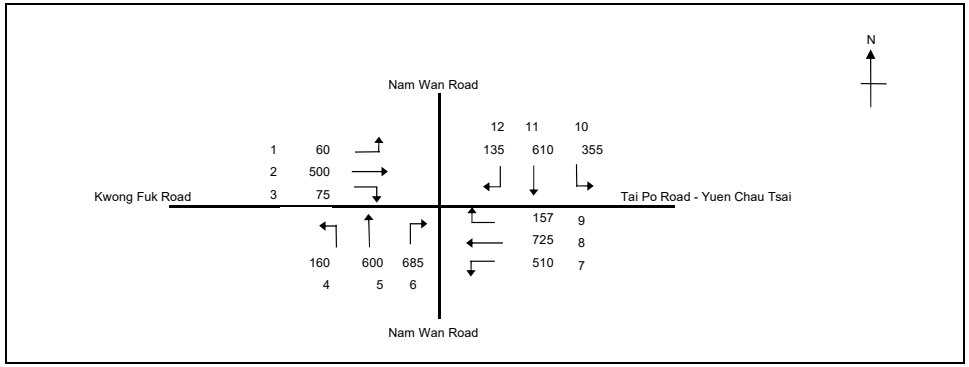
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

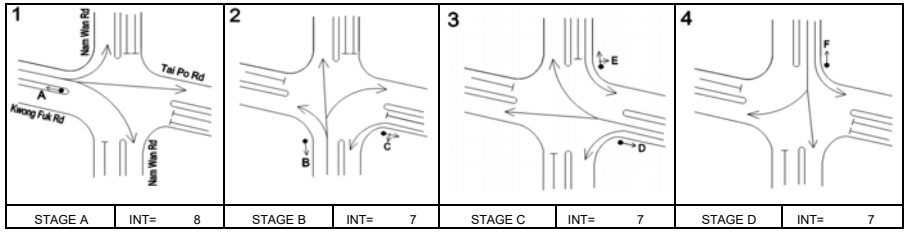
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	55	213		268	0.21	1929			1929	0.139	0.139		19	19	0.877
2,3	A	3.5		1	25			2105		257	60	317	0.19	2081		200	2281	0.139			19	19	0.877
4,5	B	2.8		1	15		N	1895	85	236		321	0.27	1846			1846	0.174	0.174		24	24	0.869
5,6	B	3.0		1	21			2055		229	119	348	0.34	2006			2006	0.174			24	24	0.869
6	B	3.0		1	19			2055			331	331	1.00	1905			1905	0.174			24	24	0.869
7	B,C	3.2		1	11		N	1935	655			655	1.00	1703			1703	0.385			52	54	0.855
8	C	3.2		1				2075		494		494	0.00	2075			2075	0.238	0.238		32	32	0.892
8,9	C	3.2		1	17			2075		281	195	476	0.41	2003			2003	0.238			32	32	0.892
11	D	3.0		1				2055		305		305	0.00	2055.0			2055	0.149	0.149		20	20	0.891
11,12	D	3.1		1	19			2065		210	90	300	0.30	2017			2017	0.149			20	20	0.891
10	C,D	3.1		1	17		N	1925	280			280	1.00	1769			884	0.317			43	57	0.666

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2033 Design Flows (AM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.803
Loss time		L =	25 sec
Total Flow		=	4280 pcu
Co	= (1.5*L+5)/(1-Y)	=	215.4 sec
Cm	= L/(1-Y)	=	126.7 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-11.2 %
Cp	= 0.9*L/(0.9-Y)	=	231.2 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-10 %



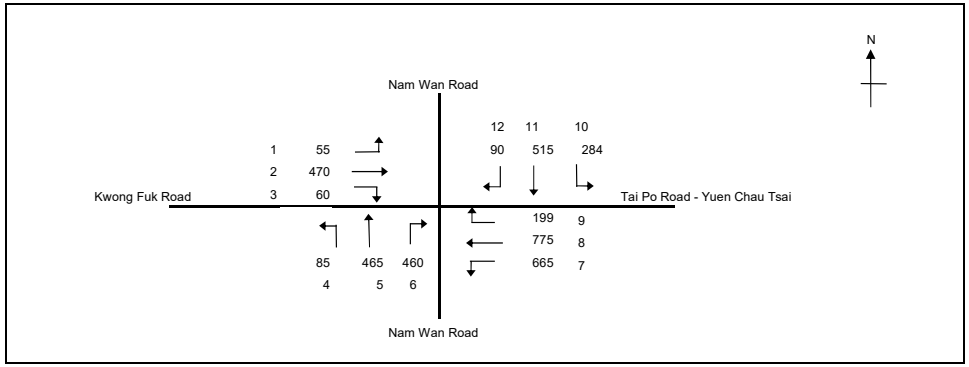
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

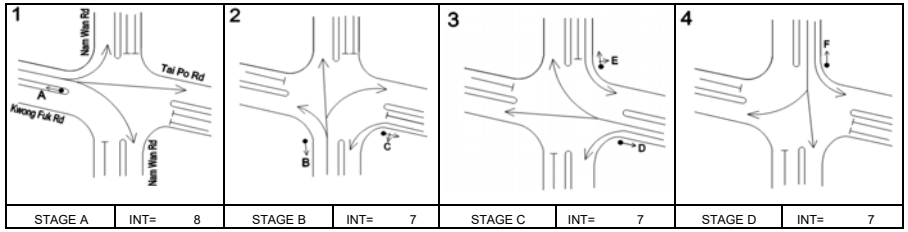
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	232		292	0.21	1929			1929	0.151	0.151		19	19	1.020
2,3	A	3.5		1	25			2105		268	75	343	0.22	2078		188	2265	0.151			19	19	1.020
4,5	B	2.8		1	15		N	1895	160	302		462	0.35	1832			1832	0.252	0.252		32	32	1.008
5,6	B	3.0		1	21			2055		298	205	503	0.41	1997			1997	0.252			32	32	1.008
6	B	3.0		1	19			2055			480	480	1.00	1905			1905	0.252			32	32	1.008
7	B,C	3.2		1	11		N	1935	510			510	1.00	1703			1703	0.300			38	58	0.661
8	C	3.2		1				2075		448		448	0.00	2075			2075	0.216	0.216		28	28	0.987
8,9	C	3.2		1	17			2075		277	157	434	0.36	2011			2011	0.216			28	28	0.987
11	D	3.0		1				2055		377		377	0.00	2055			2055	0.183	0.183		24	24	0.978
11,12	D	3.1		1	19			2065		233	135	368	0.37	2007			2007	0.183			24	24	0.978
10	C,D	3.1		1	17		N	1925	355			355	1.00	1769			884	0.401			51	57	0.901

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2033 Design Flows (PM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.702
Loss time		L =	25 sec
Total Flow		=	3855 pcu
Co	= (1.5*L+5)/(1-Y)	=	142.5 sec
Cm	= L/(1-Y)	=	83.8 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	1.5 %
Cp	= 0.9*L/(0.9-Y)	=	113.5 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	2 %



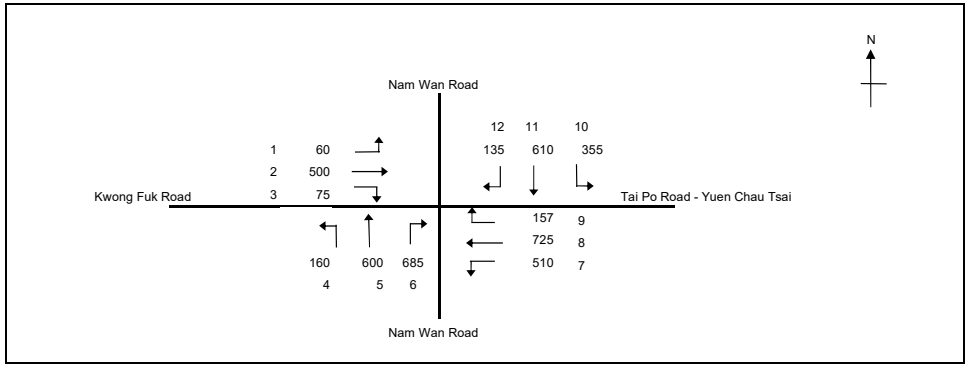
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

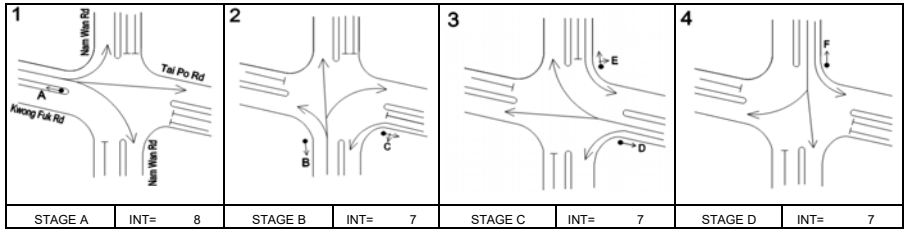
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	55	213		268	0.21	1929			1929	0.139	0.139		19	19	0.877
2,3	A	3.5		1	25			2105		257	60	317	0.19	2081		200	2281	0.139			19	19	0.877
4,5	B	2.8		1	15		N	1895	85	239		324	0.26	1847			1847	0.175	0.175		24	24	0.877
5,6	B	3.0		1	21			2055		226	126	352	0.36	2004			2004	0.175			24	24	0.877
6	B	3.0		1	19			2055			334	334	1.00	1905			1905	0.175			24	24	0.877
7	B,C	3.2		1	11		N	1935	665			665	1.00	1703			1703	0.391			53	54	0.868
8	C	3.2		1				2075		496		496	0.00	2075			2075	0.239	0.239		32	32	0.895
8,9	C	3.2		1	17			2075		279	199	478	0.42	2002			2002	0.239			32	32	0.895
11	D	3.0		1				2055		305		305	0.00	2055			2055	0.149	0.149		20	20	0.891
11,12	D	3.1		1	19			2065		210	90	300	0.30	2017			2017	0.149			20	20	0.891
10	C,D	3.1		1	17		N	1925	284			284	1.00	1769			884	0.321			43	57	0.676

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2033 Design Flows (AM) - With Improvement	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.799
Loss time		L =	25 sec
Total Flow		=	4280 pcu
Co	= (1.5*L+5)/(1-Y)	=	211.5 sec
Cm	= L/(1-Y)	=	124.4 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-10.8 %
Cp	= 0.9*L/(0.9-Y)	=	223.0 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-9 %



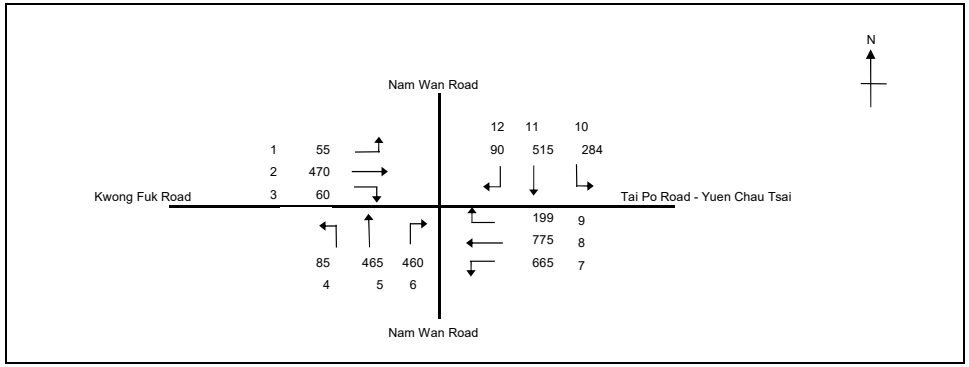
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

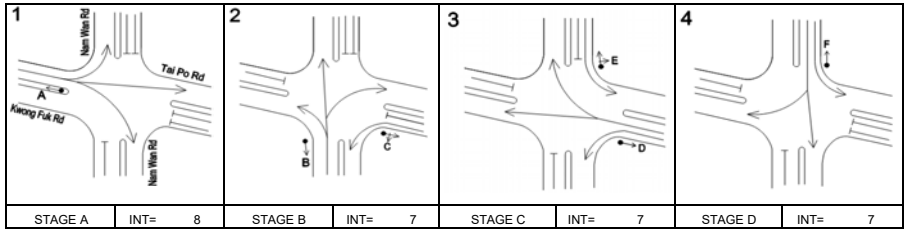
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	232		292	0.21	1929			1929	0.151	0.151		20	20	0.969
2,3	A	3.5		1	25			2105		268	75	343	0.22	2078		188	2265	0.151			20	20	0.969
4,5	B	2.8		1	15		N	1895	160	302		462	0.35	1832			1832	0.252	0.252		32	32	1.008
5,6	B	3.0		1	21			2055		298	205	503	0.41	1997			1997	0.252			32	32	1.008
6	B	3.0		1	19			2055			480	480	1.00	1905			1905	0.252			32	32	1.008
7	B,C	3.2		1	11		N	1935	510			510	1.00	1703			1703	0.300			39	58	0.661
8	C	3.2		1				2075		448		448	0.00	2075			2075	0.216	0.216		28	28	0.987
8,9	C	3.2		1	17			2075		277	157	434	0.36	2011			2011	0.216			28	28	0.987
11	D	3.3		1				2085		378		378	0.00	2085			2085	0.181	0.181		23	23	1.008
11,12	D	3.3		1	19			2085		232	135	367	0.37	2026			2026	0.181			23	23	1.008
10	C,D	3.4		1	17		N	1955	355			355	1.00	1796			898	0.395			51	56	0.903

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2033 Design Flows (PM) - With Improvement	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.699
Loss time		L =	25 sec
Total Flow		=	3855 pcu
Co	= (1.5*L+5)/(1-Y)	=	141.2 sec
Cm	= L/(1-Y)	=	83.1 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	1.9 %
Cp	= 0.9*L/(0.9-Y)	=	112.0 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	2 %



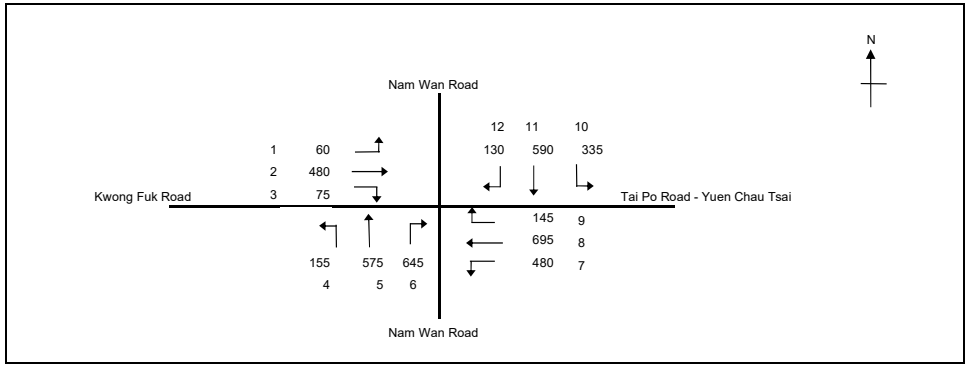
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

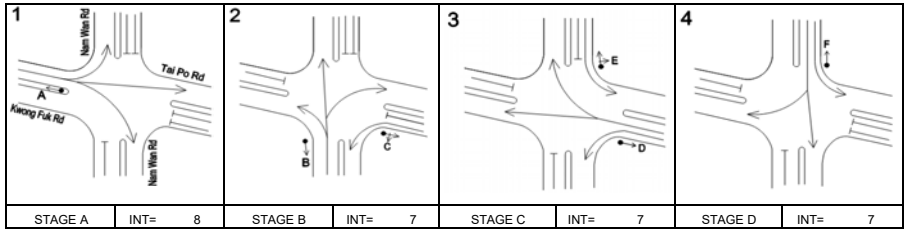
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	55	213		268	0.21	1929			1929	0.139	0.139		19	19	0.877
2,3	A	3.5		1	25			2105		257	60	317	0.19	2081		200	2281	0.139			19	19	0.877
4,5	B	2.8		1	15		N	1895	85	239		324	0.26	1847			1847	0.175	0.175		24	24	0.877
5,6	B	3.0		1	21			2055		226	126	352	0.36	2004			2004	0.175			24	24	0.877
6	B	3.0		1	19			2055			334	334	1.00	1905			1905	0.175			24	24	0.877
7	B,C	3.2		1	11		N	1935	665			665	1.00	1703			1703	0.391			53	54	0.868
8	C	3.2		1				2075		496		496	0.00	2075			2075	0.239	0.239		32	32	0.895
8,9	C	3.2		1	17			2075		279	199	478	0.42	2002			2002	0.239			32	32	0.895
11	D	3.3		1				2085		306		306	0.00	2085			2085	0.147	0.147		20	20	0.881
11,12	D	3.3		1	19			2085		209	90	299	0.30	2037			2037	0.147			20	20	0.881
10	C,D	3.4		1	17		N	1955	284			284	1.00	1796			898	0.316			43	57	0.666

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2031 Reference Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.769
Loss time		L =	25 sec
Total Flow		=	4082 pcu
Co	= (1.5*L+5)/(1-Y)	=	184.2 sec
Cm	= L/(1-Y)	=	108.3 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-7.4 %
Cp	= 0.9*L/(0.9-Y)	=	172.1 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-6 %



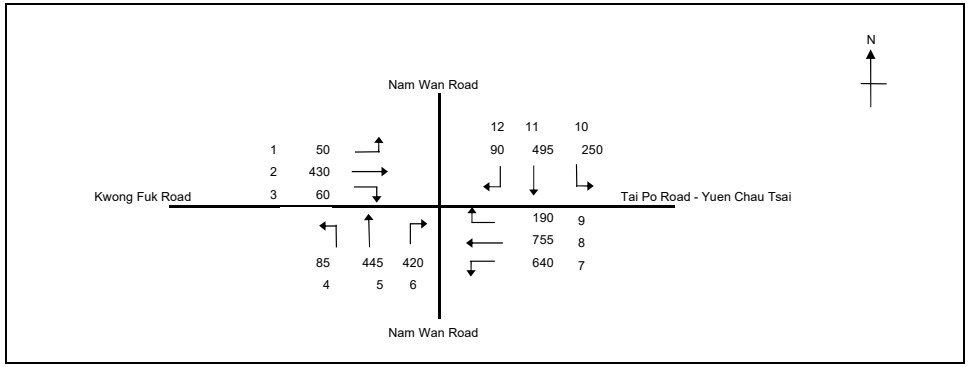
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

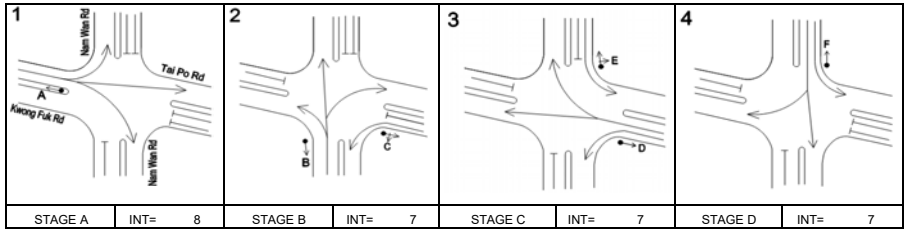
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	223		283	0.21	1928			1928	0.147	0.147		20	20	0.939
2,3	A	3.5		1	25			2105		257	75	332	0.23	2077		188	2264	0.147			20	20	0.939
4,5	B	2.8		1	15		N	1895	155	284		439	0.35	1830			1830	0.240	0.240		32	32	0.959
5,6	B	3.0		1	21			2055		291	188	479	0.39	1999			1999	0.240			32	32	0.959
6	B	3.0		1	19			2055			457	457	1.00	1905			1905	0.240			32	32	0.959
7	B,C	3.2		1	11		N	1935	480			480	1.00	1703			1703	0.282			38	58	0.622
8	C	3.2		1				2075		426		426	0.00	2075			2075	0.205	0.205		28	28	0.939
8,9	C	3.2		1	17			2075		269	145	414	0.35	2013			2013	0.205			28	28	0.939
11	D	3.0		1				2055		364		364	0.00	2055			2055	0.177	0.177		24	24	0.945
11,12	D	3.1		1	19			2065		226	130	356	0.37	2007			2007	0.177			24	24	0.945
10	C,D	3.1		1	17		N	1925	335			335	1.00	1769			884	0.379			51	57	0.851

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2031 Reference Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.669
Loss time		L =	25 sec
Total Flow		=	3662 pcu
Co	= (1.5*L+5)/(1-Y)	=	128.3 sec
Cm	= L/(1-Y)	=	75.5 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	6.5 %
Cp	= 0.9*L/(0.9-Y)	=	97.3 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7 %



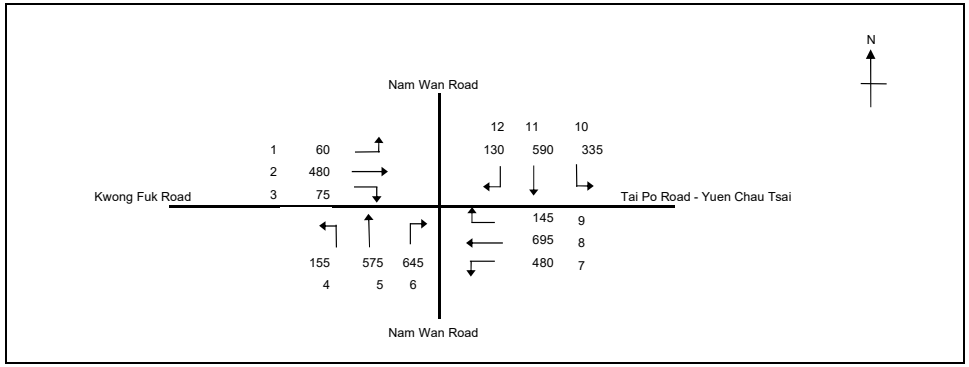
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

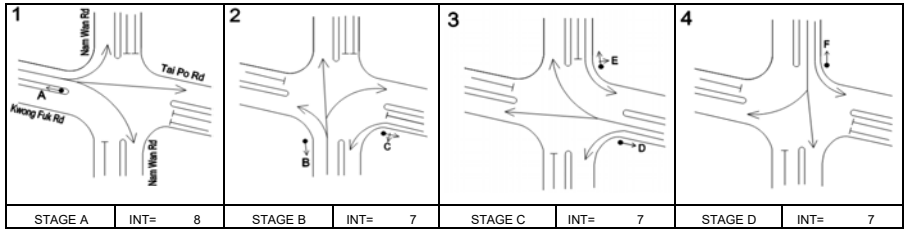
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	50	198		248	0.20	1930			1930	0.128	0.128		18	18	0.855
2,3	A	3.5		1	25			2105		232	60	292	0.21	2079		200	2279	0.128			18	18	0.855
4,5	B	2.8		1	15		N	1895	85	219		304	0.28	1843			1843	0.165	0.165		23	23	0.861
5,6	B	3.0		1	21			2055		226	106	332	0.32	2009			2009	0.165			23	23	0.861
6	B	3.0		1	19			2055			314	314	1.00	1905			1905	0.165			23	23	0.861
7	B,C	3.2		1	11		N	1935	640			640	1.00	1703			1703	0.376			53	54	0.835
8	C	3.2		1				2075		481		481	0.00	2075			2075	0.232	0.232		33	33	0.843
8,9	C	3.2		1	17			2075		274	190	464	0.41	2003			2003	0.232			33	33	0.843
11	D	3.0		1				2055		295		295	0.00	2055			2055	0.144	0.144		20	20	0.862
11,12	D	3.1		1	19			2065		200	90	290	0.31	2016			2016	0.144			20	20	0.862
10	C,D	3.1		1	17		N	1925	250			250	1.00	1769			884	0.283			40	58	0.585

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.769
Loss time		L =	25 sec
Total Flow		=	4082 pcu
Co	= (1.5*L+5)/(1-Y)	=	184.2 sec
Cm	= L/(1-Y)	=	108.3 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-7.4 %
Cp	= 0.9*L/(0.9-Y)	=	172.1 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-6 %



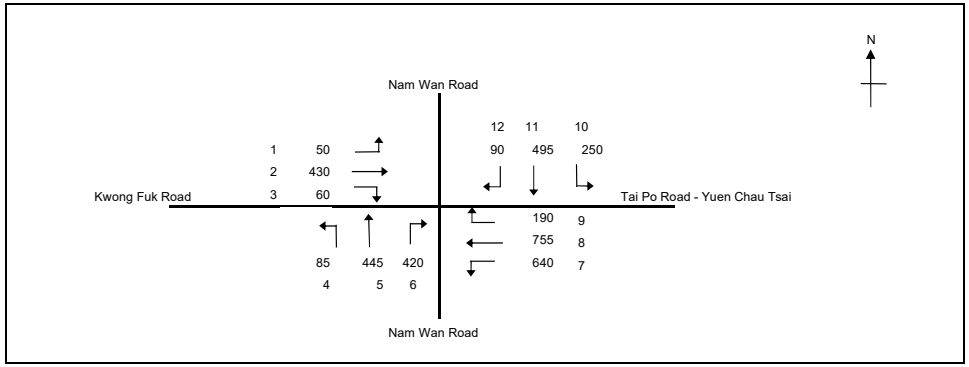
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

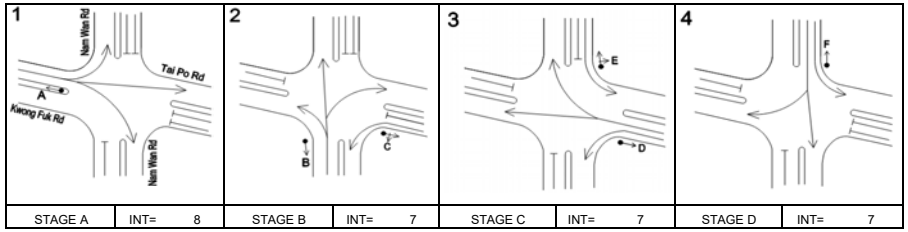
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	223		283	0.21	1928			1928	0.147	0.147		20	20	0.939
2,3	A	3.5		1	25			2105		257	75	332	0.23	2077		188	2264	0.147			20	20	0.939
4,5	B	2.8		1	15		N	1895	155	284		439	0.35	1830			1830	0.240	0.240		32	32	0.959
5,6	B	3.0		1	21			2055		291	188	479	0.39	1999			1999	0.240			32	32	0.959
6	B	3.0		1	19			2055			457	457	1.00	1905			1905	0.240			32	32	0.959
7	B,C	3.2		1	11		N	1935	480			480	1.00	1703			1703	0.282			38	58	0.622
8	C	3.2		1				2075		426		426	0.00	2075			2075	0.205	0.205		28	28	0.939
8,9	C	3.2		1	17			2075		269	145	414	0.35	2013			2013	0.205			28	28	0.939
11	D	3.0		1				2055		364		364	0.00	2055			2055	0.177	0.177		24	24	0.945
11,12	D	3.1		1	19			2065		226	130	356	0.37	2007			2007	0.177			24	24	0.945
10	C,D	3.1		1	17		N	1925	335			335	1.00	1769			884	0.379			51	57	0.851

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.669
Loss time		L =	25 sec
Total Flow		=	3662 pcu
Co	= (1.5*L+5)/(1-Y)	=	128.3 sec
Cm	= L/(1-Y)	=	75.5 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	6.5 %
Cp	= 0.9*L/(0.9-Y)	=	97.3 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7 %



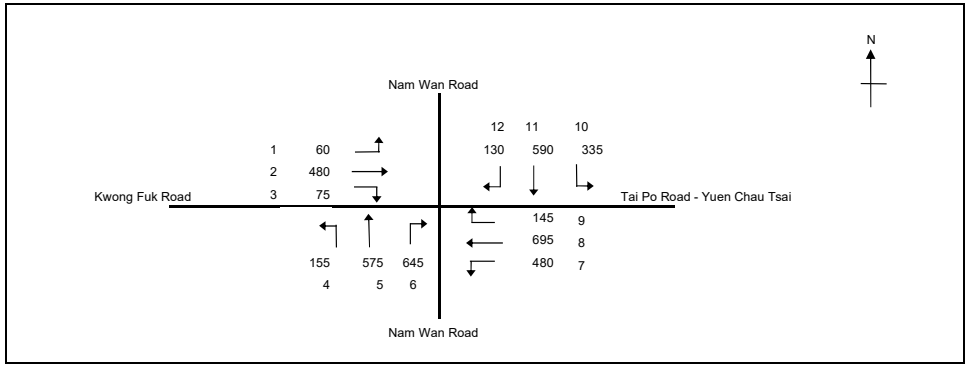
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

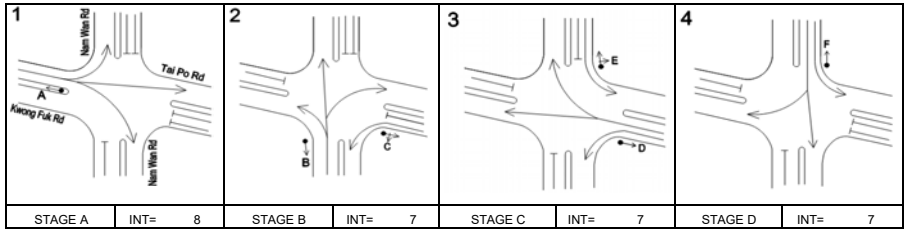
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	50	198		248	0.20	1930			1930	0.128	0.128		18	18	0.855
2,3	A	3.5		1	25			2105		232	60	292	0.21	2079		200	2279	0.128			18	18	0.855
4,5	B	2.8		1	15		N	1895	85	219		304	0.28	1843			1843	0.165	0.165		23	23	0.861
5,6	B	3.0		1	21			2055		226	106	332	0.32	2009			2009	0.165			23	23	0.861
6	B	3.0		1	19			2055			314	314	1.00	1905			1905	0.165			23	23	0.861
7	B,C	3.2		1	11		N	1935	640			640	1.00	1703			1703	0.376			53	54	0.835
8	C	3.2		1				2075		481		481	0.00	2075			2075	0.232	0.232		33	33	0.843
8,9	C	3.2		1	17			2075		274	190	464	0.41	2003			2003	0.232			33	33	0.843
11	D	3.0		1				2055		295		295	0.00	2055			2055	0.144	0.144		20	20	0.862
11,12	D	3.1		1	19			2065		200	90	290	0.31	2016			2016	0.144			20	20	0.862
10	C,D	3.1		1	17		N	1925	250			250	1.00	1769			884	0.283			40	58	0.585

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (AM) - With Improvement	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	128 sec
Sum(y)		Y =	0.767
Loss time		L =	25 sec
Total Flow		=	4082 pcu
Co	= (1.5*L+5)/(1-Y)	=	182.5 sec
Cm	= L/(1-Y)	=	107.4 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	-7.1 %
Cp	= 0.9*L/(0.9-Y)	=	169.3 sec
Ymax	= 1-L/C	=	0.805
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	-5 %



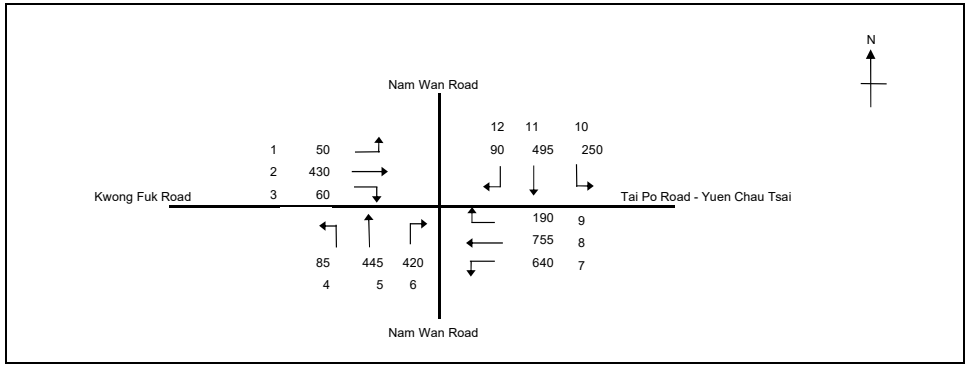
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

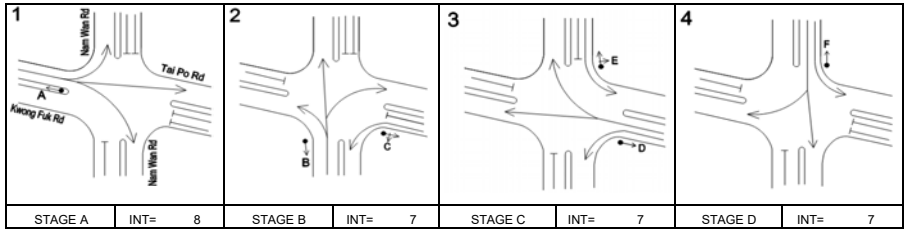
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	60	223		283	0.21	1928			1928	0.147	0.147		20	20	0.939
2,3	A	3.5		1	25			2105		257	75	332	0.23	2077		188	2264	0.147			20	20	0.939
4,5	B	2.8		1	15		N	1895	155	284		439	0.35	1830			1830	0.240	0.240		32	32	0.959
5,6	B	3.0		1	21			2055		291	188	479	0.39	1999			1999	0.240			32	32	0.959
6	B	3.0		1	19			2055			457	457	1.00	1905			1905	0.240			32	32	0.959
7	B,C	3.2		1	11		N	1935	480			480	1.00	1703			1703	0.282			38	58	0.622
8	C	3.2		1				2075		426		426	0.00	2075			2075	0.205	0.205		28	28	0.939
8,9	C	3.2		1	17			2075		269	145	414	0.35	2013			2013	0.205			28	28	0.939
11	D	3.3		1				2085		365		365	0.00	2085			2085	0.175	0.175		24	24	0.934
11,12	D	3.3		1	19			2085		225	130	355	0.37	2026			2026	0.175			24	24	0.934
10	C,D	3.4		1	17		N	1955	335			335	1.00	1796			898	0.373			50	57	0.838

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
Junction No. J1		PROJECT NO: 292635-02	
Kwong Fuk Road / Nam Wan Road/ Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (PM) - With Improvement	DATE : 18-Jul-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.667
Loss time		L =	25 sec
Total Flow		=	3662 pcu
Co	= (1.5*L+5)/(1-Y)	=	127.6 sec
Cm	= L/(1-Y)	=	75.1 sec
Yult		=	0.713
R.C.ult	= (Yult-Y)/Y*100%	=	6.8 %
Cp	= 0.9*L/(0.9-Y)	=	96.6 sec
Ymax	= 1-L/C	=	0.792
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	7 %



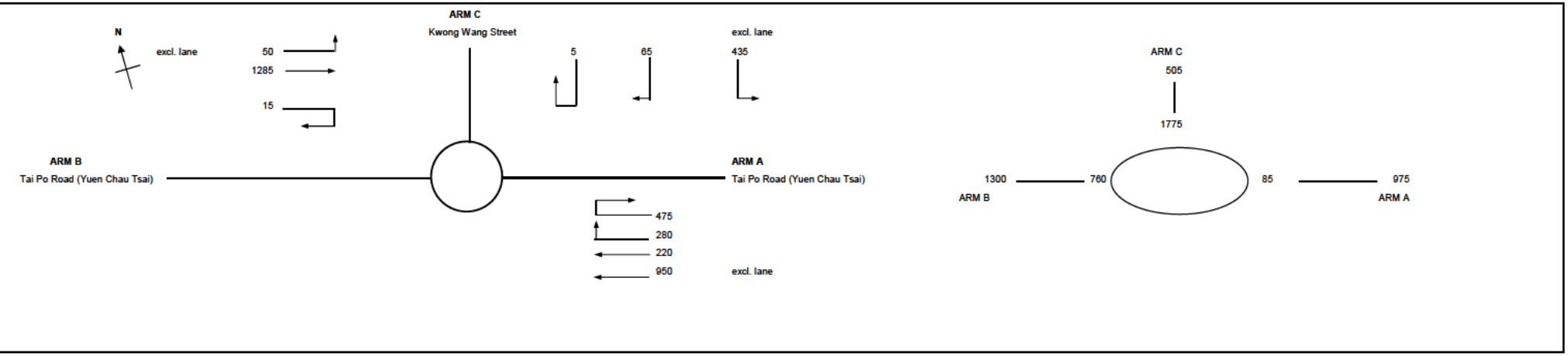
STAGE A	INT= 8	STAGE B	INT= 7	STAGE C	INT= 7	STAGE D	INT= 7

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X
																				25			
1,2	A	3.6		1	13		N	1975	50	198		248	0.20	1930			1930	0.128	0.128		18	18	0.855
2,3	A	3.5		1	25			2105		232	60	292	0.21	2079		200	2279	0.128			18	18	0.855
4,5	B	2.8		1	15		N	1895	85	219		304	0.28	1843			1843	0.165	0.165		24	24	0.825
5,6	B	3.0		1	21			2055		226	106	332	0.32	2009			2009	0.165			24	24	0.825
6	B	3.0		1	19			2055			314	314	1.00	1905			1905	0.165			24	24	0.825
7	B,C	3.2		1	11		N	1935	640			640	1.00	1703			1703	0.376			54	55	0.820
8	C	3.2		1				2075		481		481	0.00	2075			2075	0.232	0.232		33	33	0.843
8,9	C	3.2		1	17			2075		274	190	464	0.41	2003			2003	0.232			33	33	0.843
11	D	3.3		1				2085		296		296	0.00	2085			2085	0.142	0.142		20	20	0.852
11,12	D	3.3		1	19			2085		199	90	289	0.31	2035			2035	0.142			20	20	0.852
10	C,D	3.4		1	17		N	1955	250			250	1.00	1796			898	0.278			40	58	0.576

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2024 Observed Traffic Flow (AM)	DATE: 18-Jul-25	FILENAME

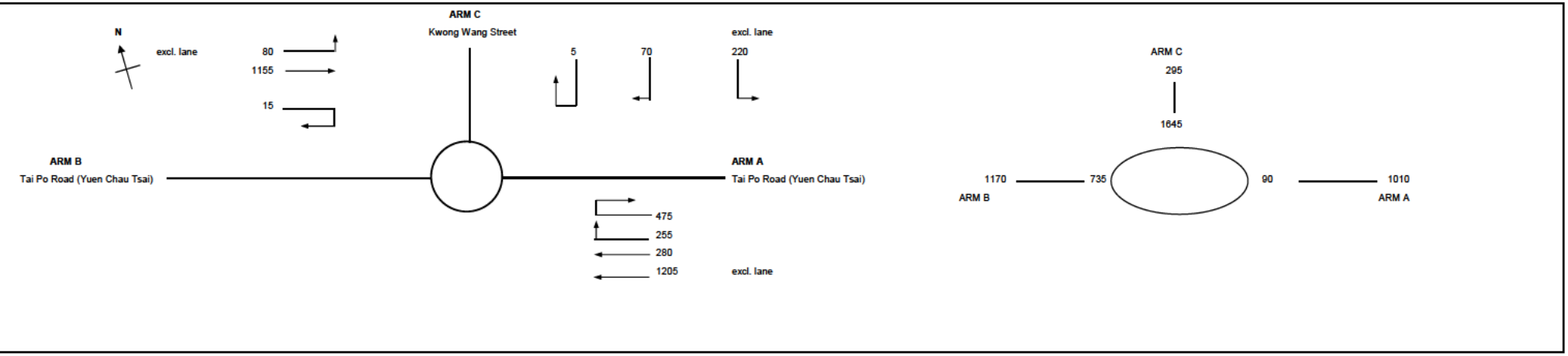


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	975	1300	505
Qc	=	Circulating flow across entry (pcu/h)	85	760	1775
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2819	1857	511
DFC	=	Design flow/Capacity = Q/Qe	0.35	0.70	0.99

Total In Sum = **2780** **PCU**

DFC of Critical Approach = **0.99**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2024 Observed Traffic Flow (PM)	DATE: 18-Jul-25	FILENAME

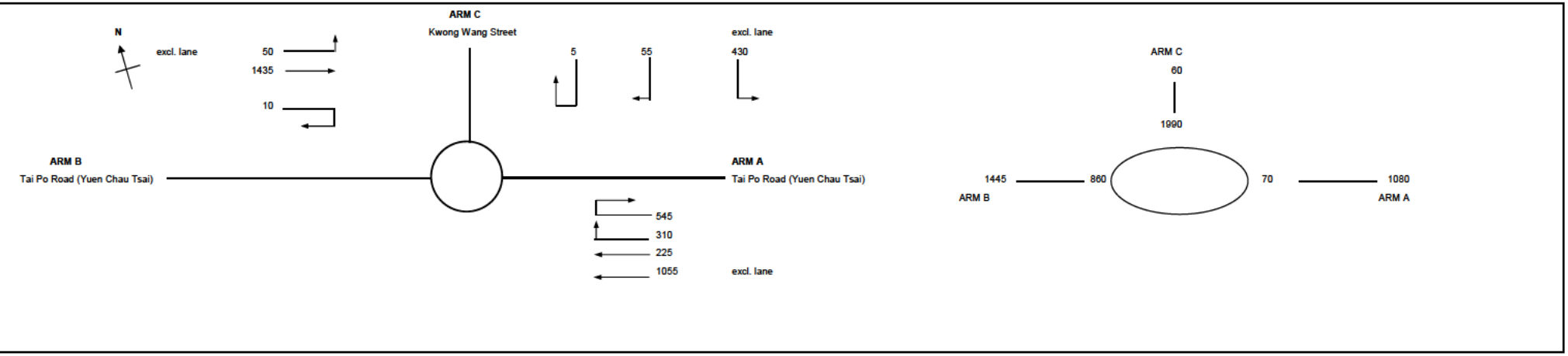


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1010	1170	295
Qc	=	Circulating flow across entry (pcu/h)	90	735	1645
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2814	1877	585
DFC	=	Design flow/Capacity = Q/Qe	0.36	0.62	0.50

Total In Sum = **2475** **PCU**

DFC of Critical Approach = **0.62**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2033 Reference Traffic Flow (AM)	DATE: 18-Jul-25	FILENAME

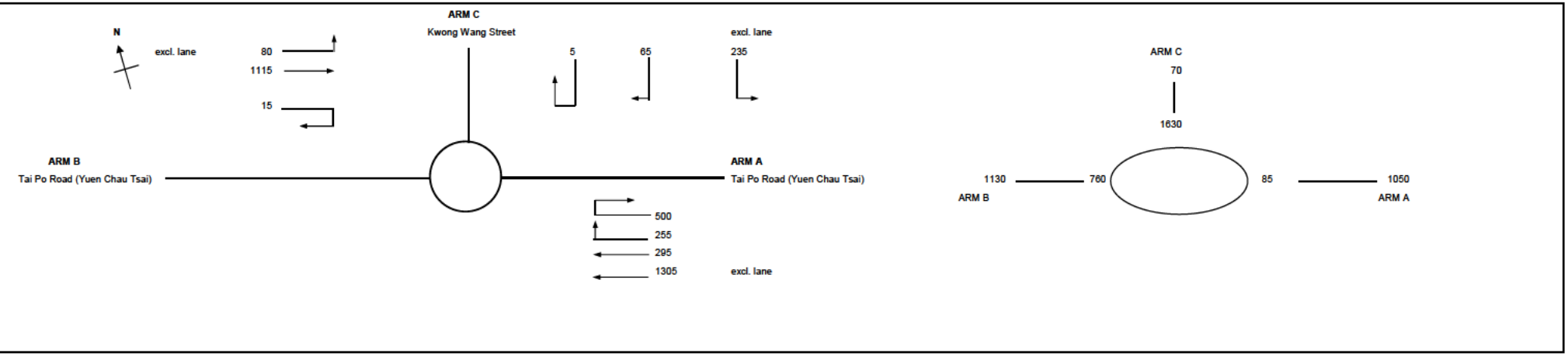


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1080	1445	60
Qc	=	Circulating flow across entry (pcu/h)	70	860	1990
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2832	1774	389
DFC	=	Design flow/Capacity = Q/Qe	0.38	0.81	0.15

Total In Sum = **2585** **PCU**

DFC of Critical Approach = **0.81**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2033 Reference Traffic Flow (PM)	DATE: 4-Mar-25	FILENAME

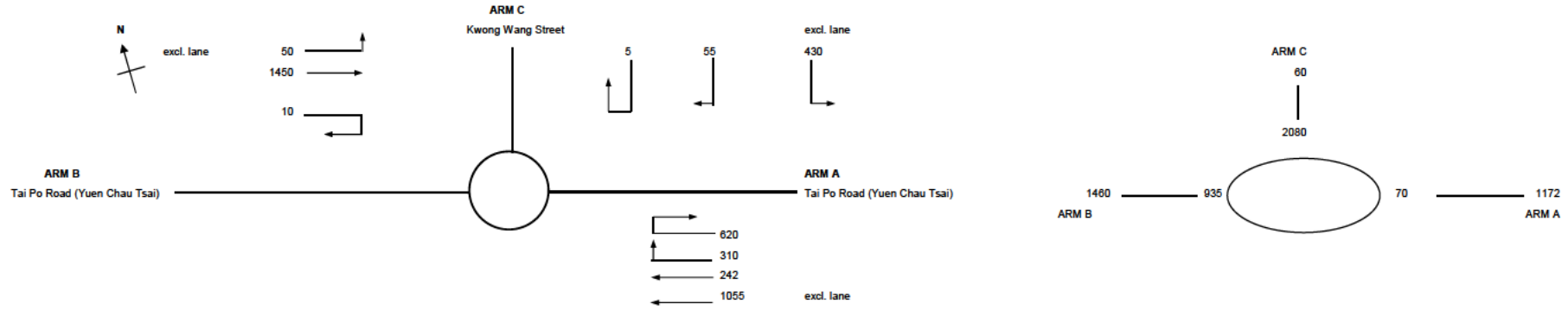


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1050	1130	70
Qc	=	Circulating flow across entry (pcu/h)	85	760	1630
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2819	1857	593
DFC	=	Design flow/Capacity = Q/Qe	0.37	0.61	0.12

Total In Sum = **2250** **PCU**

DFC of Critical Approach = **0.61**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2033 Design Traffic Flow (AM)	DATE: 18-Jul-25	FILENAME

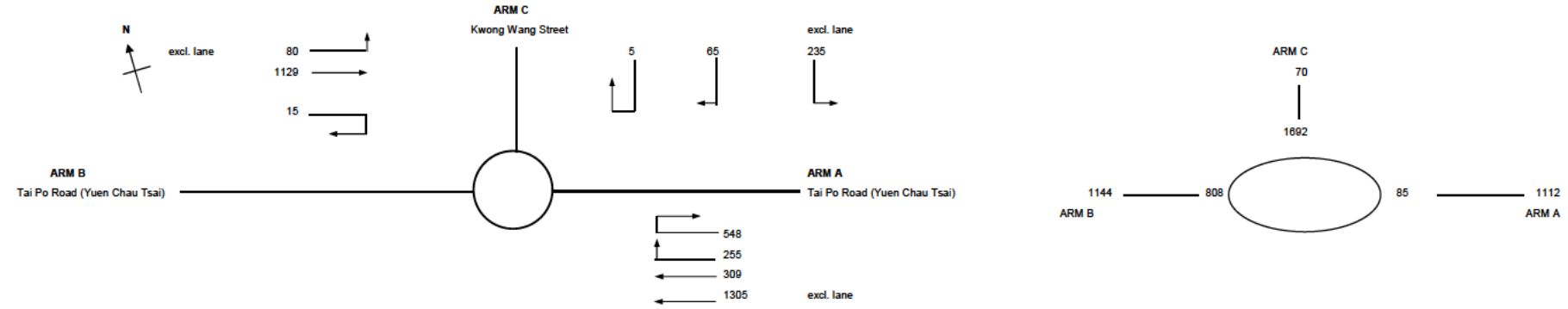


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1172	1460	60
Qc	=	Circulating flow across entry (pcu/h)	70	935	2080
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2832	1713	338
DFC	=	Design flow/Capacity = Q/Qe	0.41	0.85	0.18

Total In Sum = **2692** **PCU**

DFC of Critical Approach = **0.85**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2033 Design Traffic Flow (PM)	DATE: 18-Jul-25	FILENAME

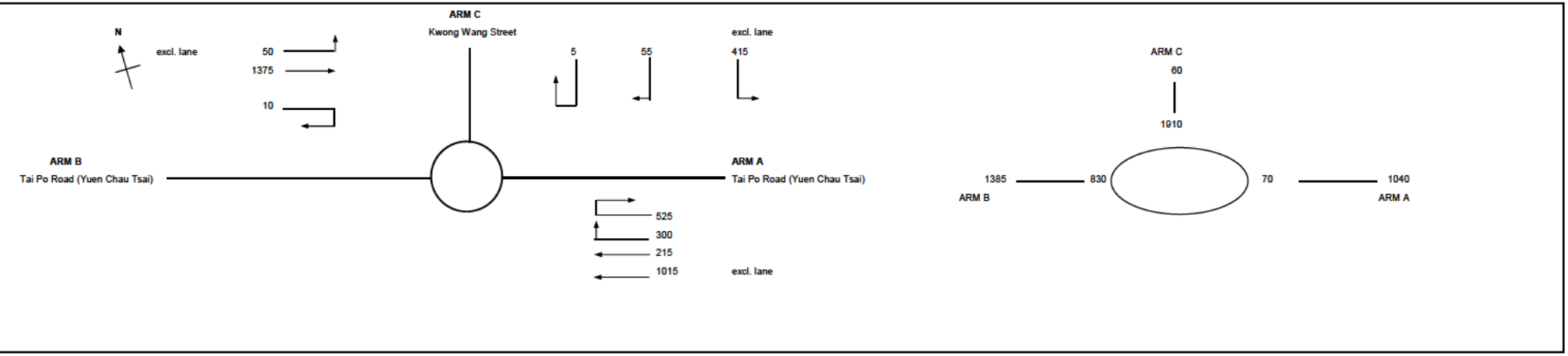


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1112	1144	70
Qc	=	Circulating flow across entry (pcu/h)	85	808	1692
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2819	1817	558
DFC	=	Design flow/Capacity = Q/Qe	0.39	0.63	0.13

Total In Sum = **2326** **PCU**

DFC of Critical Approach = **0.63**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2031 Reference Traffic Flow at Construction Stage (AM)	DATE: 18-Jul-25	FILENAME

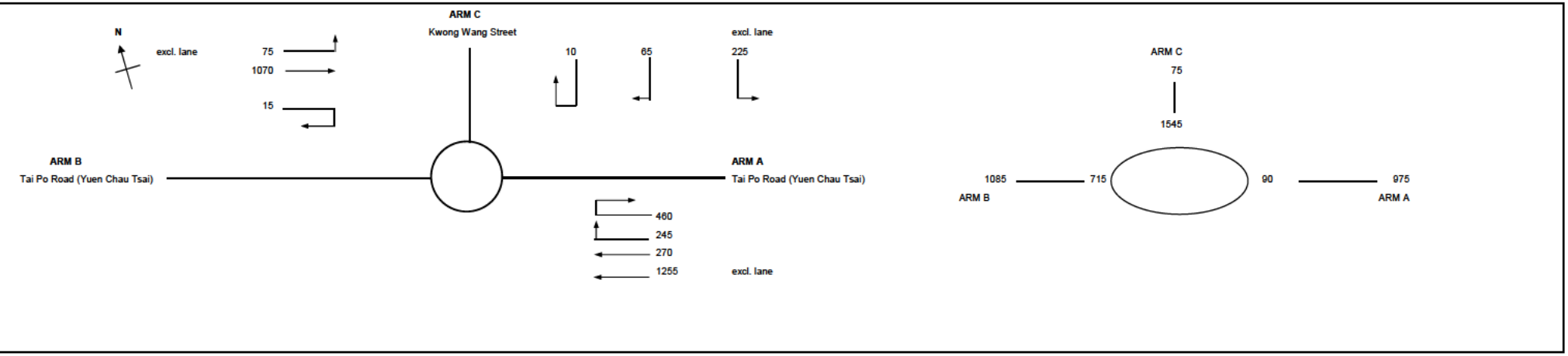


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1040	1385	60
Qc	=	Circulating flow across entry (pcu/h)	70	830	1910
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2832	1799	434
DFC	=	Design flow/Capacity = Q/Qe	0.37	0.77	0.14

Total In Sum = **2485** **PCU**

DFC of Critical Approach = **0.77**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2031 Reference Traffic Flow at Construction Stage (PM)	DATE: 18-Jul-25	FILENAME

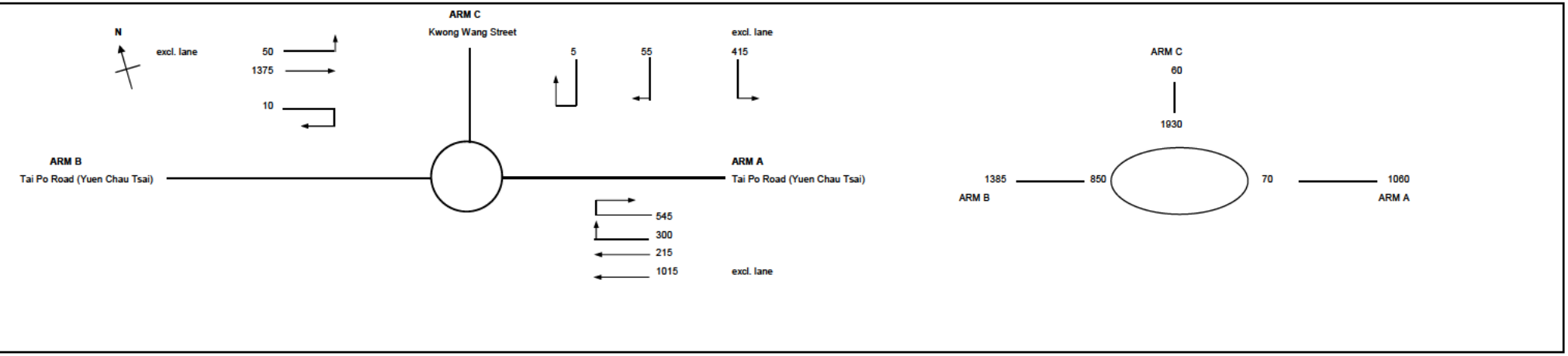


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	975	1085	75
Qc	=	Circulating flow across entry (pcu/h)	90	715	1545
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2814	1894	641
DFC	=	Design flow/Capacity = Q/Qe	0.35	0.57	0.12

Total In Sum = **2135** **PCU**

DFC of Critical Approach = **0.57**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2031 Design Traffic Flow at Construction Stage (AM)	DATE: 18-Jul-25	FILENAME

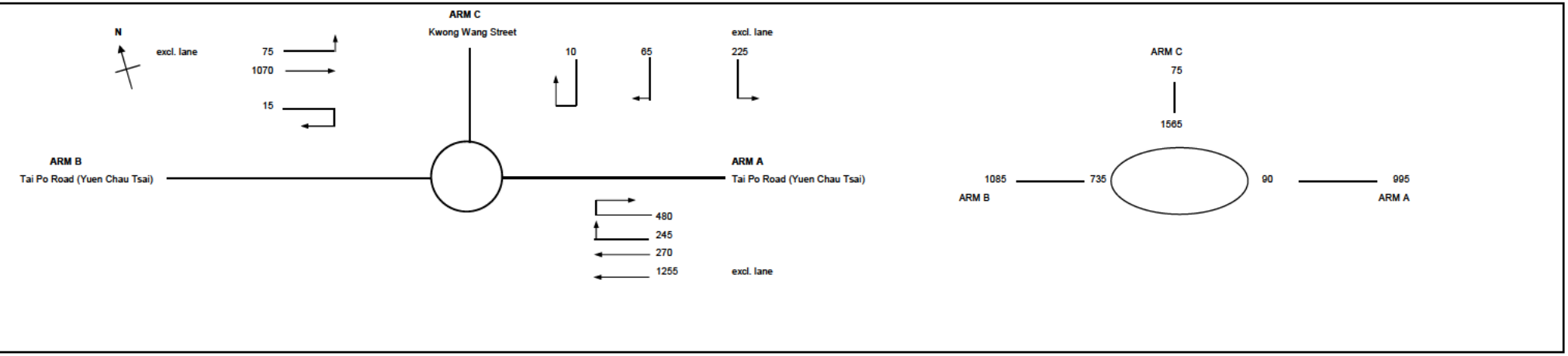


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	1060	1385	60
Qc	=	Circulating flow across entry (pcu/h)	70	850	1930
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2832	1783	423
DFC	=	Design flow/Capacity = Q/Qe	0.37	0.78	0.14

Total In Sum = **2505** **PCU**

DFC of Critical Approach = **0.78**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J2		PROJECT NO: 292635-02	
Kwong Wang Street / Tai Po Road (Yuen Chau Tsai)	2031 Design Traffic Flow at Construction Stage (PM)	DATE: 18-Jul-25	FILENAME

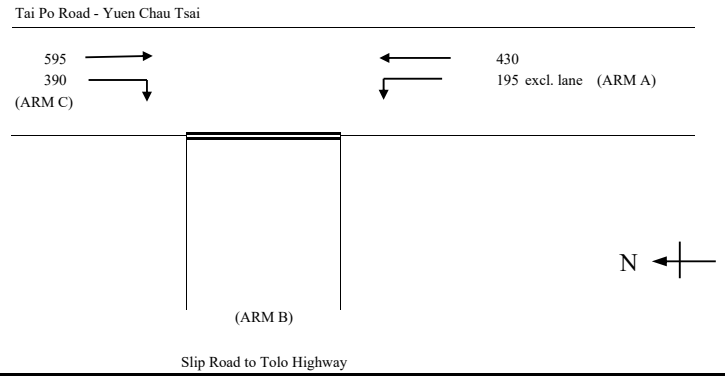


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	7.30	6.50	4.30
E	=	Entry width / m (4.0 - 15.0)	9.00	7.50	7.20
L	=	Effective length of flare / m (1.0 - 100.0)	44.00	27.00	8.00
R	=	Entry radius / m (6.0 - 100.0)	100.00	100.00	17.00
D	=	Inscribed circle diameter / m (15-100)	42.00	42.00	42.00
A	=	Entry angle / degree (10-60)	17.00	10.00	60.00
Q	=	Entry flow (pcu/h)	995	1085	75
Qc	=	Circulating flow across entry (pcu/h)	90	735	1565
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.06	0.06	0.58
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.08	1.11	0.89
X2	=	V + ((E-V)/(1+2S))	8.81	7.39	5.64
M	=	EXP((D-60)/10)	0.17	0.17	0.17
F	=	303*X2	2670	2240	1710
Td	=	1+(0.5/(1+M))	1.43	1.43	1.43
Fc	=	0.21*Td(1+0.2*X2)	0.83	0.74	0.64
Qe	=	K(F-Fc*Qc)	2814	1877	630
DFC	=	Design flow/Capacity = Q/Qe	0.35	0.58	0.12

Total In Sum = **2155** **PCU**

DFC of Critical Approach = **0.58**

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2024 Observed Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	430	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	595	(pcu/hr)
q c-b	=	390	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	138
Q b-c	=	369
Q c-b	=	597

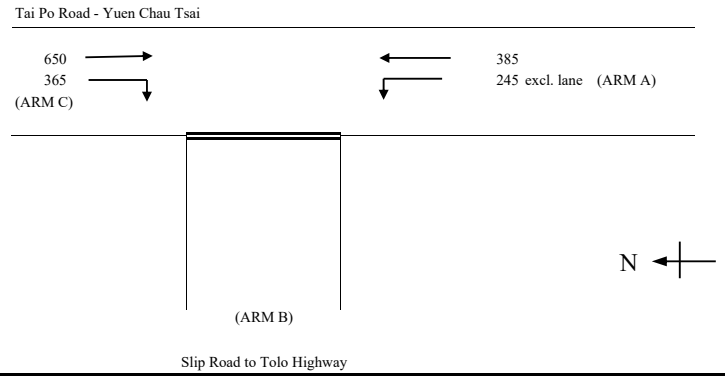
TOTAL FLOW = 1610 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.6533

CRITICAL DFC = 0.65

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2024 Observed Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	385	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	650	(pcu/hr)
q c-b	=	365	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	145
Q b-c	=	376
Q c-b	=	609

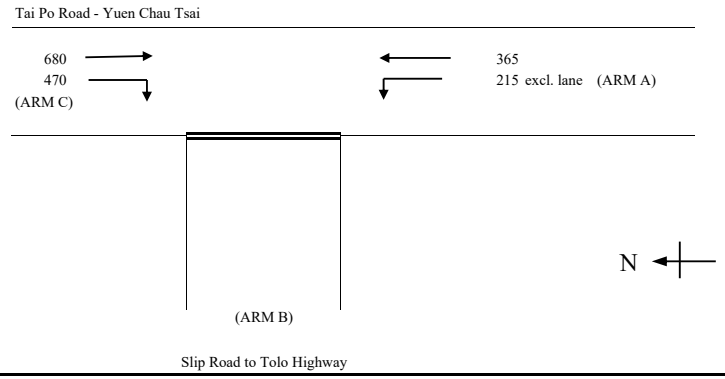
TOTAL FLOW = 1645 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.5993

CRITICAL DFC = 0.60

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2033 Reference Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	365	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	680	(pcu/hr)
q c-b	=	470	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	124
Q b-c	=	379
Q c-b	=	614

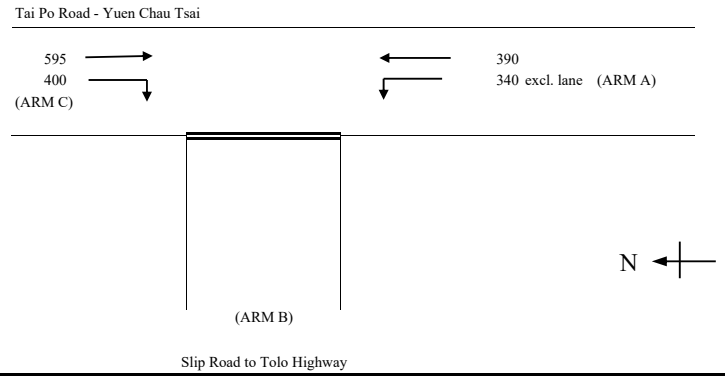
TOTAL FLOW = 1730 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.7655

CRITICAL DFC = 0.77

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2033 Reference Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	390	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	595	(pcu/hr)
q c-b	=	400	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	142
Q b-c	=	375
Q c-b	=	608

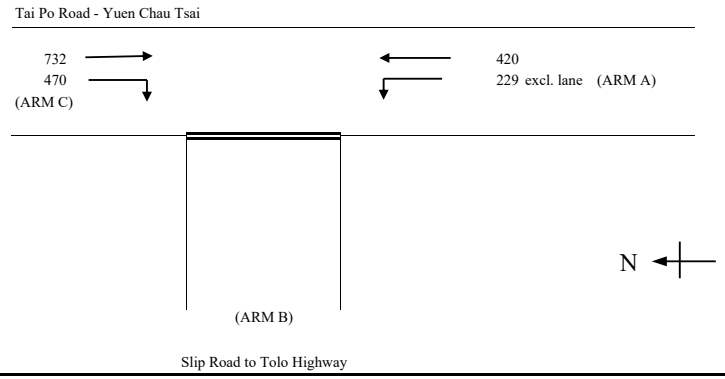
TOTAL FLOW = 1725 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.6579

CRITICAL DFC = 0.66

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2033 Design Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	420	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	731.7	(pcu/hr)
q c-b	=	470	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	111
Q b-c	=	370
Q c-b	=	600

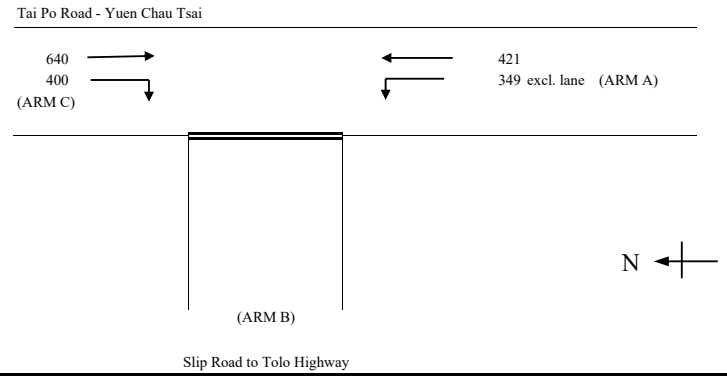
TOTAL FLOW = 1850 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.7833

CRITICAL DFC = 0.78

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2033 Design Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	421	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	639.9	(pcu/hr)
q c-b	=	400	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	134
Q b-c	=	370
Q c-b	=	600

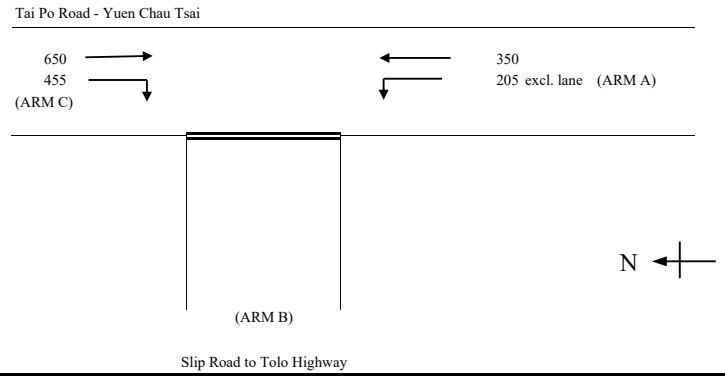
TOTAL FLOW = 1810 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.6667

CRITICAL DFC = 0.67

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2031 Reference Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	350	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	650	(pcu/hr)
q c-b	=	455	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	132
Q b-c	=	381
Q c-b	=	618

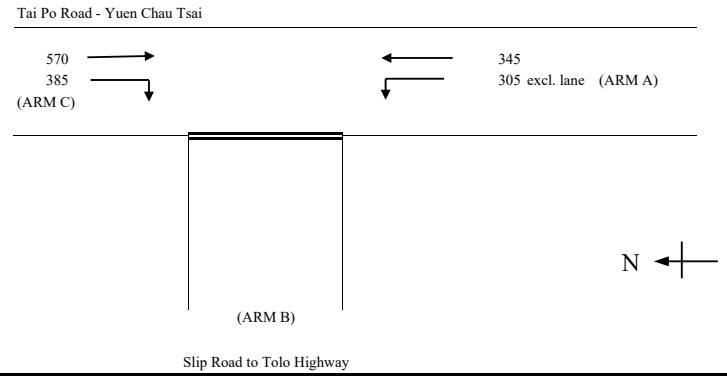
TOTAL FLOW = 1660 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.7362

CRITICAL DFC = 0.74

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2031 Reference Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	345	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	570	(pcu/hr)
q c-b	=	385	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	154
Q b-c	=	382
Q c-b	=	619

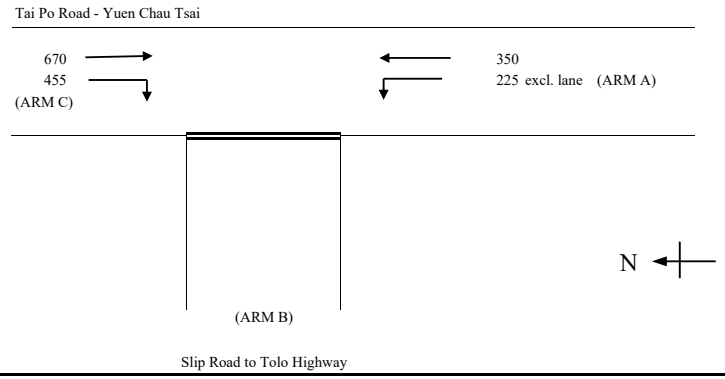
TOTAL FLOW = 1605 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.6220

CRITICAL DFC = 0.62

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	350	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	670	(pcu/hr)
q c-b	=	455	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	130
Q b-c	=	381
Q c-b	=	618

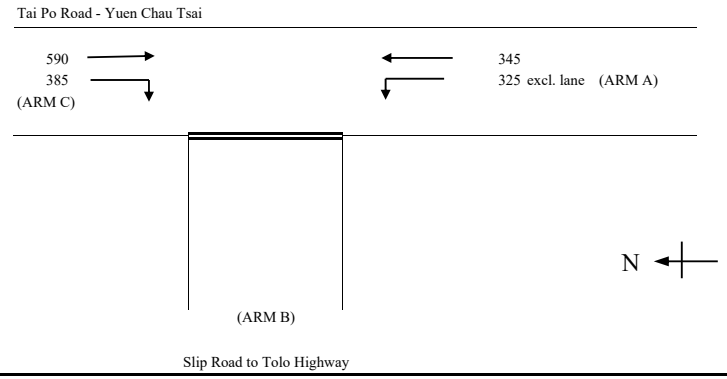
TOTAL FLOW = 1700 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.7362

CRITICAL DFC = 0.74

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J3		PROJECT NO: 292635-02	DESIGNED BY:
Slip Road to Tolo Highway / Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.50	(metres)
W cr	=	0	(metres)
q a-b	=	0	(pcu/hr)
q a-c	=	345	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	100	(metres)
q c-a	=	590	(pcu/hr)
q c-b	=	385	(pcu/hr)

MINOR ROAD (ARM B)

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

GEOMETRIC FACTORS :

D	=	0.53321887
E	=	0.5859548
F	=	0.9496922
Y	=	0.74125

THE CAPACITY OF MOVEMENT :

Q b-a	=	152
Q b-c	=	382
Q c-b	=	619

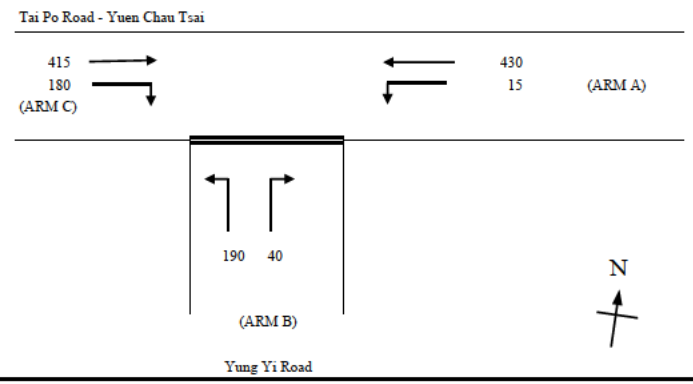
TOTAL FLOW = 1645 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0000
DFC c-b	=	0.6220

CRITICAL DFC = 0.62

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2024 Observed Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	430	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	415	(pcu/hr)
q c-b	=	180	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	40	(pcu/hr)
q b-c	=	190	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	307
Q b-c	=	526
Q c-b	=	576
Q b-ac	=	467.9

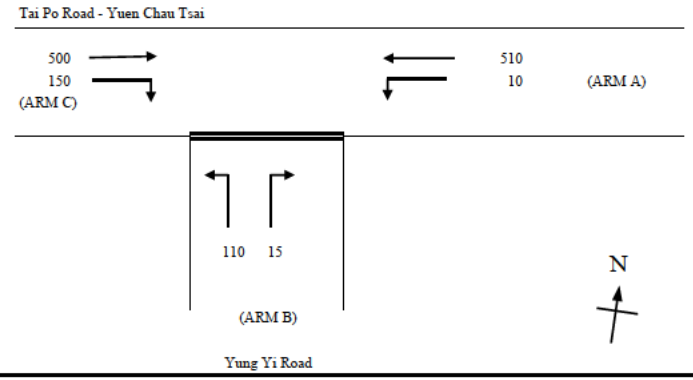
TOTAL FLOW = 1270 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3612
DFC c-b	=	0.3125
DFC b-ac	=	0.4915

CRITICAL DFC = 0.36

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2024 Observed Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	510	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	500	(pcu/hr)
q c-b	=	150	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	15	(pcu/hr)
q b-c	=	110	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	289
Q b-c	=	510
Q c-b	=	559
Q b-ac	=	467.1

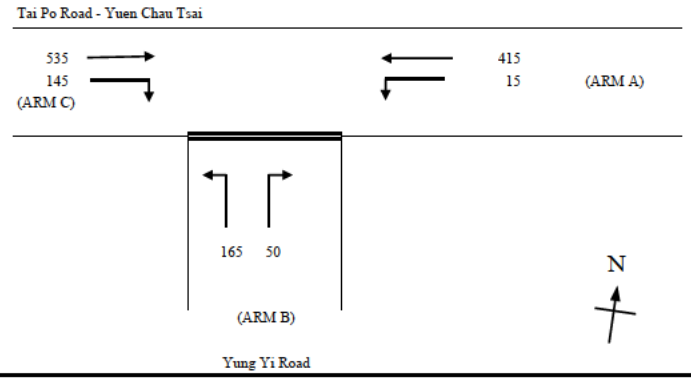
TOTAL FLOW = 1295 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.2157
DFC c-b	=	0.2683
DFC b-ac	=	0.2676

CRITICAL DFC = 0.27

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2033 Referece Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	415	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	535	(pcu/hr)
q c-b	=	145	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	50	(pcu/hr)
q b-c	=	165	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	305
Q b-c	=	530
Q c-b	=	580
Q b-ac	=	452.4

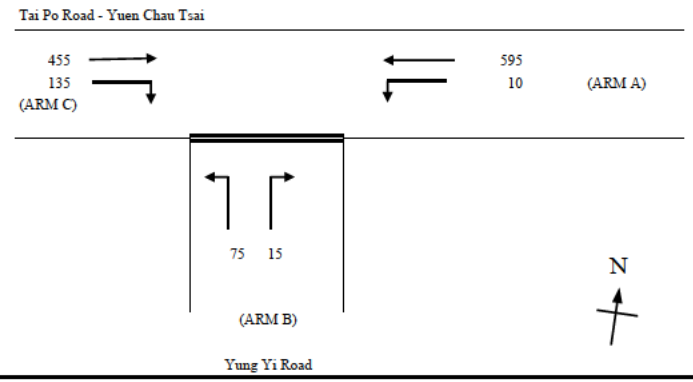
TOTAL FLOW = 1325 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3113
DFC c-b	=	0.2500
DFC b-ac	=	0.4753

CRITICAL DFC = 0.31

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2033 Referece Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	595	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	455	(pcu/hr)
q c-b	=	135	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	15	(pcu/hr)
q b-c	=	75	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	491
Q c-b	=	538
Q b-ac	=	436.6

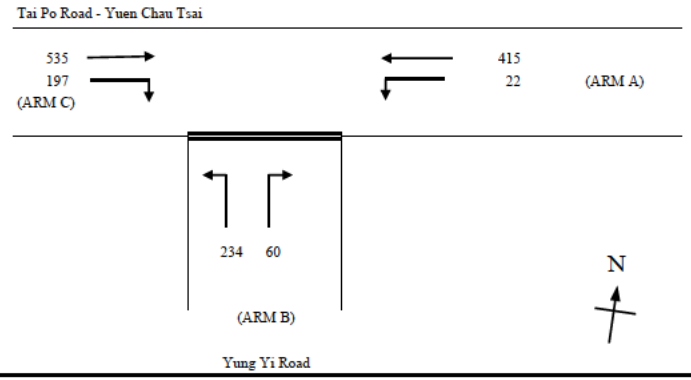
TOTAL FLOW = 1285 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1527
DFC c-b	=	0.2509
DFC b-ac	=	0.2061

CRITICAL DFC = 0.25

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2033 Design Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	22	(pcu/hr)
q a-c	=	415	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	535	(pcu/hr)
q c-b	=	196.7	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	60	(pcu/hr)
q b-c	=	234	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	289
Q b-c	=	529
Q c-b	=	578
Q b-ac	=	452

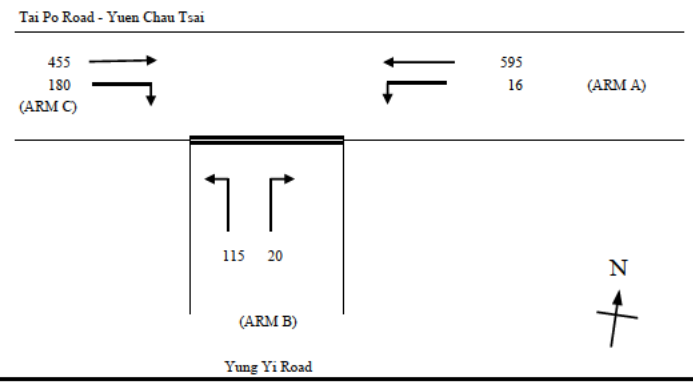
TOTAL FLOW = 1463 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.4417
DFC c-b	=	0.3402
DFC b-ac	=	0.6505

CRITICAL DFC = 0.44

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2033 Design Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	16	(pcu/hr)
q a-c	=	595	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	455	(pcu/hr)
q c-b	=	179.9	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	20	(pcu/hr)
q b-c	=	115	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	267
Q b-c	=	491
Q c-b	=	537
Q b-ac	=	436.1

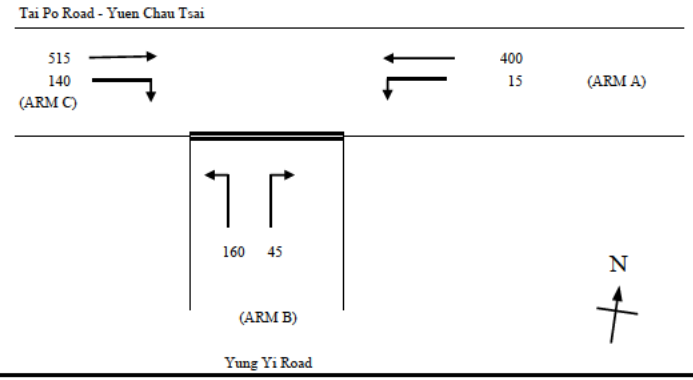
TOTAL FLOW = 1381 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.2337
DFC c-b	=	0.3349
DFC b-ac	=	0.3095

CRITICAL DFC = 0.33

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2031 Reference Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	400	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	515	(pcu/hr)
q c-b	=	140	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	45	(pcu/hr)
q b-c	=	160	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	312
Q b-c	=	533
Q c-b	=	583
Q b-ac	=	461.3

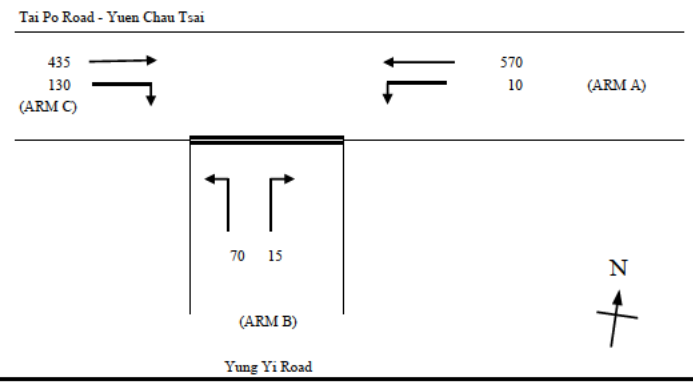
TOTAL FLOW = 1275 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3002
DFC c-b	=	0.2401
DFC b-ac	=	0.4444

CRITICAL DFC = 0.30

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2031 Reference Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	570	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	435	(pcu/hr)
q c-b	=	130	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	15	(pcu/hr)
q b-c	=	70	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	291
Q b-c	=	497
Q c-b	=	544
Q b-ac	=	441.8

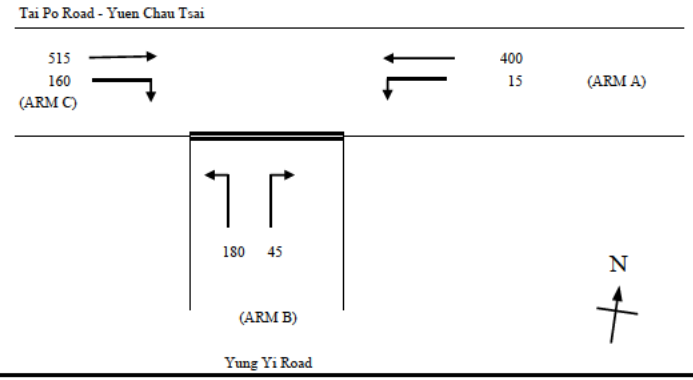
TOTAL FLOW = 1230 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1408
DFC c-b	=	0.2390
DFC b-ac	=	0.1924

CRITICAL DFC = 0.24

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	15	(pcu/hr)
q a-c	=	400	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	515	(pcu/hr)
q c-b	=	160	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	45	(pcu/hr)
q b-c	=	180	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	306
Q b-c	=	533
Q c-b	=	583
Q b-ac	=	464.1

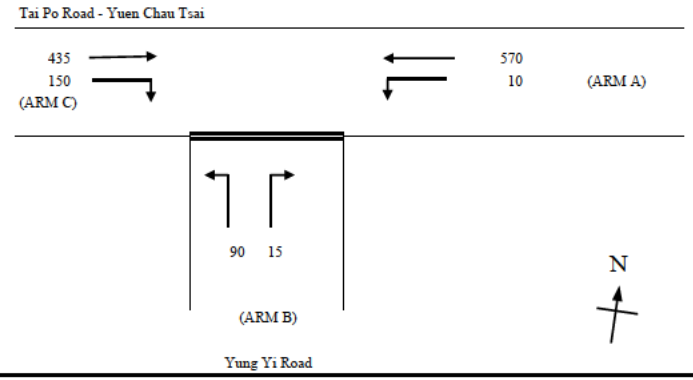
TOTAL FLOW = 1315 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.3377
DFC c-b	=	0.2744
DFC b-ac	=	0.4848

CRITICAL DFC = 0.34

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J4		PROJECT NO: 292635-02	DESIGNED BY:
Yung Yi Road / Tai Po Road - Yuen Chau Tsai	2031 Design Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.40	(metres)
W cr	=	0	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	570	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	435	(pcu/hr)
q c-b	=	150	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.20	(metres)
W b-c	=	2.20	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	15	(pcu/hr)
q b-c	=	90	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.8076286
E	=	0.8326068
F	=	0.9148766
Y	=	0.7102

THE CAPACITY OF MOVEMENT :

Q b-a	=	285
Q b-c	=	497
Q c-b	=	544
Q b-ac	=	449.3

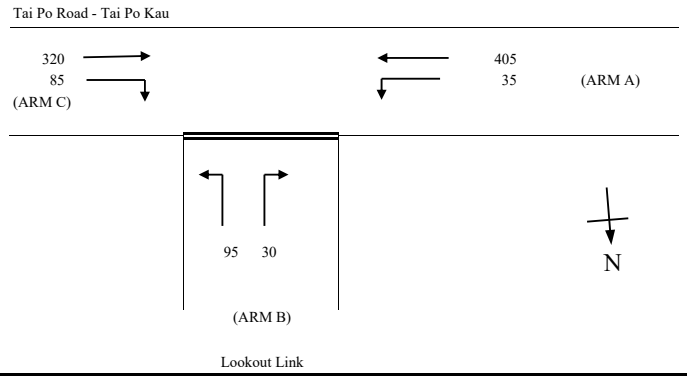
TOTAL FLOW = 1270 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1811
DFC c-b	=	0.2757
DFC b-ac	=	0.2337

CRITICAL DFC = 0.28

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2024 Observed Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	35	(pcu/hr)
q a-c	=	405	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	320	(pcu/hr)
q c-b	=	85	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	95	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	434
Q b-c	=	646
Q c-b	=	580
Q b-ac	=	578.2

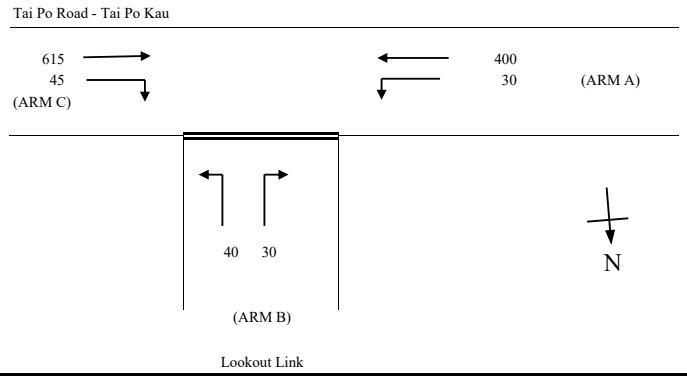
TOTAL FLOW = 970 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1471
DFC c-b	=	0.1466
DFC b-ac	=	0.2162

CRITICAL DFC = 0.15

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2024 Observed Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	400	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	615	(pcu/hr)
q c-b	=	45	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	40	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	405
Q b-c	=	647
Q c-b	=	583
Q b-ac	=	515.1

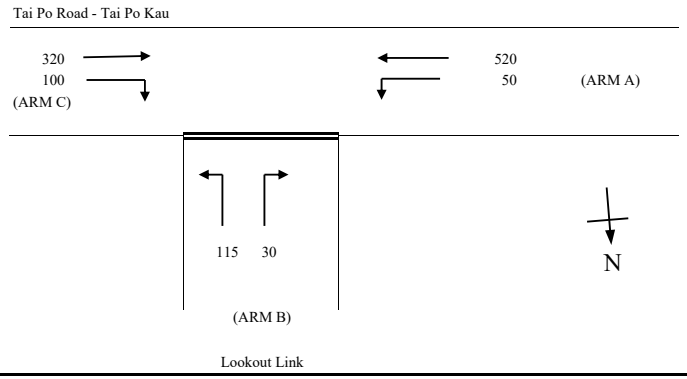
TOTAL FLOW = 1160 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0618
DFC c-b	=	0.0772
DFC b-ac	=	0.1359

CRITICAL DFC = 0.08

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2033 Reference Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	50	(pcu/hr)
q a-c	=	520	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	320	(pcu/hr)
q c-b	=	100	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	115	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	400
Q b-c	=	616
Q c-b	=	551
Q b-ac	=	554.1

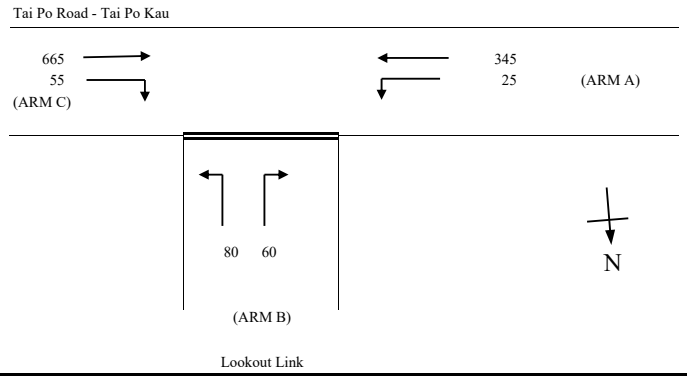
TOTAL FLOW = 1135 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1867
DFC c-b	=	0.1815
DFC b-ac	=	0.2617

CRITICAL DFC = 0.19

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2033 Reference Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	345	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	665	(pcu/hr)
q c-b	=	55	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	60	(pcu/hr)
q b-c	=	80	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	408
Q b-c	=	661
Q c-b	=	596
Q b-ac	=	522.2

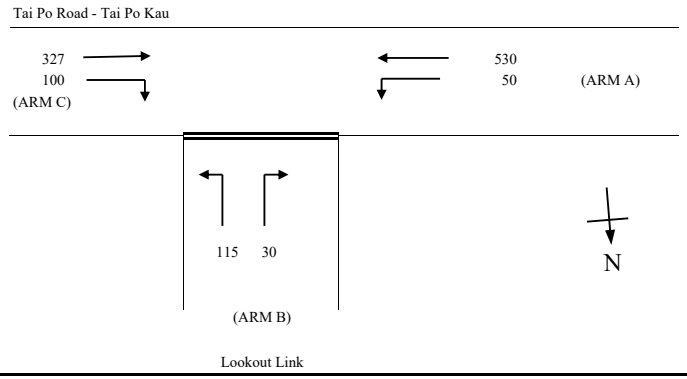
TOTAL FLOW = 1230 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1210
DFC c-b	=	0.0923
DFC b-ac	=	0.2681

CRITICAL DFC = 0.12

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2033 Design Traffic Flow (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	50	(pcu/hr)
q a-c	=	530	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	327	(pcu/hr)
q c-b	=	100	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	115	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	397
Q b-c	=	613
Q c-b	=	549
Q b-ac	=	551

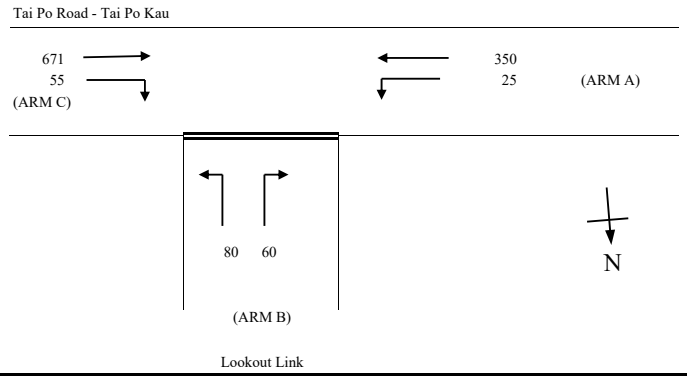
TOTAL FLOW = 1153 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1876
DFC c-b	=	0.1821
DFC b-ac	=	0.2632

CRITICAL DFC = 0.19

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2033 Design Traffic Flow (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	350	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	671	(pcu/hr)
q c-b	=	55	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	60	(pcu/hr)
q b-c	=	80	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	406
Q b-c	=	660
Q c-b	=	595
Q b-ac	=	520.5

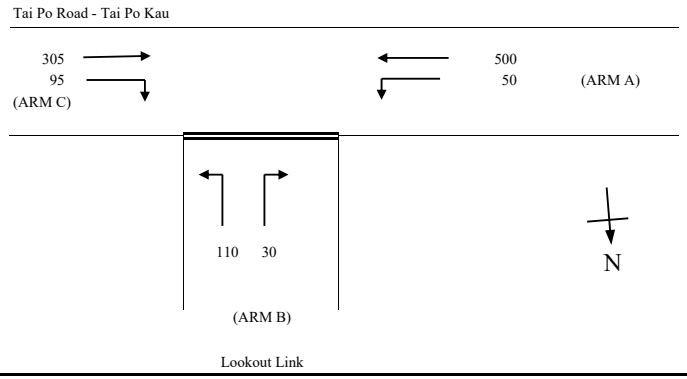
TOTAL FLOW = 1241 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1212
DFC c-b	=	0.0924
DFC b-ac	=	0.2690

CRITICAL DFC = 0.12

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2031 Reference Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	50	(pcu/hr)
q a-c	=	500	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	305	(pcu/hr)
q c-b	=	95	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	110	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	409
Q b-c	=	621
Q c-b	=	556
Q b-ac	=	558.9

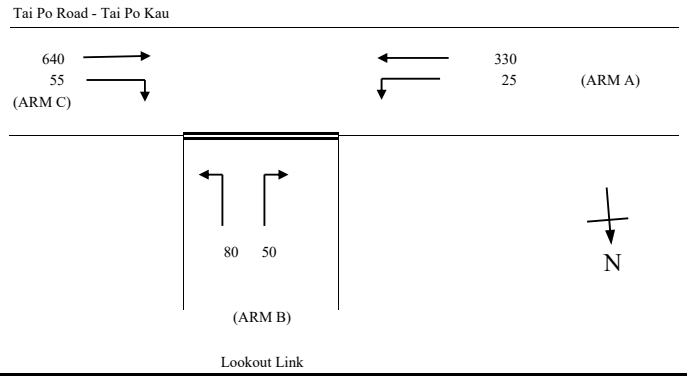
TOTAL FLOW = 1090 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1771
DFC c-b	=	0.1709
DFC b-ac	=	0.2505

CRITICAL DFC = 0.18

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2031 Reference Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	330	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	640	(pcu/hr)
q c-b	=	55	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	50	(pcu/hr)
q b-c	=	80	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	415
Q b-c	=	665
Q c-b	=	599
Q b-ac	=	539.9

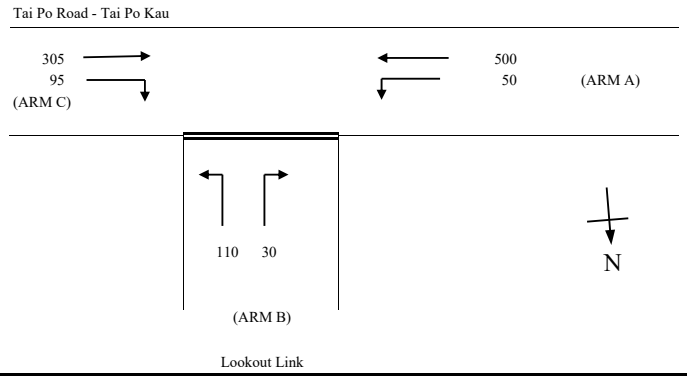
TOTAL FLOW = 1180 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1203
DFC c-b	=	0.0918
DFC b-ac	=	0.2408

CRITICAL DFC = 0.12

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2031 Design Traffic Flow at Construction Stage (AM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	50	(pcu/hr)
q a-c	=	500	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	305	(pcu/hr)
q c-b	=	95	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	110	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	409
Q b-c	=	621
Q c-b	=	556
Q b-ac	=	558.9

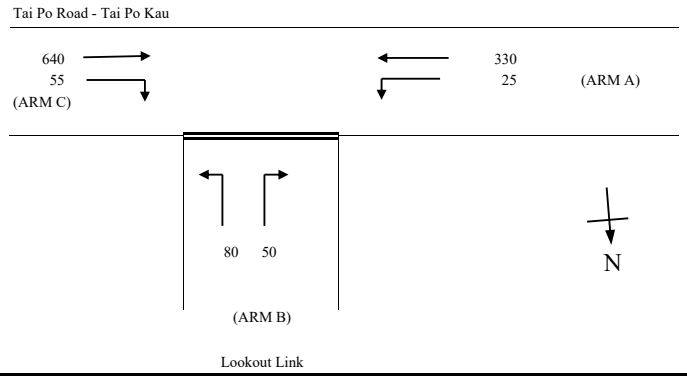
TOTAL FLOW = 1090 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1771
DFC c-b	=	0.1709
DFC b-ac	=	0.2505

CRITICAL DFC = 0.18

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
Junction No. J5		PROJECT NO: 292635-02	DESIGNED BY:
Lookout Link / Tai Po Road - Tai Po Kau	2031 Design Traffic Flow at Construction Stage (PM)	DATE : 18-Jul-25	FILENAME :



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	9.50	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	330	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	35	(metres)
q c-a	=	640	(pcu/hr)
q c-b	=	55	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.70	(metres)
W b-c	=	3.70	(metres)
Vl b-a	=	100	(metres)
Vr b-a	=	120	(metres)
Vr b-c	=	120	(metres)
q b-a	=	50	(pcu/hr)
q b-c	=	80	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.974559
E	=	1.0047
F	=	0.91047865
Y	=	0.67225

THE CAPACITY OF MOVEMENT :

Q b-a	=	415
Q b-c	=	665
Q c-b	=	599
Q b-ac	=	539.9

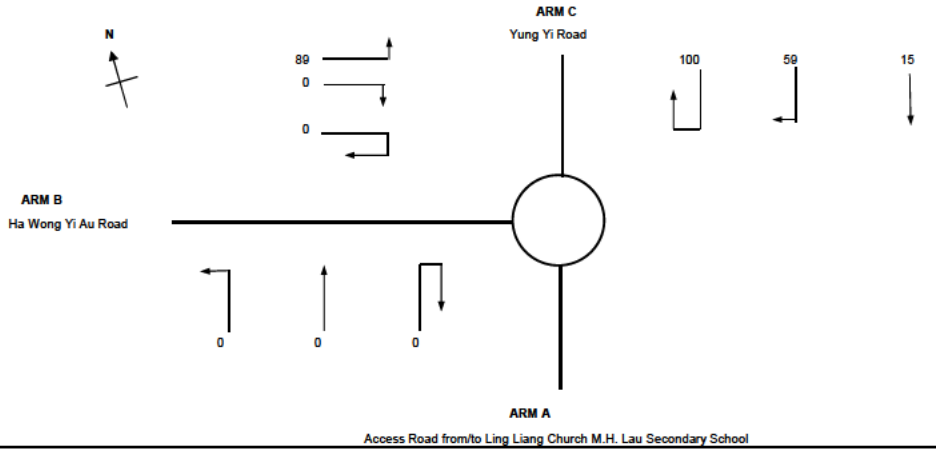
TOTAL FLOW = 1180 (PCU/HR)

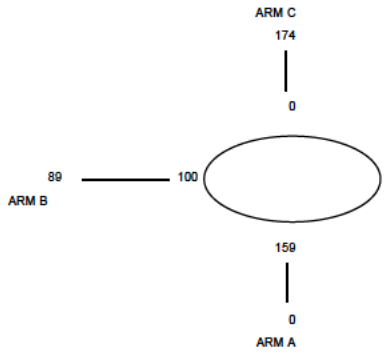
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1203
DFC c-b	=	0.0918
DFC b-ac	=	0.2408

CRITICAL DFC = 0.12

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J6		PROJECT NO: 292635-02	
Ha Wong Yi Au Road / Yung Yi Road / Access Road from/to Ling Liang Church M.H. Lau Secondary School	2033 Design Traffic Flow (AM)	DATE: 18-Jul-25	FILENAME



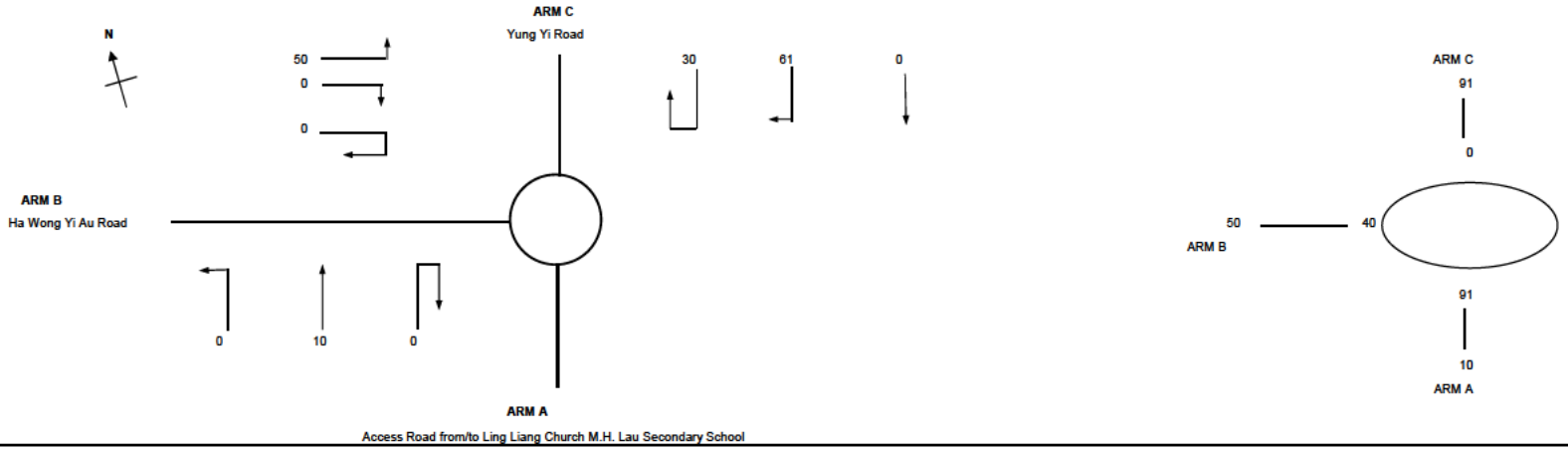


ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	6.00	3.60	3.60
E	=	Entry width / m (4.0 - 15.0)	6.10	5.50	4.50
L	=	Effective length of flare / m (1.0 - 100.0)	3.00	7.00	12.00
R	=	Entry radius / m (6.0 - 100.0)	9.80	30.00	88.00
D	=	Inscribed circle diameter / m (15-100)	28.00	28.00	28.00
A	=	Entry angle / degree (10-60)	60.00	18.00	10.00
Q	=	Entry flow (pcu/h)	0	89	174
Qc	=	Circulating flow across entry (pcu/h)	0	100	0
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.05	0.43	0.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.85	1.06	1.11
X2	=	V + ((E-V)/(1+2S))	6.09	4.62	4.33
M	=	EXP((D-60)/10)	0.04	0.04	0.04
F	=	303*X2	1845	1399	1311
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)	0.69	0.60	0.58
Qe	=	K(F-Fc*Qc)	1559	1417	1451
DFC	=	Design flow/Capacity = Q/Qe	0.00	0.06	0.12

Total In Sum = **263** **PCU**

DFC of Critical Approach = **0.12**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J6		PROJECT NO: 292635-02	
Ha Wong Yi Au Road / Yung Yi Road / Access Road from/to Ling Liang Church M.H. Lau Secondary School	2033 Design Traffic Flow (PM)	DATE: 18-Jul-25	FILENAME

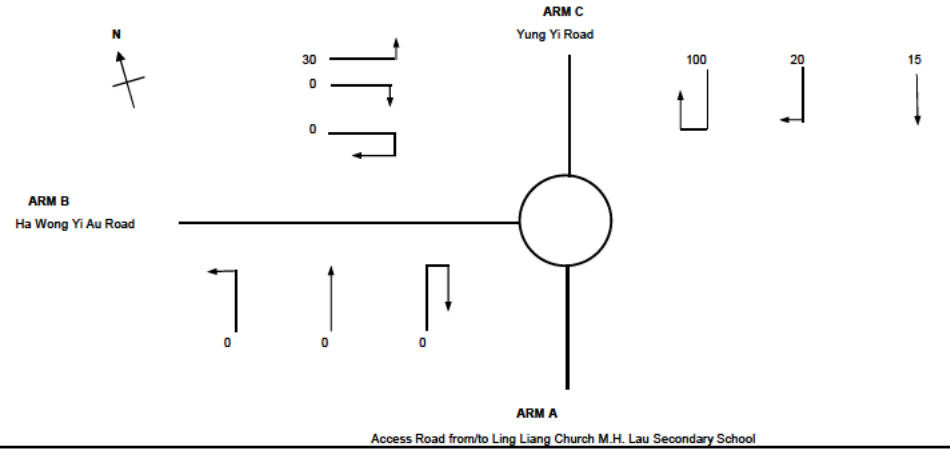


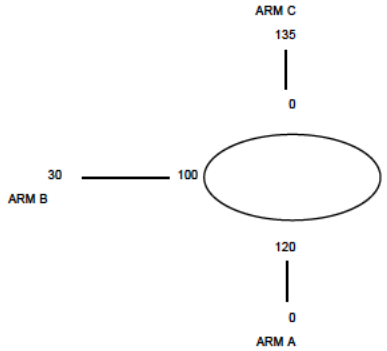
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	6.00	3.60	3.60
E	=	Entry width / m (4.0 - 15.0)	6.10	5.50	4.50
L	=	Effective length of flare / m (1.0 - 100.0)	3.00	7.00	12.00
R	=	Entry radius / m (6.0 - 100.0)	9.80	30.00	88.00
D	=	Inscribed circle diameter / m (15-100)	28.00	28.00	28.00
A	=	Entry angle / degree (10-60)	60.00	18.00	10.00
Q	=	Entry flow (pcu/h)	0	50	91
Qc	=	Circulating flow across entry (pcu/h)	0	40	0
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.05	0.43	0.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.85	1.06	1.11
X2	=	V + ((E-V)/(1+2S))	6.09	4.62	4.33
M	=	EXP((D-60)/10)	0.04	0.04	0.04
F	=	303*X2	1845	1399	1311
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)	0.69	0.60	0.58
Qe	=	K(F-Fc*Qc)	1559	1455	1451
DFC	=	Design flow/Capacity = Q/Qe	0.00	0.03	0.06

Total In Sum = **141** **PCU**

DFC of Critical Approach = **0.06**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J6		PROJECT NO: 292635-02	
Ha Wong Yi Au Road / Yung Yi Road / Access Road from/to Ling Liang Church M.H. Lau Secondary School	2031 Design Traffic Flow at Construction Stage (AM)	DATE: 18-Jul-25	FILENAME



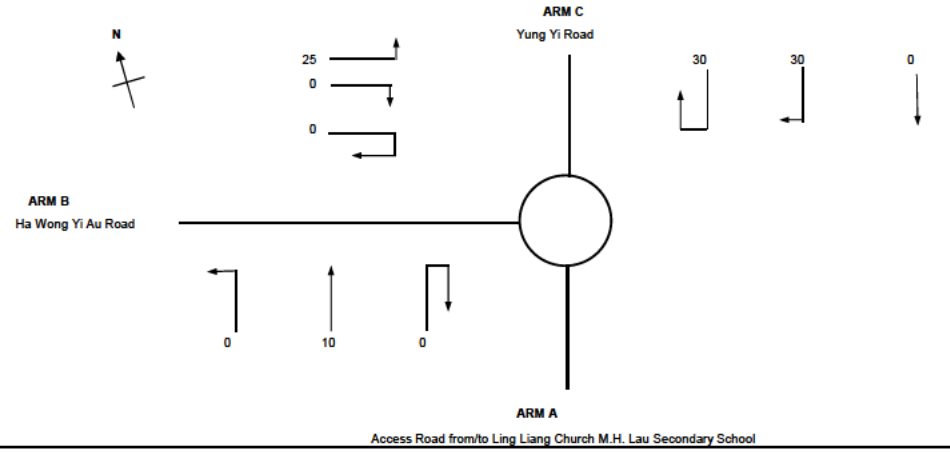


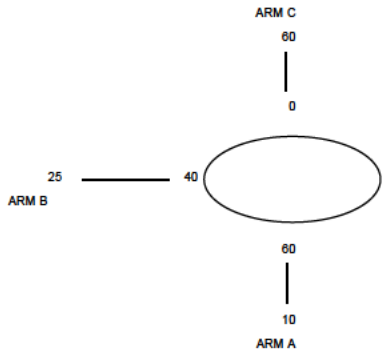
ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	6.00	3.60	3.60
E	=	Entry width / m (4.0 - 15.0)	6.10	5.50	4.50
L	=	Effective length of flare / m (1.0 - 100.0)	3.00	7.00	12.00
R	=	Entry radius / m (6.0 - 100.0)	9.80	30.00	88.00
D	=	Inscribed circle diameter / m (15-100)	28.00	28.00	28.00
A	=	Entry angle / degree (10-60)	60.00	18.00	10.00
Q	=	Entry flow (pcu/h)	0	30	135
Qc	=	Circulating flow across entry (pcu/h)	0	100	0
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.05	0.43	0.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.85	1.06	1.11
X2	=	V + ((E-V)/(1+2S))	6.09	4.62	4.33
M	=	EXP((D-60)/10)	0.04	0.04	0.04
F	=	303*X2	1845	1399	1311
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)	0.69	0.60	0.58
Qe	=	K(F-Fc*Qc)	1559	1417	1451
DFC	=	Design flow/Capacity = Q/Qe	0.00	0.02	0.09

Total In Sum = **165** **PCU**

DFC of Critical Approach = **0.09**

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
Junction No. J6		PROJECT NO: 292635-02	
Ha Wong Yi Au Road / Yung Yi Road / Access Road from/to Ling Liang Church M.H. Lau Secondary School	2031 Design Traffic Flow at Construction Stage (PM)	DATE: 18-Jul-25	FILENAME





ARM			A	B	C
INPUT PARAMETERS:					
V	=	Approach half width / m (2.0 - 7.3)	6.00	3.60	3.60
E	=	Entry width / m (4.0 - 15.0)	6.10	5.50	4.50
L	=	Effective length of flare / m (1.0 - 100.0)	3.00	7.00	12.00
R	=	Entry radius / m (6.0 - 100.0)	9.80	30.00	88.00
D	=	Inscribed circle diameter / m (15-100)	28.00	28.00	28.00
A	=	Entry angle / degree (10-60)	60.00	18.00	10.00
Q	=	Entry flow (pcu/h)	0	25	60
Qc	=	Circulating flow across entry (pcu/h)	0	40	0
OUTPUT PARAMETERS:					
S	=	Sharpness of flare = 1.6(E-V)/L	0.05	0.43	0.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.85	1.06	1.11
X2	=	V + ((E-V)/(1+2S))	6.09	4.62	4.33
M	=	EXP((D-60)/10)	0.04	0.04	0.04
F	=	303*X2	1845	1399	1311
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)	0.69	0.60	0.58
Qe	=	K(F-Fc*Qc)	1559	1455	1451
DFC	=	Design flow/Capacity = Q/Qe	0.00	0.02	0.04

Total In Sum = **85** **PCU**

DFC of Critical Approach = **0.04**

Appendix B

Junction Improvement Scheme to be Implemented by Other Project

Jason Leung WY

From: [redacted]
Sent: Tuesday, 23 July 2024 2:26 pm
To: Jason Leung WY
Cc: [redacted]
Subject: 轉寄: 轉寄: S12A Application for Proposed Residential Development with Social Welfare Facility and Supporting Infrastructure in Wong Yi Au, Tai Po - Proposed Junction Improvement at Kwong Fuk Road Roundabout [Filed 23 Jul 2024 14:45]
Attachments: 20240716 TD Comment (extract).pdf; Proposed Junction Improvement at Kwong Fuk Road Roundabout.pdf; 426154-MMH-DD-TYT-C_RW-DR-1003.pdf

Categories: Filed by Mail Manager

Some people who received this message don't often get email from ttfok@cedd.gov.hk. Learn why this is important

Dear Jason,

Please find the attached layout for your information.
As discussed, since our contract CV/2023/18 has not been awarded yet, there is no detailed implementation programme for the junction improvement works at Kwong Fuk Road roundabout at this point. However, our contract is scheduled to commence in September 2024 and complete the junction improvement works by 2027.

Regards,
Dave FOK
E7/P
Project Unit, CEO, CEDD
Tel: 3919 8634

----- Forwarded by PUI YAN MAK/CEDD/HKSARG on 22/07/2024 15:26 -----

From: Jason Leung WY [redacted]
To: "pymak@cedd.gov.hk" [redacted]
Cc: "kafaichan@td.gov.hk" [redacted], Karen Chan K K [redacted]
Date: 18/07/2024 13:40
Subject: S12A Application for Proposed Residential Development with Social Welfare Facility and Supporting Infrastructure in Wong Yi Au, Tai Po - Proposed Junction Improvement at Kwong Fuk Road Roundabout

---

Dear Ms. Mak,

We are the traffic consultants of the captioned project.

We refer to comment no. 14 from Transport Department dated 15 July 2024 on the Pre-submission, and would like to request information regarding the latest layout and implementation programme of improvement works at Kwong Fuk Road Roundabout for traffic assessment purposes.

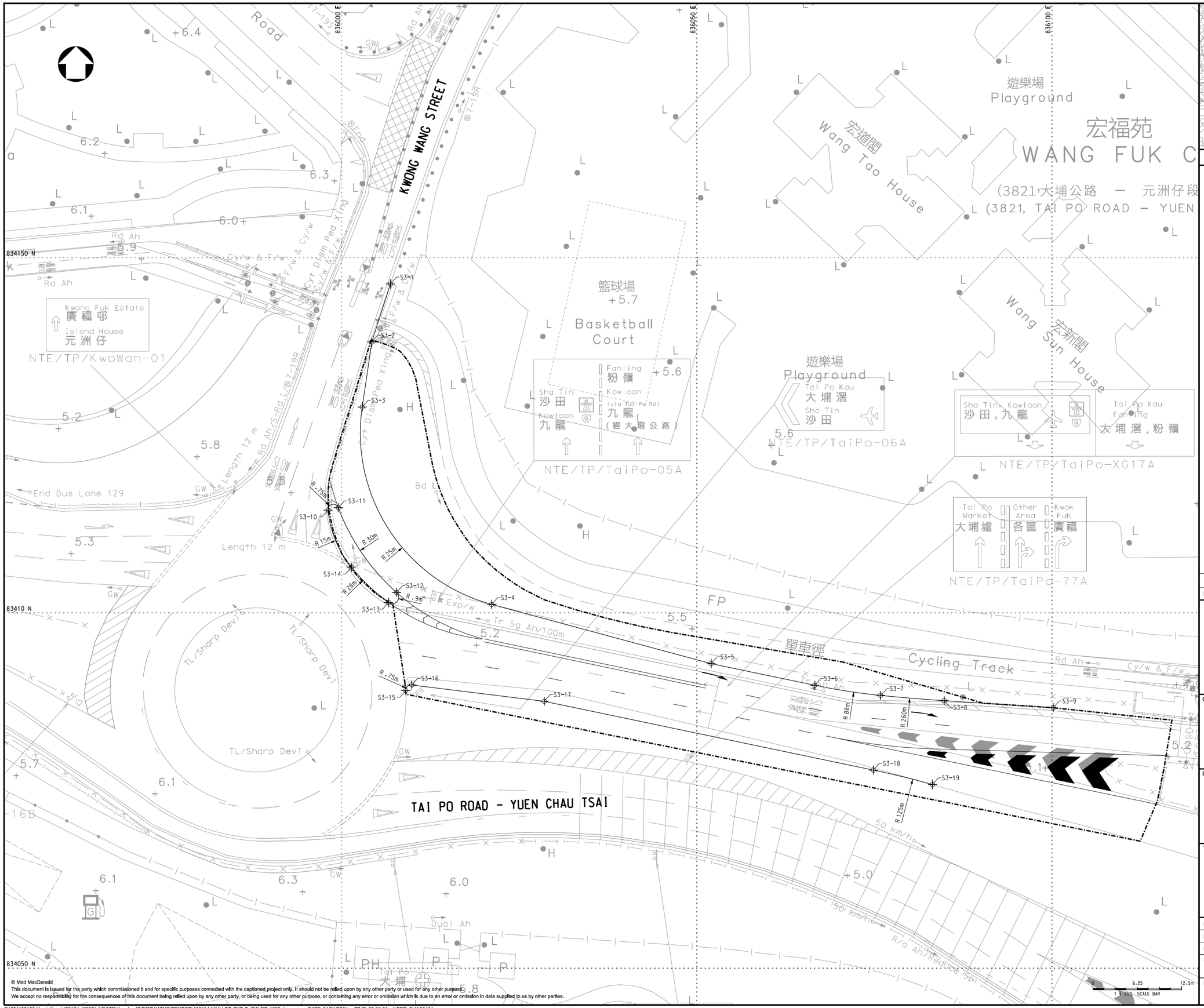
Please find attached the related TD comment and junction improvement scheme extracted from *Agreement No. CE 61/2017 (CE): Site Formation and Infrastructure Works for Development at To Yuen Tung, Tai Po – Feasibility Study* for your reference.

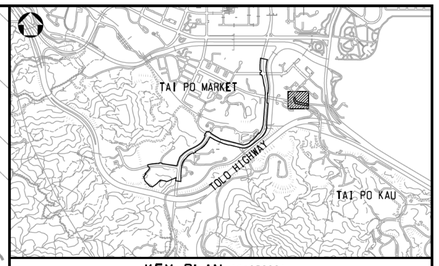
Thank you in advance for your kind assistance. Should you have any query, please feel free to contact me.

Regards,
Jason Leung
Planner | Transport Consulting

Arup
Level 5 Festival Walk 80 Tat Chee Avenue Kowloon Tong Kowloon Hong Kong
[redacted] f +852 2268 3956
arup.com

Electronic mail messages entering and leaving Arup business systems are scanned for viruses and acceptability of content.





KEY PLAN (1:25000)

NOTES:

1. FOR GENERAL NOTES, REFER TO DRAWING NO. 426154/MMH/DD/TYT/C_RW/DR/0001
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 426154/MMH/DD/TYT/C_RW/DR/1001 TO 426154/MMH/DD/TYT/C_RW/DR/1004

LEGEND:

SITE BOUNDARY

PROPOSED ROADWORKS

SETTING OUT POINT:

S.O.P.	EASTING	NORTHING
S3-1	836006.845	834146.316
S3-2	836004.227	834138.163
S3-3	836002.874	834128.978
S3-4	836021.099	834101.196
S3-5	836052.011	834092.861
S3-6	836066.603	834089.813
S3-7	836075.857	834088.389
S3-8	836084.824	834087.650
S3-9	836100.170	834086.653
S3-10	835998.063	834114.480
S3-11	835999.512	834114.814
S3-12	836007.711	834102.880
S3-13	836006.585	834101.479
S3-14	836001.366	834106.424
S3-15	836009.017	834089.074
S3-16	836009.858	834089.855
S3-17	836028.502	834087.556
S3-18	836074.846	834077.875
S3-19	836083.168	834075.837

Rev	Date	Drawn	Description	Ch'k'd	App'd
0	JAN 24	JL	ISSUE FOR TENDER	DC	AK

MOTT MACDONALD
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong, Kowloon
Hong Kong
T +852 2828 5757
F +852 2827 1823
W mottmac.com

Client

CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Project

CONTRACT NO. CV/2023/18
SITE FORMATION AND INFRASTRUCTURE WORKS AT TO YUEN TUNG, TAI PO

Title

PROPOSED SETTING-OUT PLAN (SHEET 3)

Designed	AT		Eng check	DC	
Drawn	JL		Coordination	DC	
Dwg check	AT		Approved	AK	
Scale at A1	1:250	Status	TEN	Rev	0

Drawing Number
426154/MMH/DD/TYT/C_RW/DR/1003

© Mott MacDonald
This document is issued for the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any other purpose.
We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.