

**Proposed Flat and Shop and Services Uses
with Minor Relaxation of Plot Ratio Restriction
at Lots 4614 and 4615RP in DD116,
and Lots 1753sBRP (part), 1753sBss3 (part),
1756sA (part), 1756RP (part), 1757, 1758RP,
1760RP in DD120, and adjoining Government land,
Tai Kei Leng, Yuen Long**

Traffic Impact Assessment

**Final Report
August 2023**

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Prepared for: Onfine Development Limited

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DD120, and adjoining Government land, Tai Kei Leng, Yuen Long**

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1.0 INTRODUCTION

Background

- 1.1 The subject site is located at the south-east corner of the junction of Tai Tong Road / Tai Shu Ha Road East / Tai Shu Ha Road West in Yuen Long. The location of the subject site is shown in **Figure 1.1**.
- 1.2 The subject site is zoned R(B) and the construction of a residential development with plot ratio of 3.5 is permitted (the “Permitted Scheme”). The Owner of the subject site is seeking for the relaxation of the maximum plot ratio for the residential development by 20% (the “Proposed Development”).
- 1.3 Against this background, CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned by the Owner to conduct a traffic study in support of the Proposed Development. This report presents the findings and recommendations of the traffic study for the Proposed Development.

Structure of Report

- 1.4 The report is structured as follows:

Chapter One	- Gives the background of the project;
Chapter Two	- Describes the existing situation;
Chapter Three	- Presents the Proposed Development;
Chapter Four	- Describes the traffic impact analysis; and
Chapter Five	- Describes the impact to public transport services; and
Chapter Six	- Describes the pedestrian impact analysis; and
Chapter Seven	- Gives the overall conclusion.

2.0 EXISTING SITUATION

Site and Road Network

- 2.1 The subject site is bounded by Tai Tong Road to the north, and Tai Shu Ha Road East to the west. Tai Tong Road is single carriageway 2-lane road running north-south direction, with local widening at its junction with Shap Pat Heung Road. Footpaths and bus stops are provided along Tai Tong Road.
- 2.2 The section of Tai Shu Ha Road East to the west of the subject site is a single carriageway 1-way southbound road running along the eastern-side of the nullah.

Existing Traffic Flows

- 2.3 To quantify the traffic flows in the vicinity of the subject site, manual classified counts were conducted between the AM and PM peak periods of 0700 – 0900 and 1715 – 1915 on Wednesday, 19th October 2022, and re-conducted on Thursday, 1st June and Friday, 2nd June 2023. The surveyed junctions include the following:
- J1: Shap Pat Heung Road / Tai Tong Road;
 - J2: Shap Pat Heung Road / Fung Ki Road;
 - J3: Shap Pat Heung Road / Tai Kei Leng Road;
 - J4: Shap Pat Heung Interchange;
 - J5: Tai Tong Road / Tai Shu Ha Road East / Tai Shu Ha Road West; and
 - J6: Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West.
- 2.4 The locations of these junctions are shown in **Figure 2.1** and the layouts are shown in **Figures 2.2 – 2.7** respectively.
- 2.5 The traffic counts are classified by vehicle type to enable traffic flows in passenger car units (“pcu”) to be calculated. The AM and PM peak hours identified from the surveys are found to be between 0730 – 0830 hours and 1745 – 1845 hours respectively. The existing AM and PM peak hour traffic flows in pcu/hour are presented in **Figure 2.8**.

Existing Junction Performance

- 2.6 The existing junction performance of the surveyed junctions are calculated based on the existing traffic flows, and the analysis was undertaken using the methods outlined in Volume 2 of the Transport Planning and Design Manual (“TPDM”). The results are summarised in **Table 2.1** and the detailed calculations are found in **Appendix A**.

TABLE 2.1 EXISTING JUNCTION PERFORMANCE

Ref.	Junction	Junction Type (Parameter)	AM Peak	PM Peak
J1	Shap Pat Heung Road / Tai Tong Road	Signal (RC)	15%	22%
J2	Shap Pat Heung Road / Fung Ki Road	Signal (RC)	49%	49%
J3	Shap Pat Heung Road / Tai Kei Leng Road	Signal (RC)	37%	18%
J4	Shap Pat Heung Interchange	RA (DFC)	0.88	0.95
J5	Tai Tong Road / Tai Shu Ha Road East / Tai Shu Ha Road West	Priority (DFC)	0.44	0.70
J6	Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West	Priority (DFC)	0.97	> 1.20

Note: RC – reserve capacity; DFC – design flow/capacity ratio; RA – Roundabout

2.7 The above results indicate that the surveyed junctions currently operate with capacities during the AM and PM peak hours, except for J4 and J6, i.e., junction of Shap Pat Heung Road Interchange and Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West.

Public Transport Facilities

2.8 The subject site is located close to public transport services, including franchised buses and public light buses which operate within 350 metres or some 6-minutes' walk away. Some of these are feeder services to Yuen Long town and Long Ping MTR station. Details of the public transport facilities provided in the vicinity of the subject site are presented in **Table 2.2** and shown in **Figure 2.9**.

TABLE 2.2 ROAD-BASED PUBLIC TRANSPORT SERVICES OPERATING CLOSE TO THE SUBJECT SITE

Route	Routing
KMB 968 ⁽¹⁾	Yuen Long Park – Causeway Bay
KMB 268C ⁽¹⁾	Yuen Long Park – Kwun Tong
KMB 68E	Yuen Long Park – Tsing Yi Station
KMB 68F	Yuen Long Park – Park Yoho
MTRB K66	Tai Tong – Long Ping Station
GMB 73	Long Ping Station – Sung Shan San Tsuen
	Yuen Long Kau Yuk Road – Tong Tau Po Tsuen
RMB	Tai Tong – Hung Min Wai
	Tai Tong – Yuen Long MTR Station

Note: KMB – Kowloon Motor Bus MTRB – MTR Feeder Bus
 GMB – Green Minibus RMB – Red Minibus

⁽¹⁾ Morning Special Services only

Occupancy Survey on the Public Transport in the Vicinity

2.9 Survey on public transport services listed in Table 2.3 was conducted during the AM and PM Peak periods on Thursday, 1st June and Friday, 2nd June 2023 at the stops near the subject site. The survey locations and the pedestrian routes to these stops from the subject site are shown in **Figure 2.9**. The survey results are summarized in **Table 2.3** and the detailed information are shown in **Appendix B**.

TABLE 2.3 OCCUPANCY OF EXISTING PUBLIC TRANSPORT SERVICES OPERATING NEAR THE SUBJECT SITE

Direction	AM Peak			PM Peak		
	No. of Passenger		Occupancy [c] = [b]/[a]	No. of Passenger		Occupancy [f] = [e]/[d]
	Capacity [a]	Occupied [b]		Capacity [d]	Occupied [e]	
To Yuen Long Town and other districts	4,215	3,162	75%	1,636	622	38%
From Yuen Long Town and other districts	2,261	632	30%	2,476	2,042	82%

2.10 The above results indicate that the surveyed public transport services currently operate with spare capacities during the AM and PM peak hours.

Existing Footpath Level-Of-Service

- 2.11 To quantify the existing pedestrian flows, pedestrian counts were conducted during the AM and PM Peak periods on Thursday, 1st June and Friday, 2nd June 2023 at footpaths which are located in the vicinity of Proposed Development, and the observed peak 15-minute pedestrian flows are shown in **Figure 2.10**.
- 2.12 The Level-Of-Service (“LOS”) of a pedestrian footpath depends on its width and number of pedestrians using the facility. Description of the LOS at walkway is obtained from Volume 6 of the TPDM and is presented in **Table 2.4**.

TABLE 2.4 DESCRIPTION OF PEDESTRIAN FOOTPATH LOS

LOS	Flow Rate (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: Volume 6 Chapter 10 of the TPDM

- 2.13 The observed peak 15-minute pedestrian flows LOS assessment is presented in **Table 2.5**.

TABLE 2.5 EXISTING LOS ASSESSMENT

Location	Clear Width ⁽¹⁾ [Effective Width] (m)	Peak Period	Flow (ped/ 15 min)	Flow rate (ped/min/m)	LOS
P1. Western Footpath of Tai Tong Road	2.1[1.6]	AM	11	0.5	A
		PM	52	2.2	A
P2. Eastern Footpath of Tai Tong Road	2.6[2.1]	AM	3	0.1	A
		PM	32	1.0	A

⁽¹⁾ The width excludes railing and obstructions.

- 2.14 The above results indicate that the surveyed footpaths currently operate with LOS A during the AM and PM peak. As stated in the TPDM, LOS A to C is considered as an acceptable level of service: “In general, LOS C is desirable for most design at streets with dominant ‘living’ pedestrian activities”.

3.0 THE PROPOSED DEVELOPMENT

Key Parameters

- 3.1 The Permitted Scheme and Proposed Development key parameters are presented in **Table 3.1**.

TABLE 3.1 KEY PARAMETERS

Item	Permitted Scheme	Proposed Development
Site Area	About 2,470.72 m ²	2,539.95 m ²
Domestic Plot Ratio	3.5	4.2
Domestic GFA	8,647.52 m ²	10,667.77 m ²
Non-Domestic GFA	N/A	220 m ²
No. of Flats	<u>290</u>	<u>345</u>

Provision of Internal Transport Facilities

- 3.2 The internal transport facilities for the Proposed Development are provided in accordance with the recommendations of the Hong Kong Planning Standards and Guidelines (“HKPSG”) and are presented in **Table 3.2**.

TABLE 3.2 PROVISION OF INTERNAL TRANSPORT FACILITIES FOR PROPOSED DEVELOPMENT

Facility	HKPSG Recommendation	Provision
Car Parking Space	For Residents: Parking Requirement = $GPS \times R1 \times R2 \times R3$ Global Parking Standard (GPS): 1 car parking space per 4 - 7 flats Demand Adjustment Ratio (R1): 0.5 for flat size ≤ 40 m ² GFA Accessibility Adjustment Ratio(R2): 1.0 outside 500m-radius of rail station Development Intensity Adjustment Ratio (R3): 1.0 for Plot Ratio 2.0 – 5.0 For 345 flats with flat size ≤ 40 m ² GFA Minimum: $(345 / 7 \times 0.5 \times 1 \times 1.0) = 24.6$, say 25 nos. Maximum: $(345 / 4 \times 0.5 \times 1 \times 1.0) = 43.1$, say 44 nos.	44 nos. @ 5.0m (L) x 2.5m (W) x 2.4m (H) = HKPSG maximum
	For Visitors: Visitor car parking for private residential developments with more than 75 units per block should be provided at 5 visitor spaces per block in addition to the recommendations, or as determined by the Authority. For 1 block with 345 flats: 5 nos.	5 nos. (3 nos. @ 5.0m(L) x 2.5m(W) x 2.4m(H) + 2 nos. @ 5.0m(L) x 3.5m(W) x 2.4m(H) for person with disabilities) = HKPSG maximum
	For Non-domestic Uses: Retail: 1 car space per 150 – 300m ² GFA For 220m ² road-side retail shop Minimum: $220 / 300 = 0.73$, say 1 nos. Maximum: $220 / 150 = 1.47$, say 2 nos.	2 nos. @ 5.0m(L) x 2.5m(W) x 2.4m(H) = HKPSG maximum
	Total Car Parking Space: Minimum = $25 + 5 + 2 = 32$ nos. Maximum = $44 + 5 + 2 = 51$ nos. Note: For total no. of car parking space in lot = 51 – 150 nos., the Building (planning) regulation 72 require provision of 2 accessible car parking spaces	51 nos. (including 2 accessible car parking spaces)

TABLE 3.2 PROVISION OF INTERNAL TRANSPORT FACILITIES FOR THE PROPOSED DEVELOPMENT (CONT'D)

Facility	HKPSG Recommendation	Provision
Motorcycle Parking Space	For Residential Uses: TD Comment: 1 motorcycle parking space shall be provided for every 83 flats For 345 flats: $345 / 83 = 4.2$, say 5 nos.	5 nos. @ 2.4m (L) x 1.0m (W) x Min. 2.4m (H) = fulfil TD Comment, OK
	For Non-domestic Uses: 5% - 10% of total private car provision for Non-residential development. For 2 car parking spaces for Non-domestic Uses: Minimum: $2 \times 5\% = 0.1$, say 1 no. Maximum: $2 \times 10\% = 0.2$, say 1 no.	1 nos. @ 2.4m (L) x 1.0m (W) x Min. 2.4m (H) = HKPSG Maximum, OK
	Total Motorcycle Parking Space: Minimum = $5 + 1 = 6$ nos. Maximum = $5 + 1 = 6$ nos.	6 nos.
Goods Vehicle Loading/ Unloading Bay	For Residential Uses: Minimum of 1 loading / unloading 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. For 1 block with 345 flats: 1 no.	1 no. @ 11.0m (L) x 3.5m (W) x Min. 4.7m (H) = HKPSG minimum, OK
	For Non-domestic Uses: Retail: 1 loading/unloading bay for goods vehicles for every 800 – 1,200m ² GFA. Minimum: $220 / 1,200 = 0.18$, say 1 no. Maximum: $220 / 800 = 0.28$, say 1 no.	1 no. @ 7.0m (L) x 3.5m (W) x Min. 3.6m (H) = HKPSG Maximum, OK
	Total Goods Vehicle Loading/ Unloading Bay: Minimum: $1 + 1 = 2$ Maximum: $1 + 1 = 2$	2 nos. (1 no. of HGV loading / unloading bay and 1 no. of LGV loading / unloading bay)
Bicycle Parking Spaces	For Residential Uses: TD Comment: 1 space per 7.5 flats $= 345 \div 7.5$ $= 46$ nos.	46 nos. = comply HKPSG, OK

3.3 Table 3.2 shows that the internal transport facilities provided comply with the recommendations of the HKPSG, except for the proportion of goods vehicle loading / unloading bays provided.

3.4 The G/F layout plans of the Proposed Development are shown in **Figure 3.1**.

Extension of the Lay-by abutting to Run-in/out of the Proposed Development

3.5 To cater for the ease of manoeuvring of heavy goods vehicle leaving the Proposed Development, a section of the lay-by abutting to run-in/out of the Proposed Development will be extended by converting footpath to the south of the run-in/out to road carriageway as shown in **Figure 3.2**.

Potential Road Widening Works at Tai Shu Ha Road East

3.6 To accommodate potential road widening works, a 3.7m-wide strip (approximate) along Tai Shu Ha Road East as highlighted in green in **Figure 3.3** is reserved as

non-building area within the Proposed Development.

Swept Path Analysis

- 3.7 The CAD-based swept path analysis programme, Autodesk Vehicle Tracking, was used to check the ease of manoeuvring of vehicles within the Proposed Development, and the swept path analysis drawings are found in **Appendix C**. Vehicles are found to have no manoeuvring problems.

4.0 TRAFFIC IMPACT

Design Year

- 4.1 The Proposed Development is expected to be completed in 2028, and the design year adopted for the traffic assessment is whichever later of the 2: (i) at least 3 years after the planned completion of the development, i.e., 2031, or (ii) 5 years from the date of this application, i.e., 2028. Therefore, Year 2031 is adopted for junction capacity analysis.

Traffic Forecasting

- 4.2 Year 2031 peak hour traffic flows for the junction capacity analysis is produced (i) with reference to the BDTM; (ii) estimated growth from 2026 to 2031; (iii) expected traffic generation by the planned / committed developments in the vicinity; and (iv) expected traffic generation by the 2 cases, i.e., Permitted Scheme and Proposed Development.

Estimated Traffic Growth Rate from 2026 to 2031

- 4.3 Reference is made to the (i) the Annual Average Daily Traffic (“AADT”) found in the Annual Traffic Census published by Transport Department, of the core stations which are located in the vicinity, (ii) Population and Employment of “2019-based Territorial Population and Employment Data Matrix” (the “TPEDM”) from the Planning Department for Yuen Long, and (iii) the Hong Kong Population Projection published by Census and Statistics Department.
- 4.4 The above information is presented in **Tables 4.1 – 4.3** respectively.

TABLE 4.1 AADT OF THE CORE STATIONS IN THE VICINITY OF THE SUBJECT SITE

Station	6055	5017	Overall
Road	Shap Pat Heung Rd	Tai Tong Road	–
From	Shap Pat Heung Int	Hop Yick Road	–
To	Tai Tong Road	Sam Chung	–
2010	–	12,070*	33,040
2011	20,860	12,180*	26,060
2012	17,000	9,060	26,470
2013	16,830*	9,640	27,260
2014	17,540*	9,720*	27,050
2015	17,430*	9,620*	32,560
2016	23,020	9,540*	32,620
2017	21,960	10,660	32,330
2018	21,810*	10,520	33,280
2019 [#]	22,500*	10,780*	34,110
2020 [#]	26,860	10,270*	37,130
2021 [#]	29,360	11,110	40,470
Average Annual Growth (2010-2018)	0.95%	-1.52%	0.09%

Note: * Estimated by Growth Factor

Excluded due to the impact of the public events in 2019 and COVID-19 pandemic in 2020 and 2021.

TABLE 4.2 POPULATION AND EMPLOYMENT FROM THE TPEDM FOR YUEN LONG

Year	2019-based TPEDM for Yuen Long	
	Population	Employment
2026	172,350	70,700
2031	159,850	70,250
Average Annual Growth (2026 to 2031)	-1.49%	-0.13%

TABLE 4.3 HONG KONG POPULATION PROJECTIONS FROM CENSUS AND STATISTICS DEPARTMENT

Year	Population in Hong Kong (thousands)
2026	7,806.3
2031	7,945.8
Average Annual Growth (2026 – 2031)	0.35%

4.5 **Table 4.1** shows that the annual average traffic growth of 0.09%. **Table 4.2** shows that the average annual population growth and employment growth between 2026 – 2031 of -1.49% and -0.13% in Yuen Long. **Table 4.3** shows that the annual population growth between 2026 – 2031 is 0.35%. To be conservative, the annual growth rate of 0.35% is adopted for 2026 – 2031.

Additional Planned/ Committed Developments Near the Subject Site

4.6 The additional planned/ committed developments near the Subject Site which are not considered in the BDTM are included in the forecast. The major additional planned / committed developments are listed in **Table 4.4** and the locations are presented in **Figure 4.1**.

TABLE 4.4 THE MAJOR ADDITIONAL PLANNED / COMMITTED DEVELOPMENTS NEAR THE SUBJECT SITE

Ref	Address	Use	Parameters
A	Yuen Long South New Development Area (Phases 1 and 2) ⁽¹⁾	PRH	16,900 flats
B	Shap Pat Heung Public Housing ⁽¹⁾	PRH	4,400 flats
C	Tai Kei Leng Public Housing ⁽¹⁾	PRH	2,300 flats
D	Shap Pat Heung Road Public Housing ⁽¹⁾	HOS	910 flats
E	Yuen Lung Street Public Housing ⁽²⁾	HOS	720 flats
F	Lot 5384 in D.D. 116 ⁽³⁾	Residential	409 flats
G	Lot 4054 in D.D. 116 ⁽³⁾	Residential	63 flats
H	Private Subsidized Housing at Lam Hi Road ⁽⁴⁾	Residential	312 flats
I	Lot 4041 in D.D. 120, Fraser Village ⁽⁵⁾	Residential	16 houses
J	Po Leung Kuk Lee Shau Kee Youth Oasis ⁽⁶⁾	Hostel	1248 rooms
K	Lot 1846 RP in D.D. 120 and adjoining Government Land, Ma Tin Pok ⁽⁷⁾	RCHE	197 places
L	Lots 1695 S.D RP, 1741 RP(Part) and 1394 S.B RP (Part) in D.D. 120 and adjoining Government land, Tai Kei Leng ⁽⁸⁾	RCHE	380 places
M	Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and adjoining Government land, Tai Kei Leng ⁽⁹⁾	RCHE	281 places
N	Lots 1694, 1695 S.F RP (Part) and 3721 in D.D. 120, Tai Kei Leng ⁽¹⁰⁾	Kindergarten	356 students
		Church	680 seats

Note: PRH – Public Rental Housing
 RCHE – Residential Care Home for the Elderly

HOS – Home Ownership Scheme

Sources of information:

⁽¹⁾ Appendices C and D

⁽²⁾ Online Information

⁽³⁾ Approved Planning Application A/YL/185

⁽⁴⁾ Approved Planning Application A/YL/276

⁽⁵⁾ Approved Planning Application A/YL/289

⁽⁶⁾ Approved Planning Application A/YL/298

⁽⁷⁾ Approved Rezoning Application Y/YL/18

⁽⁸⁾ Official website of youth hostel

⁽⁹⁾ Approved Planning Application A/YL/263

⁽¹⁰⁾ Approved Planning Application A/YL/252

Yuen Long South New Development Area

- 4.7 According to the official website of the Yuen Long South New Development Area (“YLSNDA”), road improvements will be completed gradually from 2023 to 2031. Since the design year adopted for the traffic impact assessment is 2031, the road improvements which are scheduled to be opened in or before 2031 have been included in the traffic forecast. Details are enclosed in the **Appendix D**.

Site Formation and Infrastructure Works for Proposed Public Housing Developments at Sha Po, Shap Pat Heung and Tai Kei Leng

- 4.8 According to the Yuen Long District Council Documents (Nos. 36 - 39/2022) for the meeting held on 25th Oct 2022, the road improvements in the Yuen Long will be completed gradually before 2031. Since the design year adopted for the traffic impact assessment is 2031, the road improvements which are scheduled to be opened in or before 2031 have been included in the traffic forecast. Details are enclosed in the **Appendix E**.
- 4.9 Apart from junction improvements shown in **Appendices D and E**, it is understood that the improvement at junction of Tai Kei Leng / Tai Shu Ha Road East / Tai Shu Ha Road West is still under investigation. Therefore, existing layout of the junction shown in **Figure 2.7** is adopted for 2031 junction assessment.

Traffic Generation of Permitted Scheme

- 4.10 The traffic generations of Permitted Scheme is calculated by adopting the mean trip rate of residential use from the TPDM, and the adopted traffic generation rates and the calculated traffic generation are presented in **Table 4.5**.

TABLE 4.5 ADOPTED TRIP RATES AND TRAFFIC GENERATION FOR PERMITTED SCHEME

Permitted Scheme	Parameter	AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
290 flats with flat size less than 60m ² GFA	Trip Rates (pcu/ flat/ hr)	0.0718	0.0425	0.0286	0.0370
	Traffic Generations (pcu/ hr)	21	13	9	11

Note: GEN – generation ATT – attraction

Traffic Generation of Proposed Development

- 4.11 The traffic generation of the Proposed Development is calculated by adopting the mean traffic generation rate of residential and retail uses from the TPDM. The adopted traffic generation rates and the calculated traffic generation are presented in **Table 4.6**.

TABLE 4.6 ADOPTED TRIP RATES AND TRAFFIC GENERATION FOR PROPOSED DEVELOPMENT

Proposed Development	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
<i>Trip Rates</i>				
Residential Use with avg. 60m ² (pcu/ flat/ hr)	0.0718	0.0425	0.0286	0.0370
Retail Use (pcu/ 100m ² / hr)	0.2296	0.2434	0.3100	0.3563
<i>Traffic Generations (pcu/ hr)</i>				
345 flats with flat size less than 60m ² GFA	25	15	10	13
Non-domestic Use (220m ² GFA)	1	1	1	1
Total	26	16	11	14

- 4.12 The net increase in traffic generation between the Proposed Development and the Permitted Scheme is presented in **Table 4.7**.

TABLE 4.7 NET INCREASE IN TRAFFIC GENERATION

Scheme	Traffic Generation (pcu/ hr)			
	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Proposed Development (from Table 4.6) [a]	26	16	11	14
Permitted Scheme (from Table 4.5) [b]	21	13	9	11
Net Increase in Traffic Generation [a] – [b]:	+5	+3	+2	+3
	+8		+5	

- 4.13 **Table 4.7** shows that compared with the Permitted Scheme, the Proposed Development is expected to generate 8 and 5 additional pcu (2-way) in AM peak and PM peak respectively.

Year 2031 Traffic Flows

- 4.14 Year 2031 traffic flows for the following cases are derived:

Year 2031 With Permitted = Traffic flows derived with reference to 2026 NTW2 BDTM + estimated traffic growth between 2026 and 2031 + estimated traffic generation of the planned / committed developments after 2015 + estimated traffic generation for Permitted Scheme

Year 2031 With Proposed = [A] + net increase in traffic generation by Proposed Development Development [B]

- 4.15 Year 2031 peak hour traffic flows for the above two cases are shown in **Figures 4.2 and 4.3** respectively.

Year 2031 Junction Capacity Analysis

- 4.16 Year 2031 junction capacity analysis for the cases, i.e., with Permitted Scheme and with Proposed Development are summarised in **Table 4.8** and detailed calculations are found in the **Appendix A**.

TABLE 4.8 YEAR 2031 JUNCTION PERFORMANCE

Ref	Junction	Type of Junction (Parameter)	2031 With Permitted Scheme		2031 With Proposed Development	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Shap Pat Heung Road / Tai Tong Road	Signal (RC)	12%	25%	12%	25%
J2	Shap Pat Heung Road / Fung Ki Road	Signal (RC)	34%	39%	33%	39%
J3	Shap Pat Heung Road / Tai Kei Leng Road	Signal (RC)	52%	41%	52%	41%
J4	Shap Pat Heung Interchange	RA (DFC)	0.78	0.67	0.78	0.67
J5	Tai Tong Road / Tai Shu Ha Road East / Tai Shu Ha Road West	Priority (DFC)	0.43	0.63	0.43	0.63
J6	Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West	Priority (DFC)	> 1.20	> 1.20	> 1.20	> 1.20

Note: RC – reserve capacity; RA – Roundabout, DFC – design flow/capacity ratio

4.17 **Table 4.8** shows that the net increase in traffic generation by the Proposed Development has negligible traffic impact to the road junctions analysed, except J6, i.e., junction of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West.

4.18 The 2031 assessment for the case with the Permitted Scheme for the junction of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West encountered capacity issues for the following movements:

- Tai Shu Ha Road West northbound turn right to Tai Kei Leng Road;
- Tai Kei Leng Road westbound turn left to Tai Shu Ha Road East;
- Tai Kei Leng Road straight ahead on both eastbound and westbound

Gazetted Improvement at Junction of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West

4.19 Improvement at junction of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West was gazetted on 25 May 2023. **Figure 4.4** shows the possible improvement based on the gazetted plan, which include the following:

- Widening of Tai Kei Leng Road to 4-lane single carriageway at the western arm and 2-lane dual carriageway the eastern arm of the junction of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West.
- Additional right turn only traffic lane is provided by converting Tai Shu Ha Road West to one-way northbound;
- Additional left turn traffic lane for Tai Kei Leng Road westbound to Tai Shu Ha Road East;
- Signalise the junction

4.20 Based on the above, Year 2031 junction performance of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West is presented as **Table 4.9** and detailed calculations are found in the **Appendix A**.

TABLE 4.9 YEAR 2031 JUNCTION PERFORMANCE AT TAI KEI LENG ROAD / TAI SHU HA ROAD EAST / TAI SHU HA ROAD WEST WITH GAZETTED JUNCTION IMPROVEMENT

Ref	Junction		Type of Junction (Parameter)	2031 With Permitted Scheme		2031 With Proposed Development	
				AM Peak	PM Peak	AM Peak	PM Peak
J6	Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West	existing layout	Priority (DFC)	> 1.20	> 1.20	> 1.20	> 1.20
		with improvement	Signal (RC)	37%	29%	36%	29%

Note: DFC – design flow/capacity ratio RC – Reserve Capacity

- 4.21 With the planned junction improvement, **Table 4.9** shows that (1) the junction would have sufficient capacity in Year 2031 for the cases with Permitted Scheme and with Proposed Development; and (2) the additional traffic generation associated with the Proposed Development has negligible traffic impact.

5.0 IMPACT TO PUBLIC TRANSPORT SERVICES

Estimated Peak Hour Mechanised Trip Generation of Subject Site and Planned / Committed Developments in the Vicinity

- 5.1 The mechanised trip generation of the Subject Site and planned / committed developments in the vicinity, i.e., Lot 5384 and Lot 4054 in D.D. 116, are estimated with reference to Travel Characteristic Survey 2011 and are presented in **Table 5.1**.

TABLE 5.1 ESTIMATED PEAK HOUR MECHANISED TRIP GENERATION OF THE SUBJECT SITE AND PLANNED / COMMITTED DEVELOPMENTS IN THE VICINITY

Parameter	Calculation	Unit	The Subject Site		Lot 5384 in D.D.116	Lot 4054 in D.D.116
			Permitted Scheme	Proposed Development		
No. of Flats	A	flats	290	345	409	63
Average domestic household size in Yuen Long ⁽¹⁾	B	persons/flat	2.8	2.8	2.8	2.8
Population	C = B x A	persons	812	966	1146	177
Average Daily Mechanised Trips ⁽²⁾	D	trips/ persons/day	1.83	1.83	1.83	1.83
Peak hour factor of Daily Mechanised Trips ⁽³⁾	E	N/A	12%	12%	12%	12%
Estimated Peak Hour Mechanised Trip Generation	D = A x B x C	persons/ hr	179	213	252	39

1 Extracted from Census and Statistic Department website

2 From Table 3.3, Travel Characteristics Survey 2011 Final Report

3 From Para. 3.3.7, Travel Characteristics Survey 2011 Final Report

Estimated Public Transport Demand Generated by the Subject Site and Planned / Committed Developments in the Vicinity

- 5.2 The transport mode of the Subject Site and planned / committed developments in the vicinity is assumed with reference to Travel Characteristic Survey 2011 and is presented in **Table 5.2**, and the estimated public transport demand is calculated and shown in **Table 5.3**.

TABLE 5.2 TRANSPORT MODE OF THE SUBJECT SITE AND PLANNED / COMMITTED DEVELOPMENTS IN THE VICINITY

Transport Mode	Ratio ⁽¹⁾	The Subject Site			Lot 5384 in D.D.116	Lot 4054 in D.D.116
		Permitted Scheme [a]	Proposed Development [b]	Net Increase in Passenger Demand [b] - [a]		
Private Car / Taxi	18%	32	38	+6	45	7
Public Transport	82%	147	175	+28	207	32
Total	100%	179	213	+34	252	39

⁽¹⁾ From Table 3.6, Travel Characteristics Survey 2011 Final Report

TABLE 5.3 ESTIMATED PUBLIC TRANSPORT DEMAND GENERATED BY THE SUBJECT SITE AND PLANNED / COMMITTED DEVELOPMENTS IN THE VICINITY

Development		Public Transport Demand (persons / hour)			
		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
The Subject Site	Permitted Scheme: 290 Flats [a]	133	14	14	133
	Proposed Development: 345 Flats [b]	158	17	17	158
	Net increase of Passenger Demand [b] – [a]	+25	+3	+3	+25
		+28 (2-way)		+28 (2-way)	
Lot 5384 in D.D.116		187	20	20	187
Lot 4054 in D.D.116		29	3	3	29

GEN – Generation ATT – Attraction

- 5.3 **Tables 5.3** shows that compared with the Permitted Scheme, the public transport demand associated with the Proposed Development is expected to generate additional 28 persons per hour (2-way) during both AM and PM peak hours.

Annual Passenger Demand Growth Rate between 2023 – 2031

- 5.4 To establish the Passenger Demand growth rate from 2023 to 2031, reference is made to the (i) “Projections of Population Distribution 2021 – 2029” produced by the Planning Department and (ii) “Hong Kong Population Projection 2020 – 2069” published by Census and Statistic Department.
- 5.5 The population projection for 2 Tertiary Planning Units (“TPU”), i.e. 523 and 529, “Projections of Population Distribution 2021 – 2029”, which covers the broader near around the Proposed Development, are found in **Table 5.4**. The Hong Kong population projection from 2025 to 2031 is found in **Table 5.5**.

TABLE 5.4 POPULATION PROJECTIONS OF THE 2 TPU

Year	TPU 523	TPU 529	Total
2023	10,600	20,700	31,300
2025	10,500	20,400	30,900
Average Annual Growth 2023 to 2025	-0.47%	-0.73%	-0.64%

TABLE 5.5 HONG KONG POPULATION PROJECTION FROM CENSUS AND STATISTICS DEPARTMENT

Year	Hong Kong Resident Population (‘000)
2025	7,774.8
2031	7,945.8
Average Annual Growth 2025 to 2031	0.36%

- 5.6 **Table 5.4** shows that the average annual population growth in TPU 523 and 529 between 2023 – 2025 and -0.64%. Therefore, a growth rate of 0% per annum is adopted between 2023 – 2025.
- 5.7 **Table 5.5** shows that the average annual population growth in Hong Kong between 2025 – 2031 is 0.36%. Based on the above and to be conservative, the growth rate of 0.36% per annum is adopted between 2025 – 2031.

2031 Public Transport Occupancy

5.8 Year 2031 public transport occupancies were derived with reference to the (i) observed public transport trips in **Table 2.3**; (ii) annual passenger demand growth rate; and (iii) expected passenger demand due to the planned / committed developments between 2023 – 2031, Permitted Scheme and Proposed Development.

5.9 Year 2031 peak public transport occupancies were derived as follows:

$$\begin{aligned} \text{2031 without the Proposed} &= \text{2023 observed occupancy} + \text{adopted passenger} \\ \text{Development [A]} & \text{demand growth from 2023 to 2031} + \text{estimated} \\ & \text{passenger demand due to the planned / committed} \\ & \text{developments} + \text{passenger demand of the} \\ & \text{Permitted Scheme} \end{aligned}$$

$$\begin{aligned} \text{2031 with the Proposed} &= \text{[A]} + \text{Net increase of Passenger Demand due to} \\ \text{Development [B]} & \text{Proposed Development} \end{aligned}$$

5.10 The Year 2031 public transport occupancies for the cases without and with the Proposed Development are summarised in **Tables 5.6 – 5.7** respectively.

TABLE 5.6 YEAR 2031 PUBLIC TRANSPORT OCCUPANCY OPERATING NEARBY DURING PEAK HOURS WITHOUT THE PROPOSED DEVELOPMENT

Direction	AM Peak			PM Peak		
	No. of Passenger		Occupancy [c]=[b]/[a]	No. of Passenger		Occupancy [f]=[e]/[d]
	Capacity [a]	Occupied [b]		Capacity [d]	Occupied [e]	
To Yuen Long Town and other districts	4,215	3,548	84%	1,636	659	40%
From Yuen Long Town and other districts	2,261	680	30%	2,476	2,303	93%

TABLE 5.7 YEAR 2031 PUBLIC TRANSPORT OCCUPANCY OPERATING NEARBY DURING PEAK HOURS WITH THE PROPOSED DEVELOPMENT

Direction	AM Peak			PM Peak		
	No. of Passenger		Occupancy [c]=[b]/[a]	No. of Passenger		Occupancy [f]=[e]/[d]
	Capacity [a]	Occupied [b]		Capacity [d]	Occupied [e]	
To Yuen Long Town and other districts	4,215	3,573	85%	1,636	662	40%
From Yuen Long Town and other districts	2,261	675	30%	2,476	2,328	94%

5.11 **Tables 5.6 and 5.7** show that passenger demand associated with the Proposed Development has negligible impact to the public transport services operating in the vicinity in Year 2031.

6.0 PEDESTRIAN IMPACT

Peak 15-minute Pedestrian Generation of by the Proposed Development and Adjacent Planned/ Committed Developments

6.1 Based on public transport demand presented in **Table 5.2**, the peak 15-minute pedestrian generations of adjacent planned/ committed developments are shown in **Table 6.1**.

TABLE 6.1 PEDESTRIAN GENERATIONS OF THE SUBJECT SITE AND PLANNED/ COMMITTED DEVELOPMENTS IN THE VICINITY

Developments		Pedestrian Generations (ped / 15 mins)			
		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
The Subject Site	Permitted Scheme: 290 Flats [a]	45	5	5	45
	Proposed Development: 345 Flats [b]	52	6	6	52
	<u>Net Increase of Pedestrian Generation</u> [b] – [a]	<u>+7</u>	<u>+1</u>	<u>+1</u>	<u>+7</u>
Lot 5384 in D.D.116		62	7	7	62
Lot 4054 in D.D.116		10	1	1	10

GEN – Generation ATT – Attraction

6.2 **Tables 6.1** shows that compared with the Permitted Scheme, the pedestrian generations associated with the Proposed Development is expected to generate addition 8 persons per hour (2-way) during both AM and PM peak 15 minutes.

Annual Pedestrian Growth Rate between 2023 – 2031

6.3 As mentioned in **Paragraphs 5.6 – 5.7**, a growth rate of 0% per annum between 2023 – 2025 and 0.36% per annum between 2025 – 2031 is adopted.

Year 2031 Pedestrian Flows

6.4 Year 2031 pedestrian flows are produced with reference to (i) the observed 2023 pedestrian flows, (ii) annual pedestrian growth rate, (iii) expected pedestrian demand due to the planned / committed developments between 2023 – 2031 and the Subject Site.

6.5 Year 2031 pedestrian flows for the footpath analysis were derived as follows:

$$2031 \text{ without the Proposed Development [A]} = 2023 \text{ observed pedestrian flows} + \text{Adopted pedestrian growth from 2023 to 2031} + \text{pedestrian generations due to the planned / committed developments} + \text{pedestrian generation of Permitted Scheme}$$

$$2031 \text{ with the Proposed Development [B]} = [A] + \text{Net Increase of Pedestrian Generation due to Proposed Development}$$

Year 2031 LOS Analysis

6.6 Year 2031 peak 15-minute pedestrian flows for the scenario of 2031 without and with the Proposed Development are estimated as shown in **Figure 6.1** and the corresponding LOS assessment is presented in **Table 6.2**.

TABLE 6.2 YEAR 2031 LOS ASSESSMENT

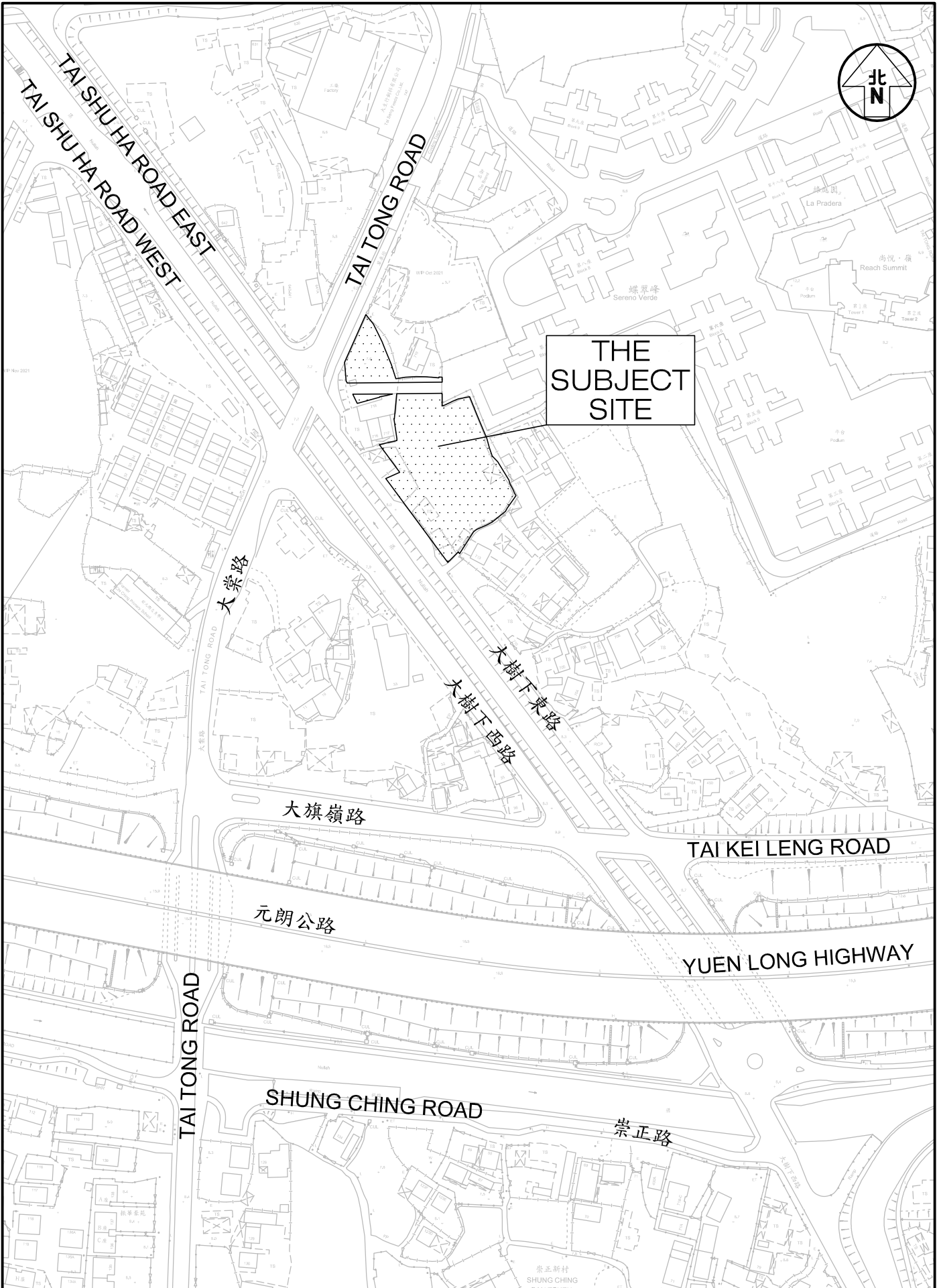
Location	Clear Width ⁽¹⁾ [Effective Width] (m)	Peak Period	2031 without Proposed Development			2031 with Proposed Development		
			Flow (ped/ 15 min)	Flow rate (ped/ min/m)	LOS	Flow (ped/ 15 min)	Flow rate (ped/ min/m)	LOS
P1. Western Footpath of Tai Tong Road	2.1[1.6]	AM	12	0.5	A	12	0.5	A
		PM	54	2.3	A	54	2.3	A
P2. Eastern Footpath of Tai Tong Road	2.6[2.1]	AM	38	1.2	A	43	1.4	A
		PM	81	2.6	A	89	2.8	A

Note: ⁽¹⁾ The width excludes railing and obstructions.

- 6.7 The results in **Table 6.2** show that the assessed footpaths operate with LOS A, i.e., have sufficient capacity to accommodate the expected pedestrian growth and additional pedestrian generated due to Proposed Development.

7.0 SUMMARY

- 7.1 The subject site is located at the south-east corner of the junction of Tai Tong Road / Tai Shu Ha Road East / Tai Shu Ha Road West in Yuen Long. The Owner of the subject site is seeking the relaxation of the maximum plot ratio of the Proposed Development by 20%.
- 7.2 Manual classified counts were conducted at junctions which are located in the vicinity in order to establish the existing traffic flows during AM Peak and PM peak hours.
- 7.3 The internal transport facilities provided for residential and non-domestic uses comply with recommendations of the HKPSG.
- 7.4 Year 2031 peak hour traffic flows for the junction capacity analysis is produced (i) with reference to the BDTM; (ii) estimated traffic growth from 2026 to 2031; (iii) expected traffic generation by the planned / committed developments in the vicinity; and (iv) expected traffic generation by the 2 cases, i.e., Permitted Scheme and Proposed Development.
- 7.5 The 2031 traffic assessment assumed completion of the Yuen Long South New Development Area Phases 1 and 2 and its associated improvement works at junction of Tai Kei Leng Road / Tai Shu Ha Road East / Tai Shu Ha Road West.
- 7.6 Compared to the Permitted Scheme, the Proposed Development will generate only 8 and 5 additional pcu (2-way) in AM peak and PM peak respectively.
- 7.7 The assessment on nearby public transport services found that the Proposed Development has negligible impact. The assessment of footpaths found that the Proposed Development has negligible impact.
- 7.8 This TIA concluded that the net increase in traffic generation by the Proposed Development has negligible traffic impact to the surrounding road network, and, is acceptable from traffic terms.



THE
SUBJECT
SITE

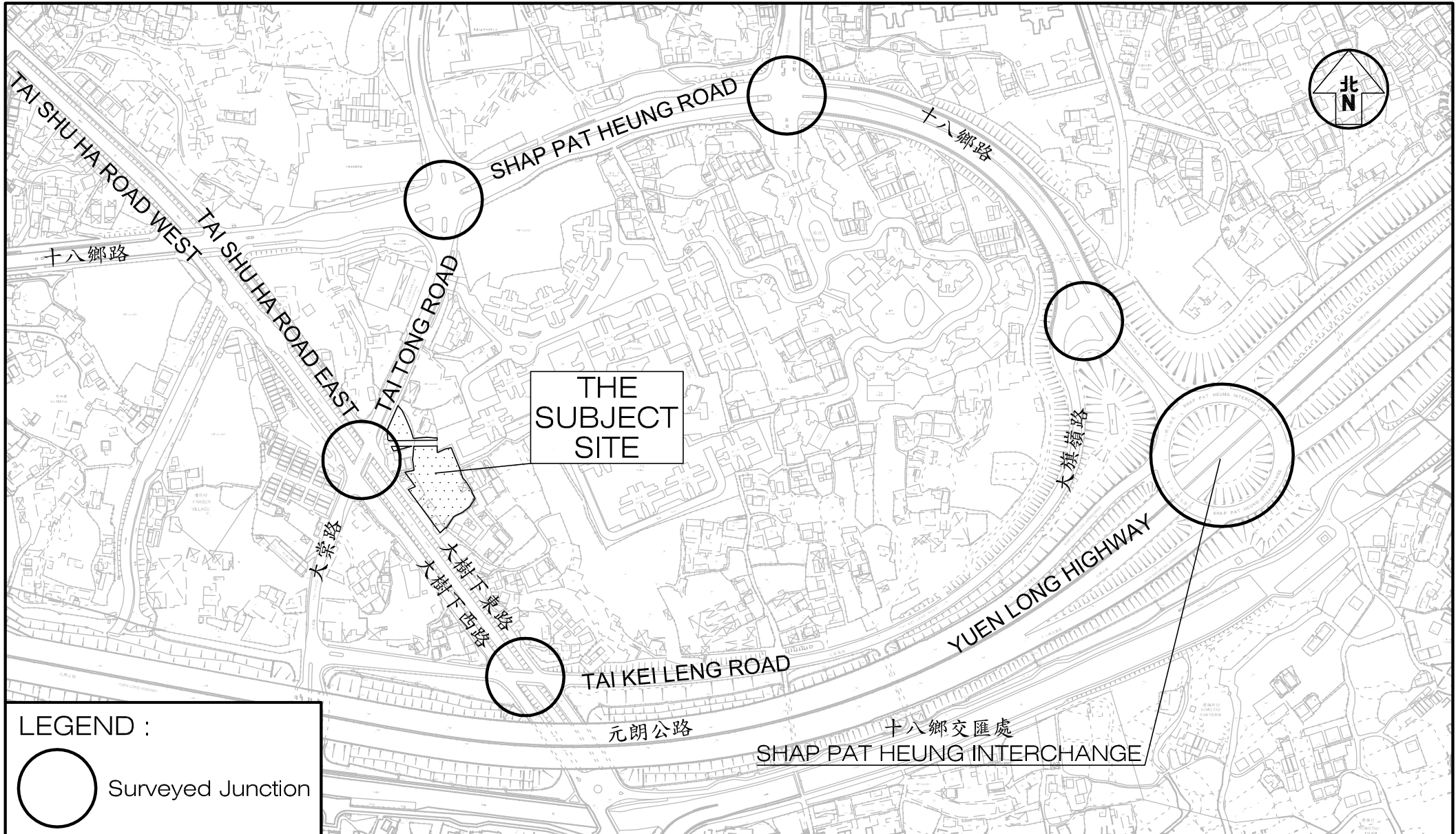
Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753BRP (PART), 1753BS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

Job No. J7231	Figure No. 1.1	Scale in A4 1 : 2,000	
Designed by L K W	Drawn by W S W	Checked by K C	Revision E
		Date 19 JUN 2023	

Figure Title
LOCATION OF THE SUBJECT SITE

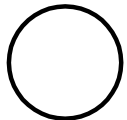
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THE
SUBJECT
SITE

LEGEND :



Surveyed Junction

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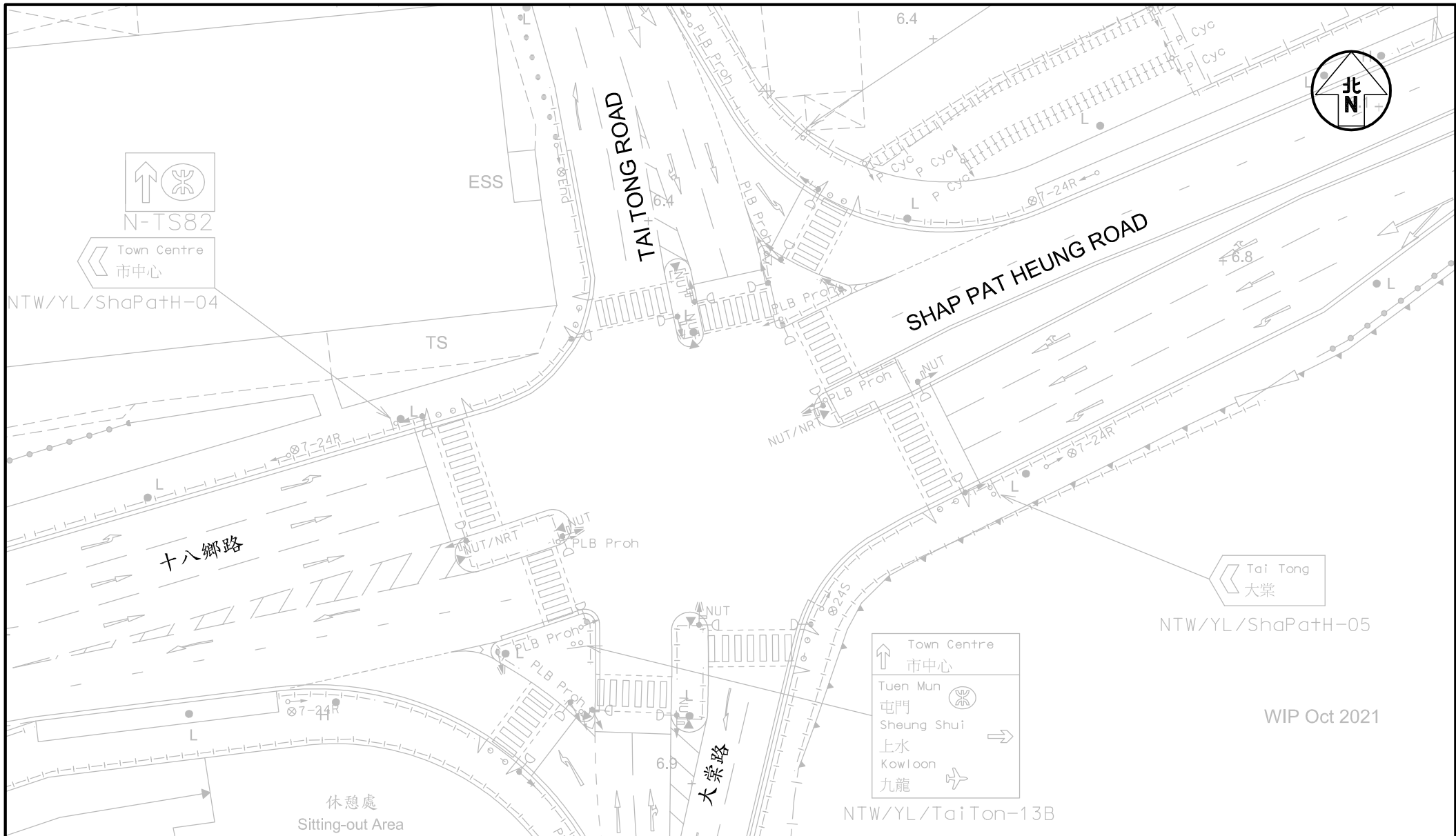
Figure No. 2.1
Revision E

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Figure Title
LOCATION OF SURVEYED JUNCTIONS

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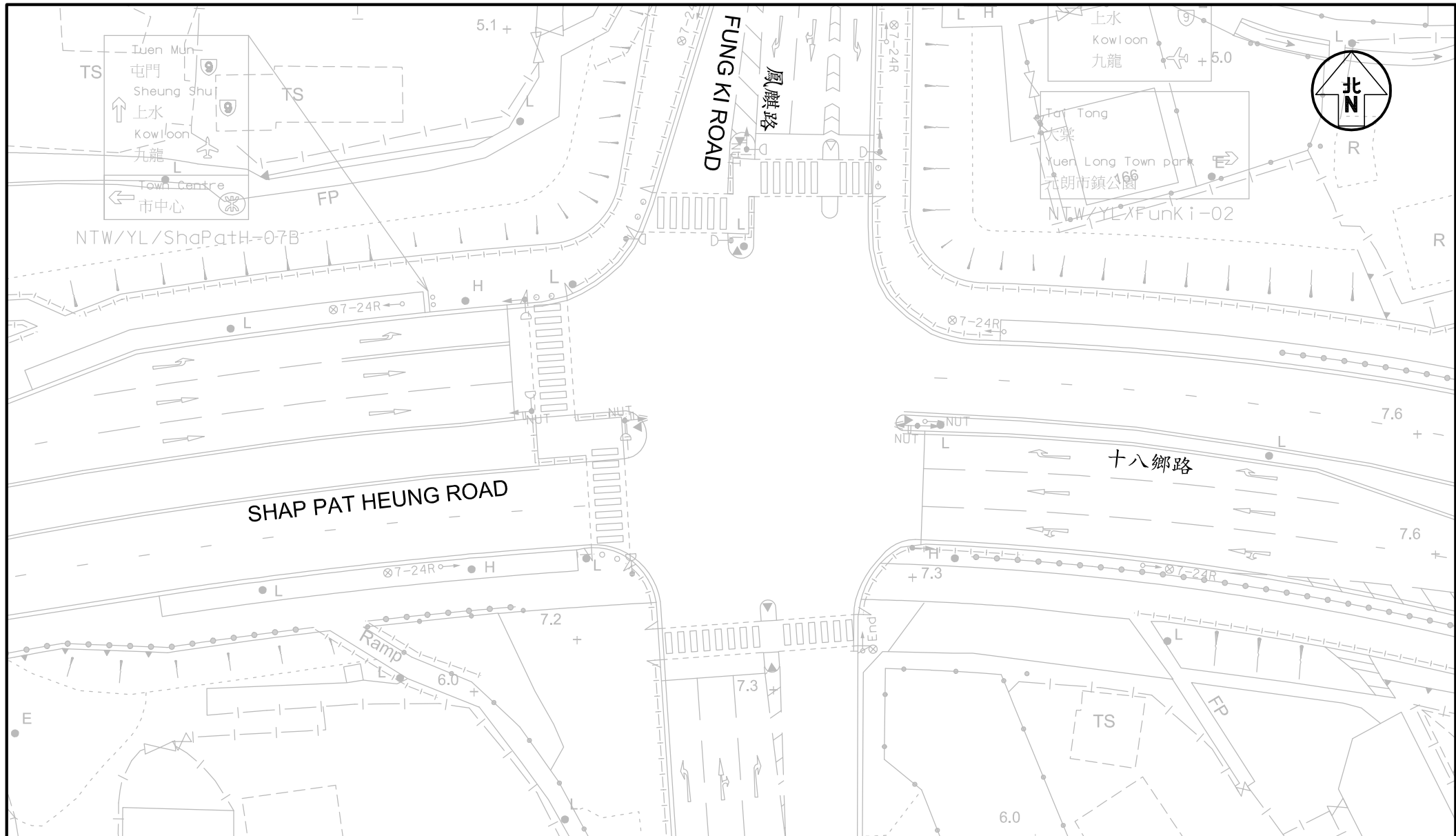
Figure No. **2.2** Revision **E**

Figure Title **LAYOUT OF JUNCTION OF SHAP PAT HEUNG ROAD / TAI TONG ROAD**

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 Scale in A4 **1 : 500** Date **19 JUN 2023**

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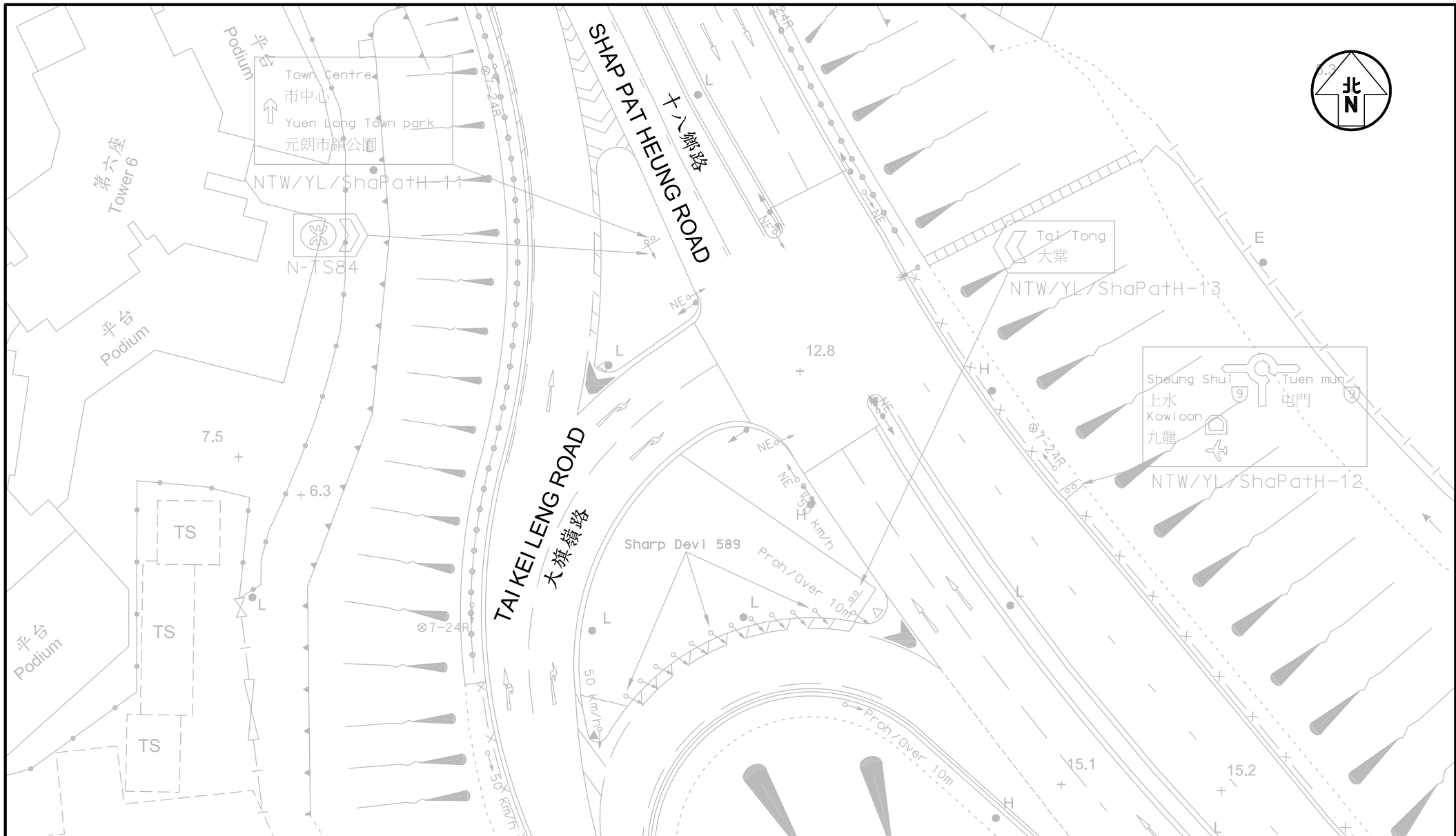
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Figure No. **2.3** Revision **E**

Figure Title **LAYOUT OF JUNCTION OF SHAP PAT HEUNG ROAD / FUNG KI ROAD**

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Figure No. **2.4** Revision **E**

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Figure Title **LAYOUT OF JUNCTION OF SHAP PAT HEUNG ROAD / TAI KEI LENG ROAD**

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十八鄉交匯處
SHAP PAT HEUNG INTERCHANGE

Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG** J7231

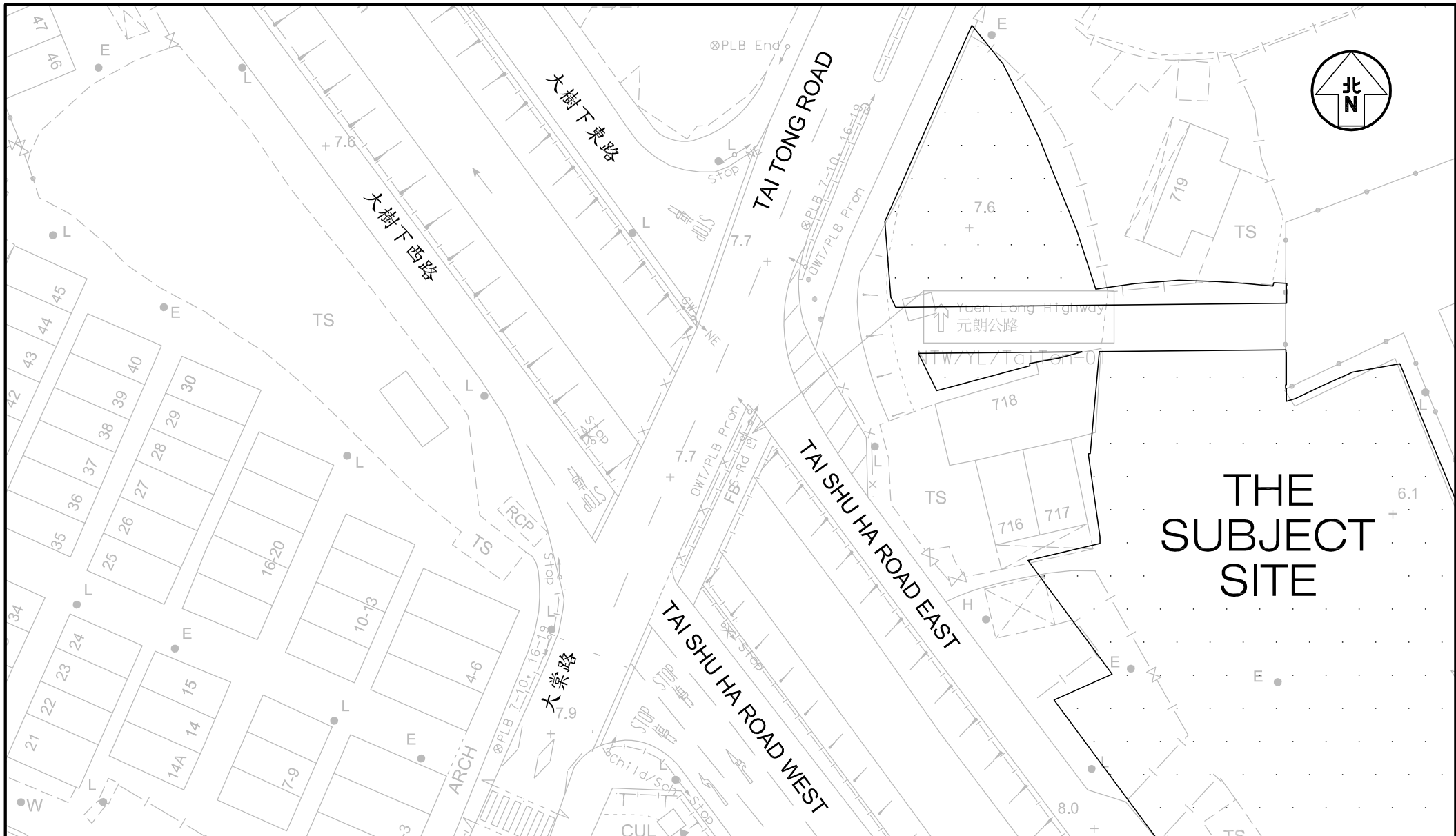
Figure No. **2.5** Revision **E**

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Figure Title
LAYOUT OF JUNCTION OF SHAP PAT HEUNG INTERCHANGE

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Email : mail@ckmasia.com.hk



Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG** J7231

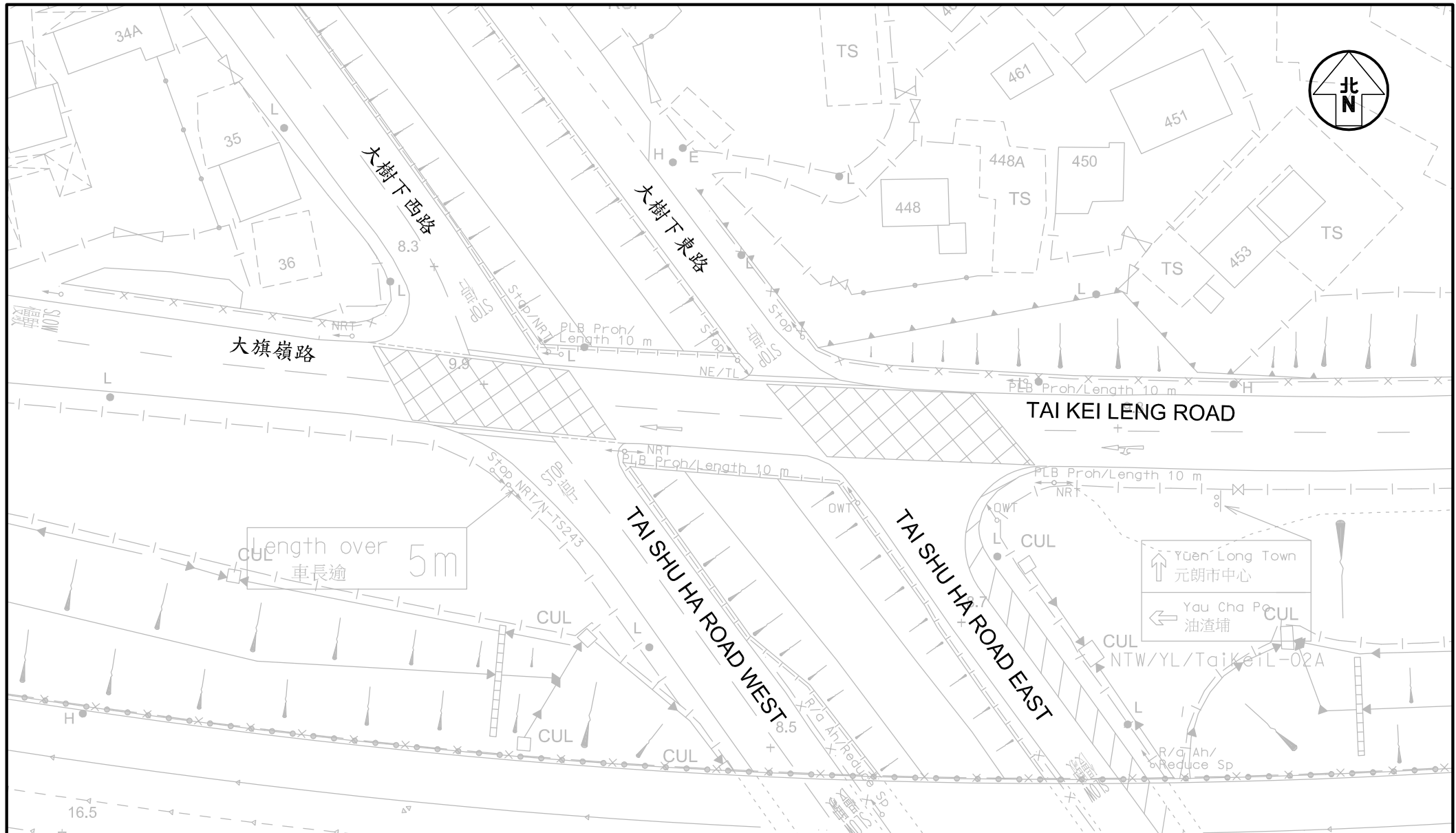
Figure No. **2.6** Revision **E**

CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title **LAYOUT OF JUNCTION OF TAI TONG ROAD / TAI SHU HA ROAD EAST / TAI SHU HA ROAD WEST**

Designed by **L K W** Drawn by **W S W** Checked by **K C**
Scale in A4 **1 : 500** Date **19 JUN 2023**

21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong
Tel : (852) 2520 5990 Fax : (852) 2528 6343
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Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG** J7231

Figure No. **2.7** Revision **E**

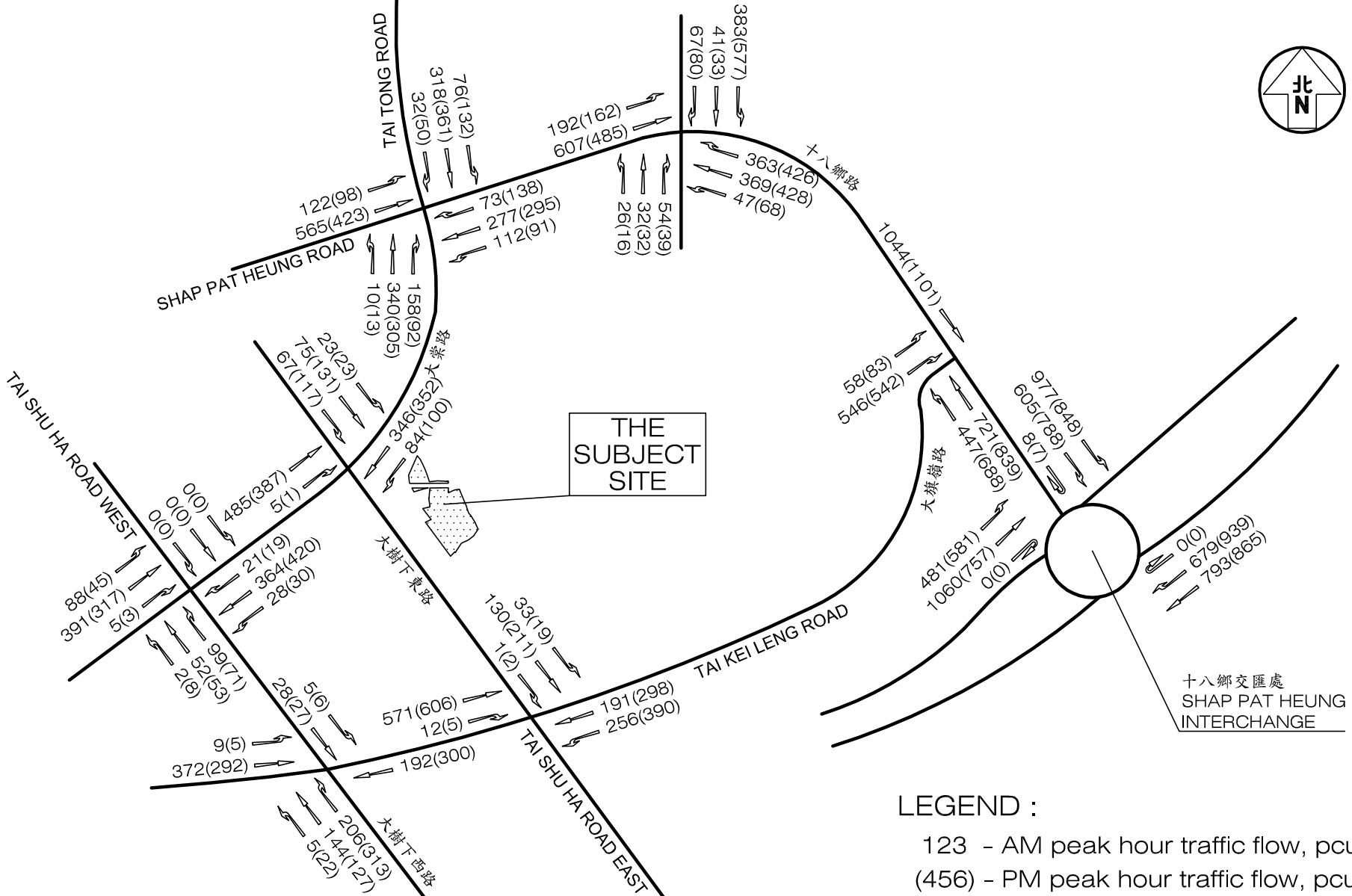
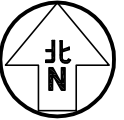
CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title **LAYOUT OF JUNCTION OF TAI KEI LENG ROAD / TAI SHU HA ROAD EAST / TAI SHU HA ROAD WEST**

Designed by **L K W** Drawn by **W S W** Checked by **K C**
Scale in A4 **1 : 500** Date **19 JUN 2023**

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Email : mail@ckmasia.com.hk

T:\JOB\J7200-J7249\J7231\TIA_FR_R5\Fig 2.2 - 2.7 RevE.dwg



Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG**

Figure No. **2.8**

Revision **E**

CKM Asia Limited

Figure Title **EXISTING PEAK HOUR TRAFFIC FLOWS**

Designed by **L K W**

Drawn by **W S W**

Checked by **K C**

Scale in A4 **N.T.S.**

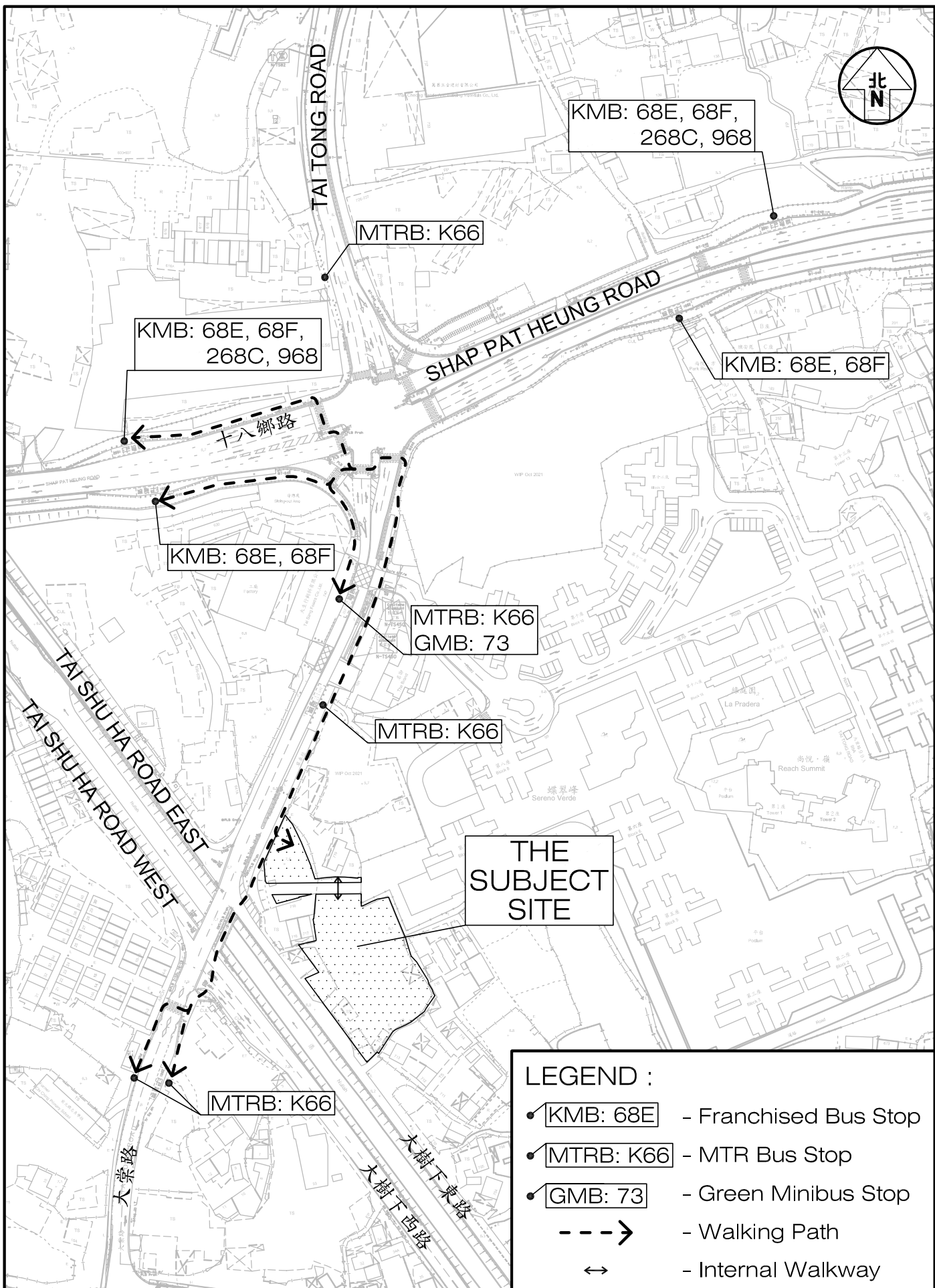
Date **16 JUN 2023**

Traffic and Transportation Planning Consultants

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Email : mail@ckmasia.com.hk



Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753BRP (PART), 1753BSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG**

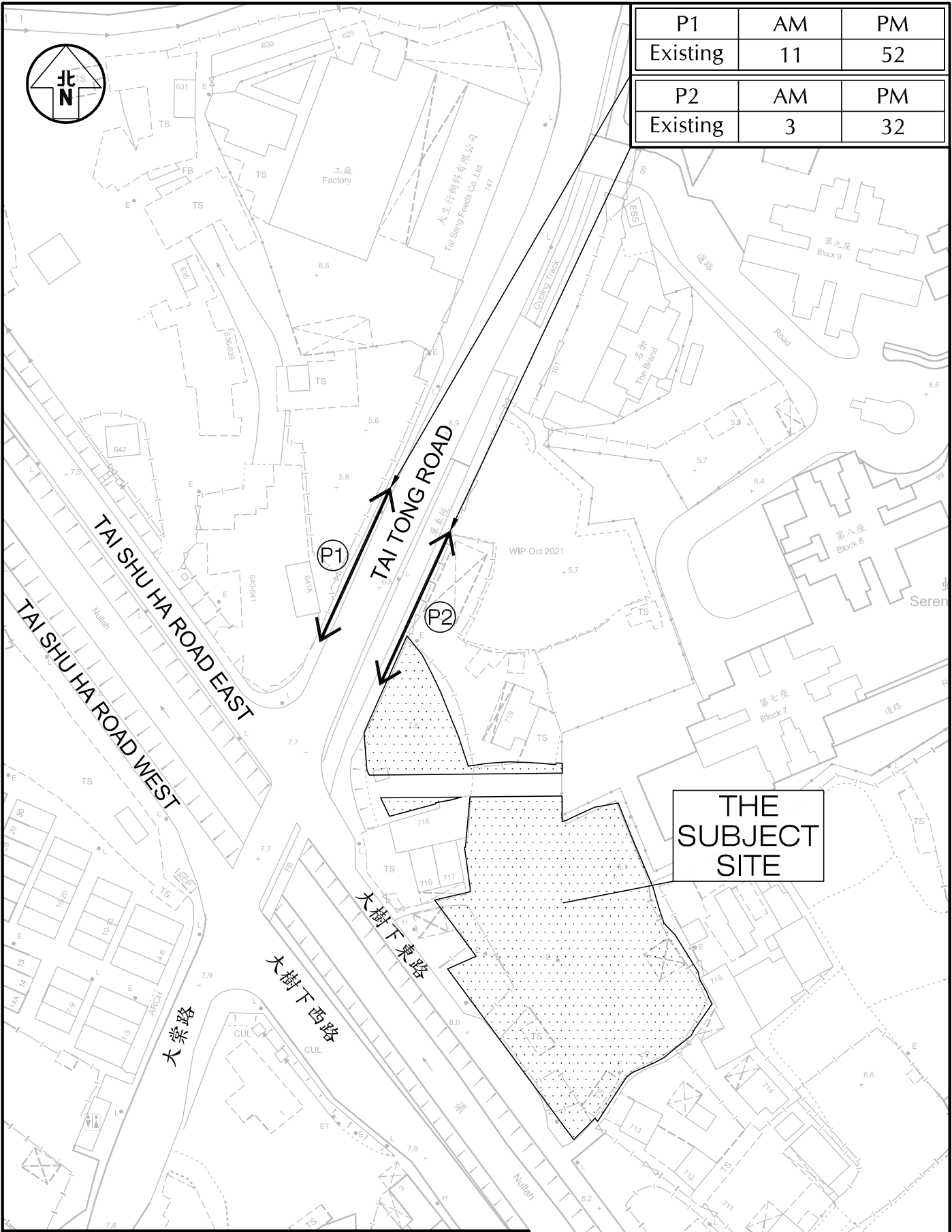
Figure Title **ROAD-BASED PUBLIC TRANSPORT SERVICES OPERATING CLOSE TO THE SUBJECT SITE**

Job No. J7231	Figure No. 2.9	Scale in A4 1 : 2,000	
Designed by L K W	Drawn by W S W	Checked by K C	Revision E
		Date 19 JUN 2023	

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P1	AM	PM
Existing	11	52
P2	AM	PM
Existing	3	32



LEGEND :
 123 - Peak 15-min pedestrian two-way flow

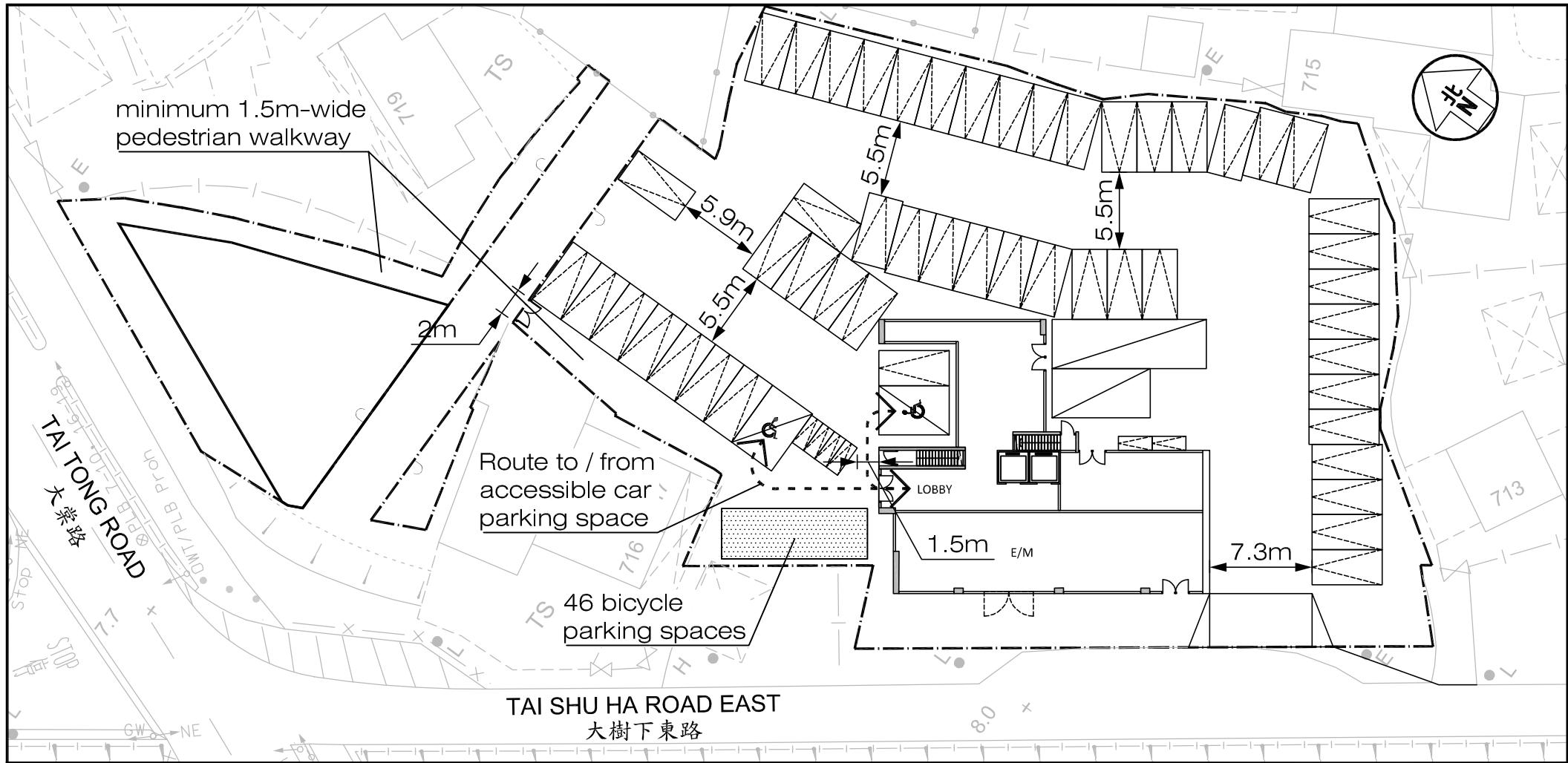
Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753BRP (PART), 1753BS33 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

Figure Title **EXISTING PEAK HOUR PEDESTRIAN FLOWS**

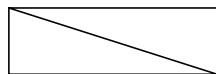
Job No. J7231	Figure No. 2.10	Scale in A4 1 : 1,000	
Designed by L K W	Drawn by W S W	Checked by K C	Revision E
		Date 19 JUN 2023	

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 Traffic and Transportation Planning Consultants
 21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong
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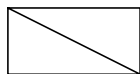
T:\JOB\J200-J7249\J7231\TIA_FR_R5\Fig 2.10 RevE.dwg



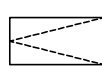
LEGEND :



HGV loading / unloading bay



LGV loading / unloading bay



Car parking space



Accessible car parking space



Motorcycle parking space

Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 17535BRP (PART), 17535BSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG** J7231

Figure Title
PROPOSED G/F LAYOUT PLAN

Figure No. **3.1** Revision **G**

Designed by L K W	Drawn by W S W	Checked by K C
Scale in A4 1 : 400		Date 30 AUG 2023

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Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG** J7231

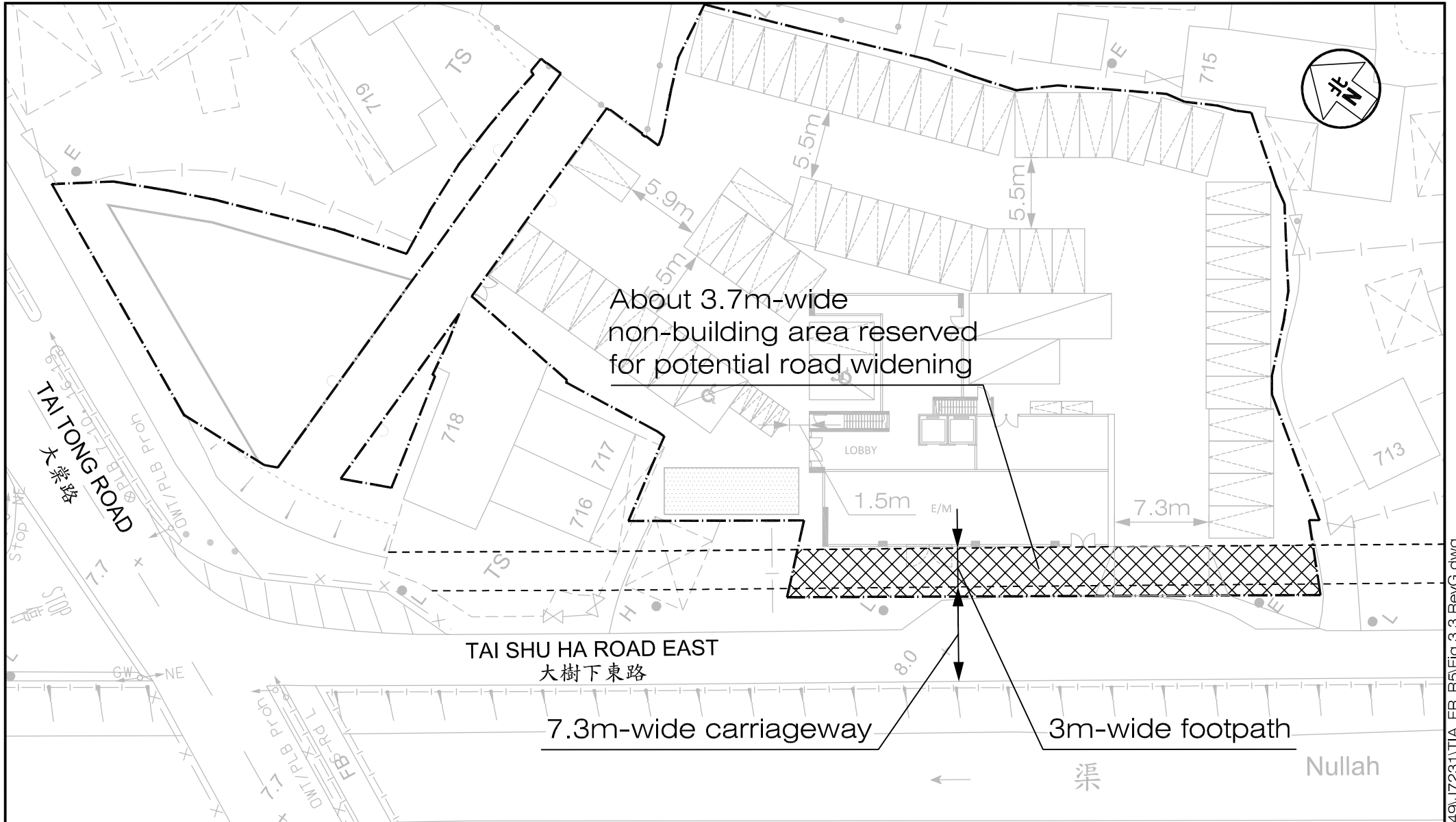
Figure No. **3.2** Revision **G**

CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title
EXTENSION OF THE LAY-BY ABUTTING TO THE PROPOSED DEVELOPMENT

Designed by **L K W** Drawn by **W S W** Checked by **K C**
Scale in A4 **1 : 500** Date **30 AUG 2023**

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Email : mail@ckmasia.com.hk



Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG J7231

Figure No. 3.3
Revision G

CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title
POTENTIAL ROAD WIDENING WORKS AT TAI SHU HA ROAD EAST

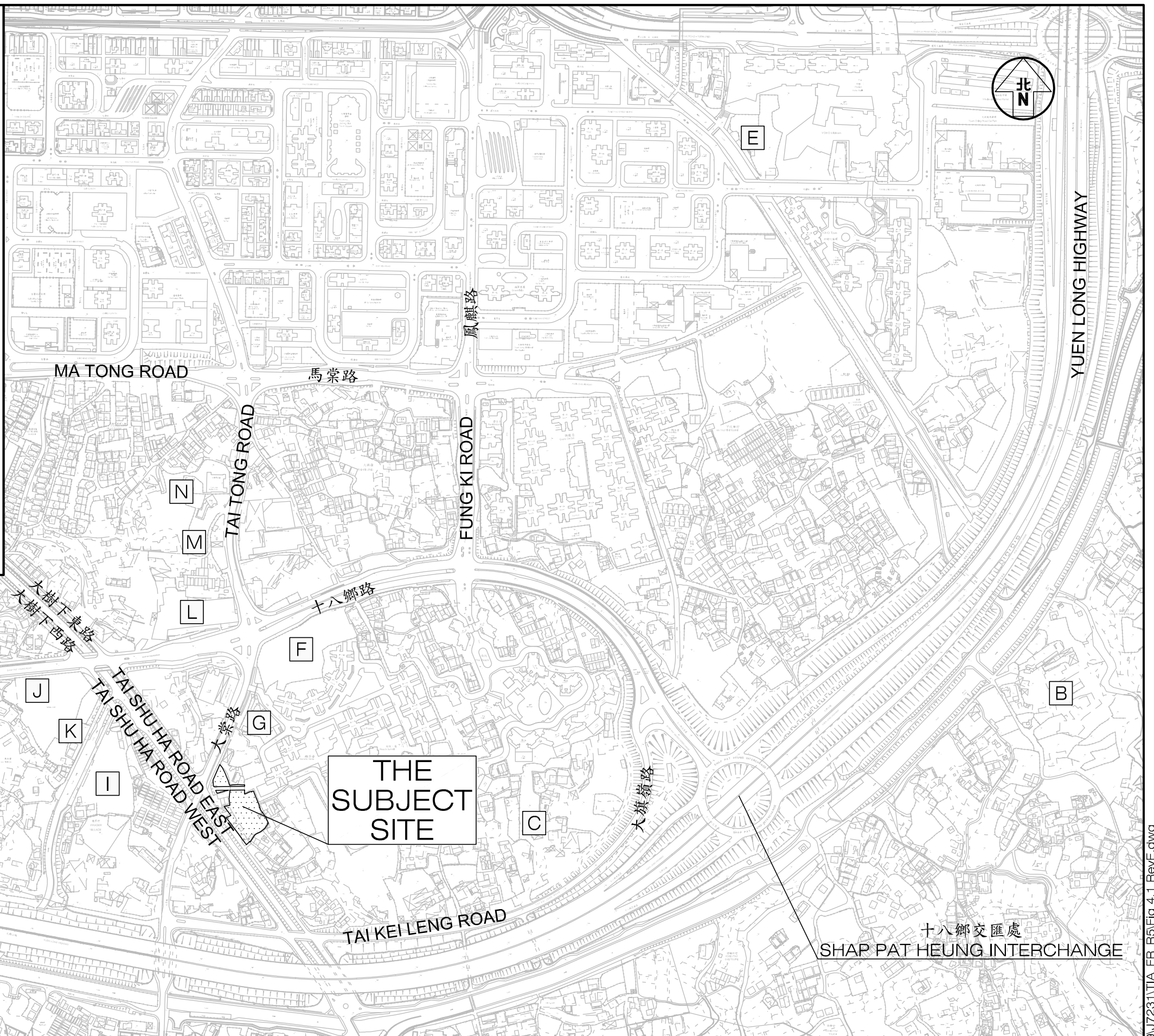
Designed by L K W
Drawn by W S W
Checked by K C
Scale in A4 1 : 400
Date 30 AUG 2023

21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong
Tel : (852) 2520 5990 Fax : (852) 2528 6343
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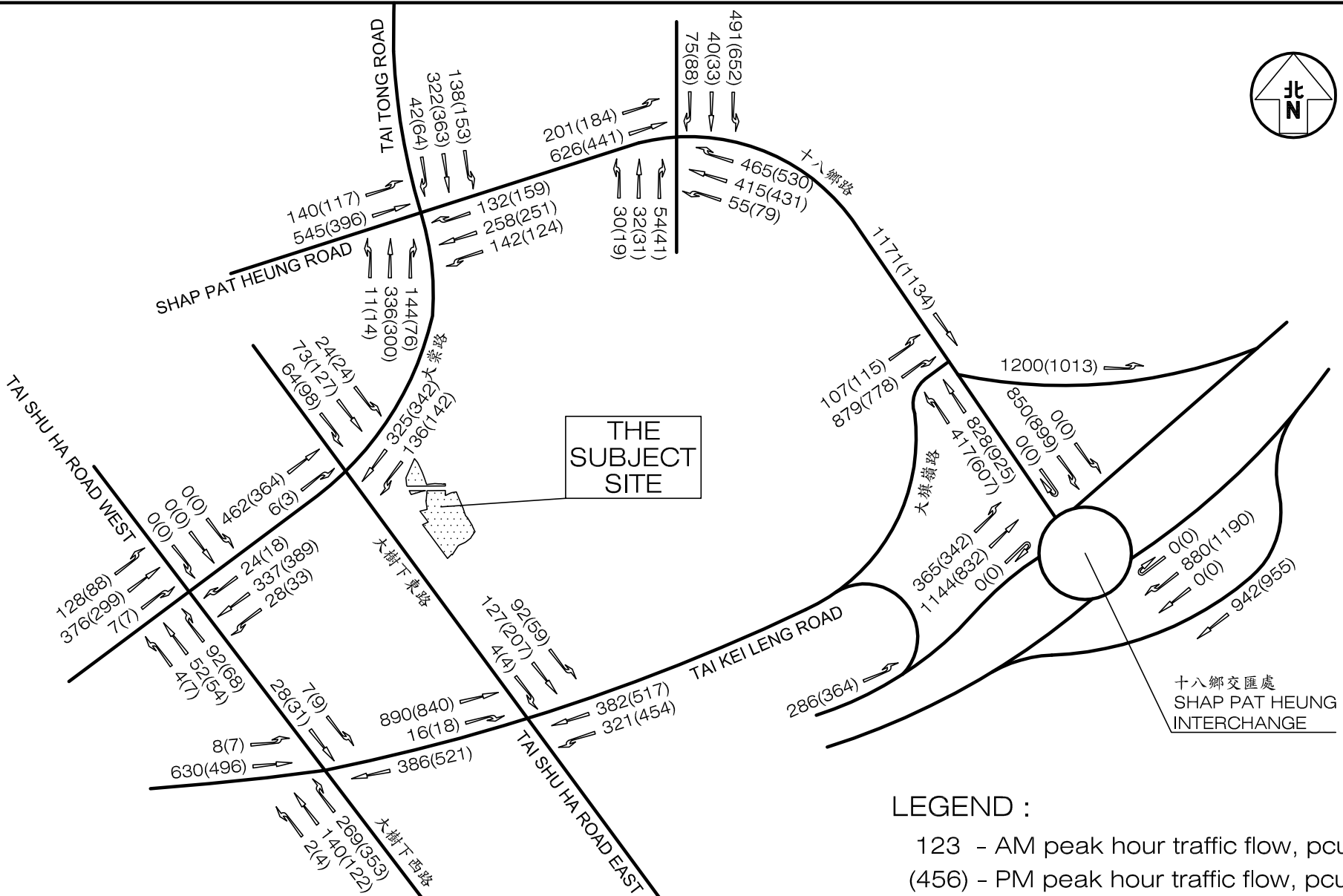
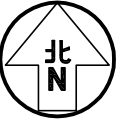
LEGEND :

- A** Yuen Long South New Development Areas (Phases 1 and 2)
- B** Shap Pat Heung Public Housing
- C** Tai Kei Leng Public Housing
- D** Shap Pat Heung Road Public Housing
- E** Yuen Lung Street Public Housing
- F** Lot 5384 in D.D. 116
- G** Lot 4054 in D.D. 116
- H** Private Subsidized Housing at Lam Hi Road
- I** Lot 4041 in D.D. 120, Fraser Village
- J** Po Leung Kuk Lee Shau Kee Youth Oasis
- K** Lot 1846 RP in D.D. 120 and adjoining Government Land, Ma Tin Pok
- L** Lots 1695 S.D RP, 1741 RP(Part) and 1394 S.B RP (Part) in D.D. 120 and adjoining Government land, Tai Kei Leng
- M** Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and adjoining Government land, Tai Kei Leng
- N** Lots 1694, 1695 S.F RP (Part) and 3721 in D.D. 120, Tai Kei Leng



<p>Project Title</p> <p style="text-align: center;">PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG</p>	<p>Figure No.</p> <p style="text-align: center;">4.1</p>	<p>Revision</p> <p style="text-align: center;">E</p>	<p>CKM Asia Limited</p> <p style="font-size: small;">Traffic and Transportation Planning Consultants</p> <p style="font-size: x-small;">21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk</p>	
<p>Figure Title</p> <p style="text-align: center;">THE MAJOR ADDITIONAL PLANNED / COMMITTED DEVELOPMENTS NEAR THE SUBJECT SITE</p>	<p>J7231</p>	<p>Designed by</p> <p style="text-align: center;">L K W</p>	<p>Drawn by</p> <p style="text-align: center;">W S W</p>	<p>Checked by</p> <p style="text-align: center;">K C</p>
<p>Scale in A3</p> <p style="text-align: center;">1 : 5,000</p>		<p>Date</p> <p style="text-align: center;">19 JUN 2023</p>		

T:\JOB\J7200-J7249\J7231\TIA_FR_R5\Fig 4.1 RevE.dwg



Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

Figure No. 4.2

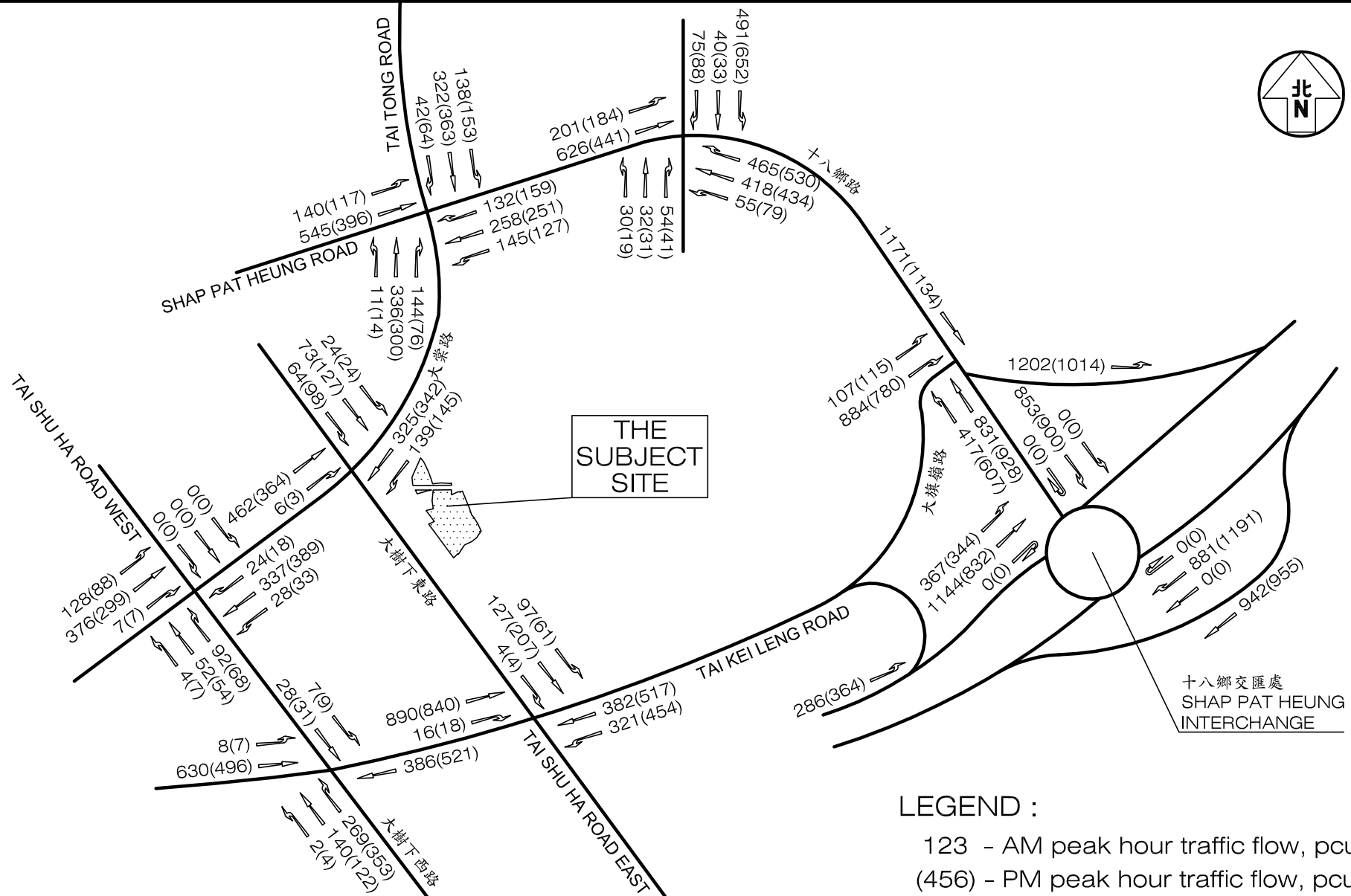
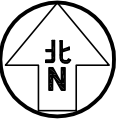
Revision E

Figure Title YEAR 2031 PEAK HOUR TRAFFIC FLOWS WITH PERMITTED SCHEME

Designed by L K W
 Drawn by W S W
 Checked by K C
 Scale in A4 N.T.S.
 Date 16 JUN 2023

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Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

Figure No. 4.3

Revision E

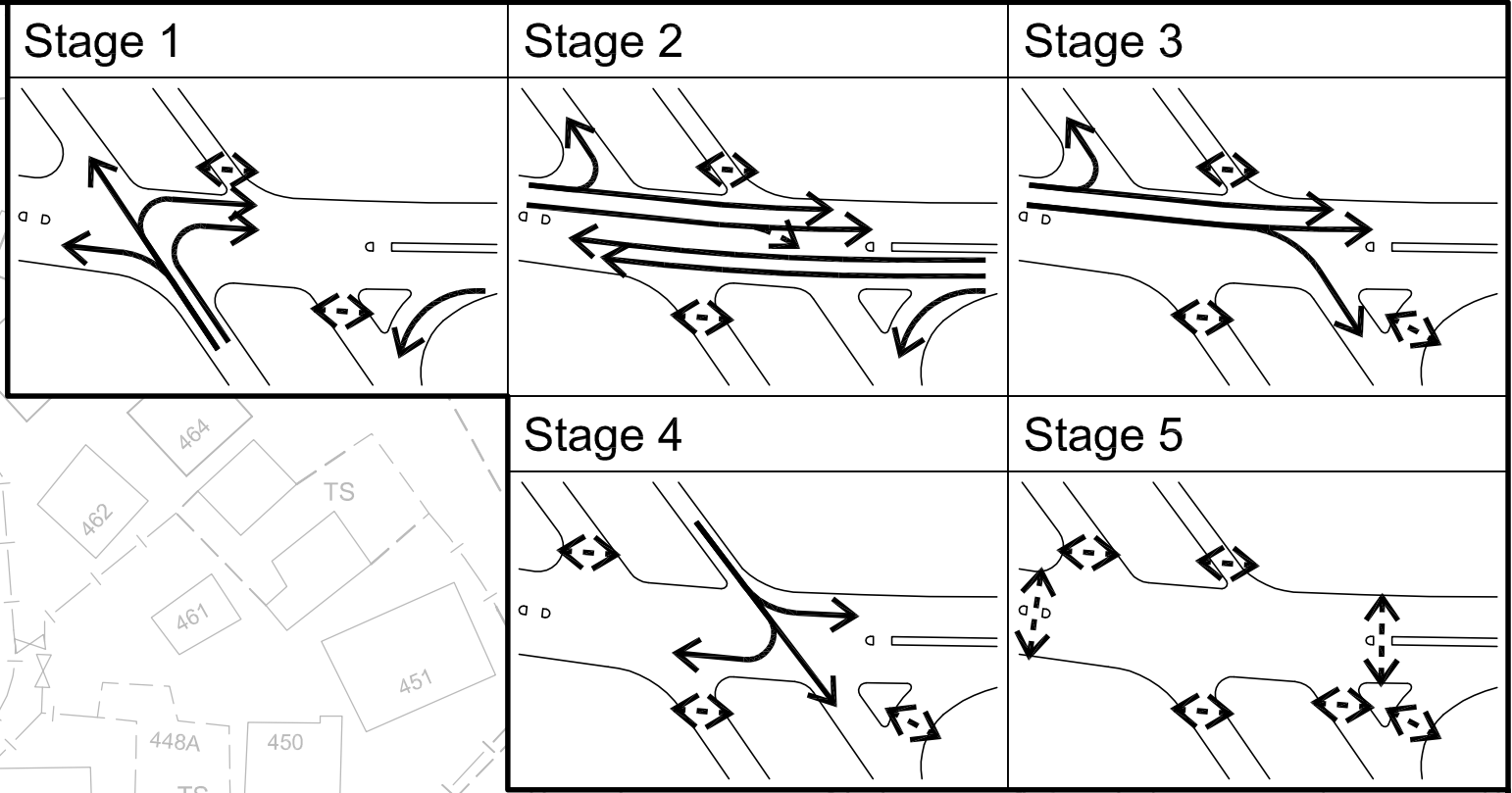
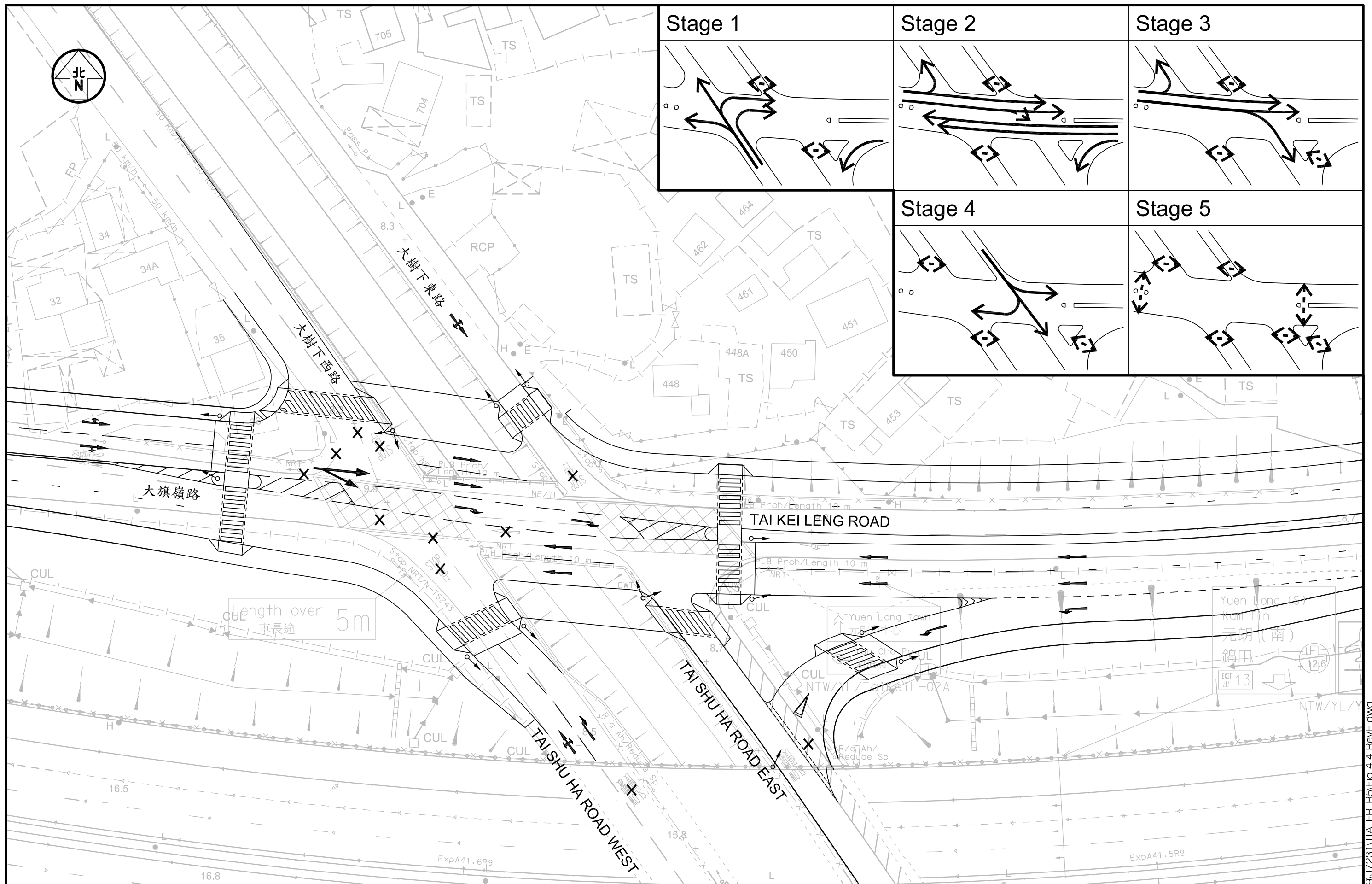
Figure Title YEAR 2031 PEAK HOUR TRAFFIC FLOWS WITH PROPOSED DEVELOPMENT

Designed by L K W
 Drawn by W S W
 Checked by K C

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Scale in A4 N.T.S.
 Date 16 JUN 2023

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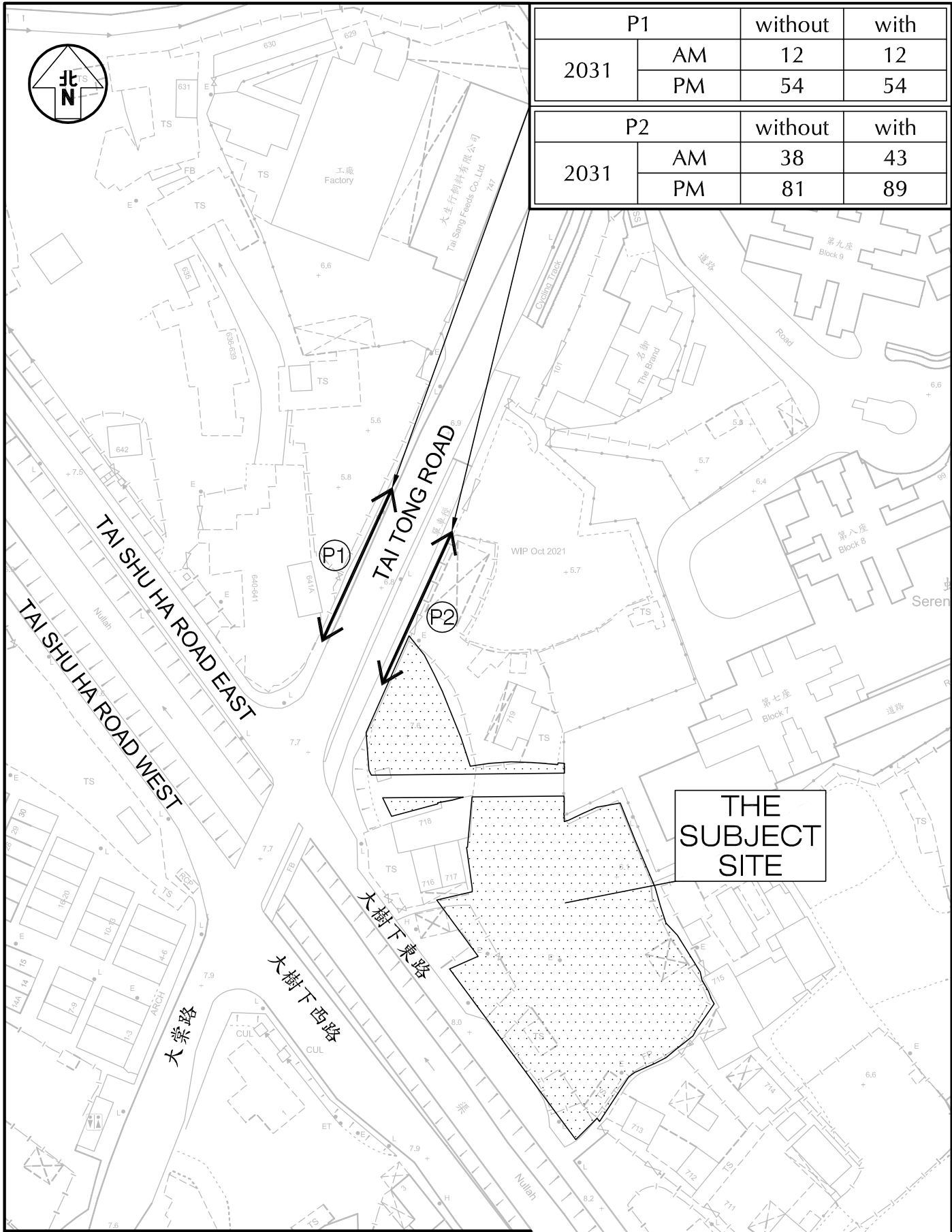


Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

Figure Title **PLANNED IMPROVEMENT SCHEME AT JUNCTION OF TAI KEI LENG ROAD / TAI SHU HA ROAD EAST / TAI SHU HA ROAD WEST**

Figure No. J7231	4.4	Revision F	CKM Asia Limited Traffic and Transportation Planning Consultants 21st Floor, Methodist House, 36 Hennessy Road Wan Chai, Hong Kong Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk
Designed by L K W	Drawn by W S W	Checked by K C	
Scale in A3 1 : 500	Date 16 AUG 2023		

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P1		without	with
2031	AM	12	12
	PM	54	54
P2		without	with
2031	AM	38	43
	PM	81	89

THE
SUBJECT
SITE

LEGEND :
123 - Peak 15-min pedestrian two-way flow

Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753BRP (PART), 1753BSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

Figure Title **YEAR 2031 PEAK 15-MINUTE PEDESTRIAN FLOWS WITHOUT AND WITH PROPOSED DEVELOPMENT**

Job No. J7231	Figure No. 6.1	Scale in A4 1 : 1,000	
Designed by L K W	Drawn by W S W	Checked by K C	Revision E
		Date 19 JUN 2023	

CKM Asia Limited
Traffic and Transportation Planning Consultants
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Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk

T:\JOB\J200-J7249\J7231\TIA_FR_R6\Fig 6.1 RevE.dwg

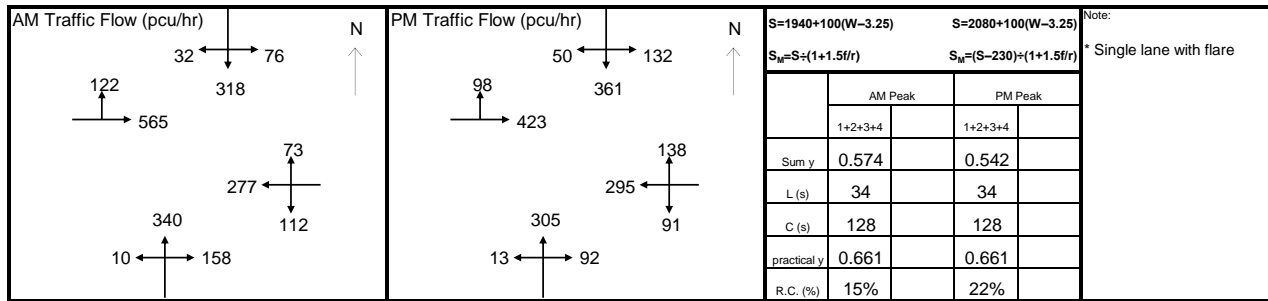
Appendix A – Junction Capacity Analysis

Signal Junction Analysis

Junction: Shap Pat Heung Road / Tai Tong Road
 Scenario: Existing Condition
 Design Year: 2022 Designed By: _____ Checked By: _____

Job Number: J7231
 P. 1
 Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak				
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y
Shap Pat Heung Road	LT	A1	1	3.60	10.0	100	1717	122	0.071		100	1717	98	0.057	
EB	SA	A2	1	3.60			2115	283	0.134	0.134		2115	212	0.100	0.100
	SA	A3	1	3.60			2115	282	0.133			2115	211	0.100	
Tai Tong Road NB	LT+SA +RT*	B1	2	3.50	25.0	33	2027	508	0.251	0.251	26	2027	410	0.202	0.202
Shap Pat Heung Road	LT	C1	3	3.60	15.0	100	1795	112	0.062		100	1795	91	0.051	
WB	SA	C2	3	3.60			2115	180	0.085			2115	227	0.107	0.107
	SA+RT	C3	3	3.60	10.0	43	1987	170	0.086	0.086	67	1922	206	0.107	
Tai Tong Road SB	LT+SA*	D1	4	3.70	25.0	36	2013	209	0.104	0.104	49	2013	267	0.133	0.133
	SA+RT	D2	4	3.70	15.0	15	2094	217	0.104		18	2087	276	0.132	
pedestrian phase															
	Ep	1, 3, 4				min crossing time =	6	sec GM +	6	sec FGM =	12	sec			
	Fp	1, 3, 4				min crossing time =	7	sec GM +	7	sec FGM =	14	sec			
	Gp	1, 2				min crossing time =	8	sec GM +	8	sec FGM =	16	sec			
	Hp	1, 2, 4				min crossing time =	10	sec GM +	10	sec FGM =	20	sec			
	Ip	3, 4				min crossing time =	8	sec GM +	8	sec FGM =	16	sec			
	Jp	1, 2, 3				min crossing time =	6	sec GM +	8	sec FGM =	14	sec			
	Kp	1, 2, 3				min crossing time =	6	sec GM +	6	sec FGM =	12	sec			
	Lp	4				min crossing time =	9	sec GM +	6	sec FGM =	15	sec			
	Mp	2, 3, 4				min crossing time =	10	sec GM +	6	sec FGM =	16	sec			
	Np	1, 2				min crossing time =	8	sec GM +	6	sec FGM =	14	sec			

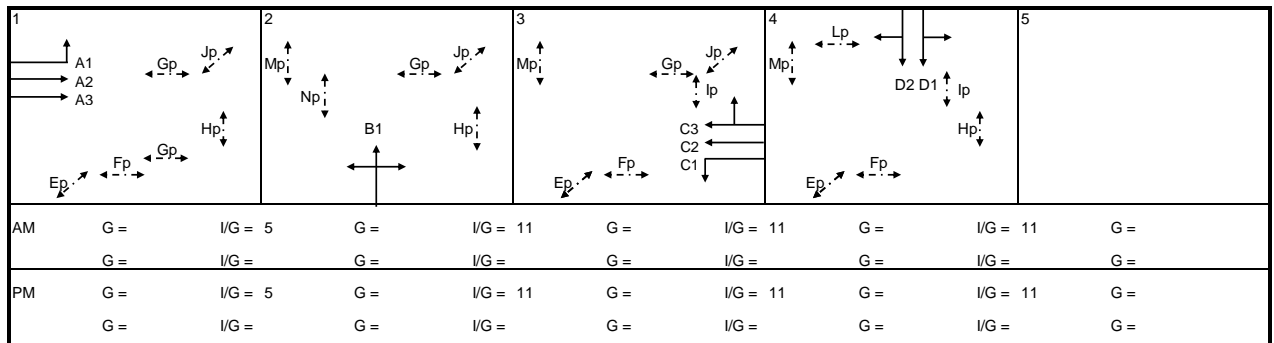
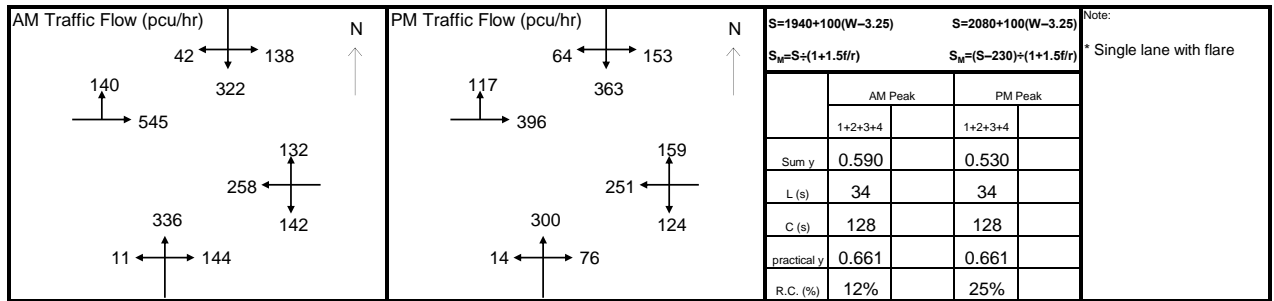


	1	2	3	4	5
AM	G = I/G = 5	G = I/G = 11	G = I/G = 11	G = I/G = 11	G = I/G = 11
PM	G = I/G = 5	G = I/G = 11	G = I/G = 11	G = I/G = 11	G = I/G = 11

Signal Junction Analysis

Junction: Shap Pat Heung Road / Tai Tong Road Job Number: J7231
 Scenario: Future Condition (With Permitted Scheme) P. 2
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

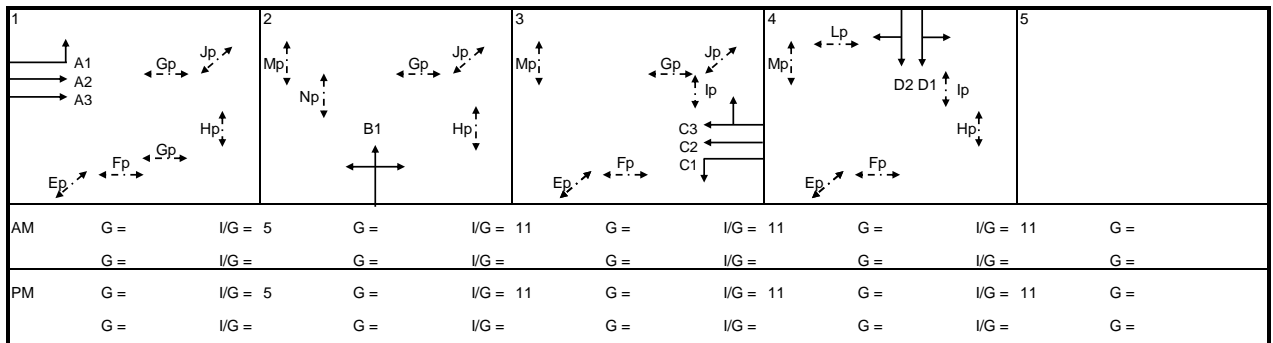
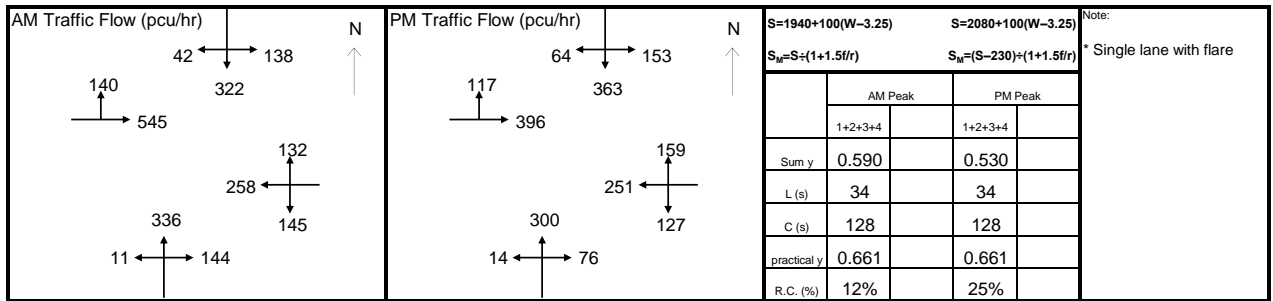
Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak				
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y
Shap Pat Heung Road	LT	A1	1	3.60	10.0	100	1717	140	0.082		100	1717	117	0.068	
EB	SA	A2	1	3.60			2115	273	0.129	0.129		2115	198	0.094	0.094
	SA	A3	1	3.60			2115	272	0.129			2115	198	0.094	
Tai Tong Road NB	LT+SA +RT*	B1	2	3.50	25.0	32	2027	491	0.242	0.242	23	2027	390	0.192	0.192
Shap Pat Heung Road	LT	C1	3	3.60	15.0	100	1795	142	0.079		100	1795	124	0.069	
WB	SA	C2	3	3.60			2115	205	0.097	0.097		2115	217	0.103	0.103
	SA+RT	C3	3	3.60	10.0	71	1911	185	0.097		82	1883	193	0.102	
Tai Tong Road SB	LT+SA*	D1	4	3.70	25.0	56	2013	246	0.122	0.122	54	2013	285	0.142	0.142
	SA+RT	D2	4	3.70	15.0	16	2092	256	0.122		22	2079	295	0.142	
pedestrian phase															
	Ep	1, 3, 4				min crossing time =	6	sec GM +	6	sec FGM =	12	sec			
	Fp	1, 3, 4				min crossing time =	7	sec GM +	7	sec FGM =	14	sec			
	Gp	1, 2				min crossing time =	8	sec GM +	8	sec FGM =	16	sec			
	Hp	1, 2, 4				min crossing time =	10	sec GM +	10	sec FGM =	20	sec			
	Ip	3, 4				min crossing time =	8	sec GM +	8	sec FGM =	16	sec			
	Jp	1, 2, 3				min crossing time =	6	sec GM +	8	sec FGM =	14	sec			
	Kp	1, 2, 3				min crossing time =	6	sec GM +	6	sec FGM =	12	sec			
	Lp	4				min crossing time =	9	sec GM +	6	sec FGM =	15	sec			
	Mp	2, 3, 4				min crossing time =	10	sec GM +	6	sec FGM =	16	sec			
	Np	1, 2				min crossing time =	8	sec GM +	6	sec FGM =	14	sec			



Signal Junction Analysis

Junction: Shap Pat Heung Road / Tai Tong Road Job Number: J7231
 Scenario: Future Condition (With Proposed Development) P. 3
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak				
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y
Shap Pat Heung Road	LT	A1	1	3.60	10.0	100	1717	140	0.082		100	1717	117	0.068	
EB	SA	A2	1	3.60			2115	273	0.129	0.129		2115	198	0.094	0.094
	SA	A3	1	3.60			2115	272	0.129			2115	198	0.094	
Tai Tong Road NB	LT+SA +RT*	B1	2	3.50	25.0	33	2027	491	0.242	0.242	23	2027	390	0.192	0.192
Shap Pat Heung Road	LT	C1	3	3.60	15.0	100	1795	145	0.081		100	1795	127	0.071	
WB	SA	C2	3	3.60			2115	205	0.097	0.097		2115	217	0.103	0.103
	SA+RT	C3	3	3.60	10.0	71	1911	185	0.097		82	1883	193	0.102	
Tai Tong Road SB	LT+SA*	D1	4	3.70	25.0	56	2013	246	0.122	0.122	54	2013	285	0.142	0.142
	SA+RT	D2	4	3.70	15.0	16	2092	256	0.122		22	2079	295	0.142	
pedestrian phase															
	Ep	1, 3, 4			min crossing time =	6	sec GM +	6	sec FGM =	12	sec				
	Fp	1, 3, 4			min crossing time =	7	sec GM +	7	sec FGM =	14	sec				
	Gp	1, 2			min crossing time =	8	sec GM +	8	sec FGM =	16	sec				
	Hp	1, 2, 4			min crossing time =	10	sec GM +	10	sec FGM =	20	sec				
	Ip	3, 4			min crossing time =	8	sec GM +	8	sec FGM =	16	sec				
	Jp	1, 2, 3			min crossing time =	6	sec GM +	8	sec FGM =	14	sec				
	Kp	1, 2, 3			min crossing time =	6	sec GM +	6	sec FGM =	12	sec				
	Lp	4			min crossing time =	9	sec GM +	6	sec FGM =	15	sec				
	Mp	2, 3, 4			min crossing time =	10	sec GM +	6	sec FGM =	16	sec				
	Np	1, 2			min crossing time =	8	sec GM +	6	sec FGM =	14	sec				

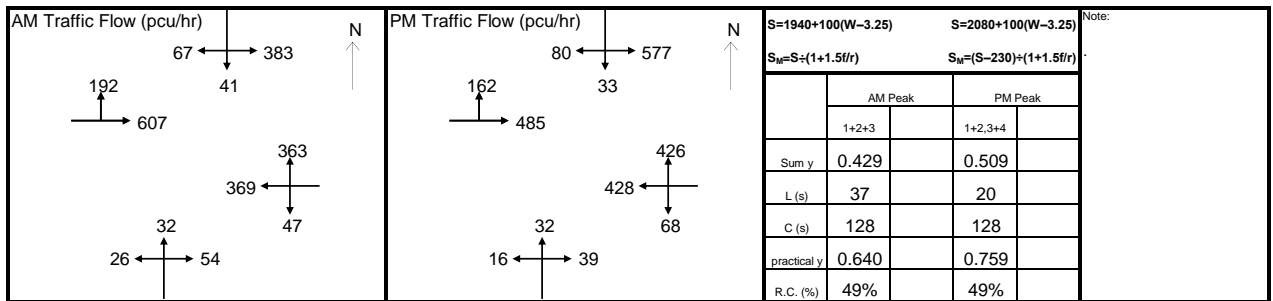


Signal Junction Analysis

Junction: Shap Pat Heung Road / Fung Ki Road
 Scenario: Existing Condition
 Design Year: 2022 Designed By: _____ Checked By: _____

Job Number: J7231
 P. 4
 Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak				
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y
Shap Pat Heung Road	LT+SA	A1	1	3.50	14.0	51	1863	375	0.201	0.201	53	1859	303	0.163	0.163
EB	SA	A2	1	3.50			2105	424	0.201			2105	344	0.163	
Shap Pat Heung Road	LT+SA	B1	2	3.50	9.0	12	1926	387	0.201	0.201	15	1917	456	0.238	
WB	SA+RT	B2	2	3.50	18.0	93	1954	392	0.201		91	1957	466	0.238	
Fung Ki Road SB	LT	C1	2,3	3.50	13.0	100	1762	383	0.217		100	1762	577	0.327	0.327
	SA+RT	C2	3	3.50	22.0	27	2067	56	0.027	0.027	43	2045	58	0.028	
	RT	C3	3	3.50	19.0	100	1951	52	0.027		100	1951	55	0.028	
Fung Ki Road NB	LT	C1	4	3.50	10.0	100	1709	26	0.015		100	1709	16	0.009	
	ST+RT	C2	4	3.50	14.0	30	2039	46	0.023		16	2070	38	0.018	0.018
	RT	C3	4	3.00	11.0	100	1808	40	0.022		100	1808	33	0.018	
pedestrian phase	Fp	1, 4				min crossing time =	7	sec GM +	10		sec FGM =	17	sec		
	Gp	2, 3, 4				min crossing time =	5	sec GM +	10		sec FGM =	15	sec		
	Hp	1				min crossing time =	5	sec GM +	9		sec FGM =	14	sec		
	lp	1				min crossing time =	10	sec GM +	9		sec FGM =	19	sec		
	Jp	3				min crossing time =	5	sec GM +	8		sec FGM =	13	sec		

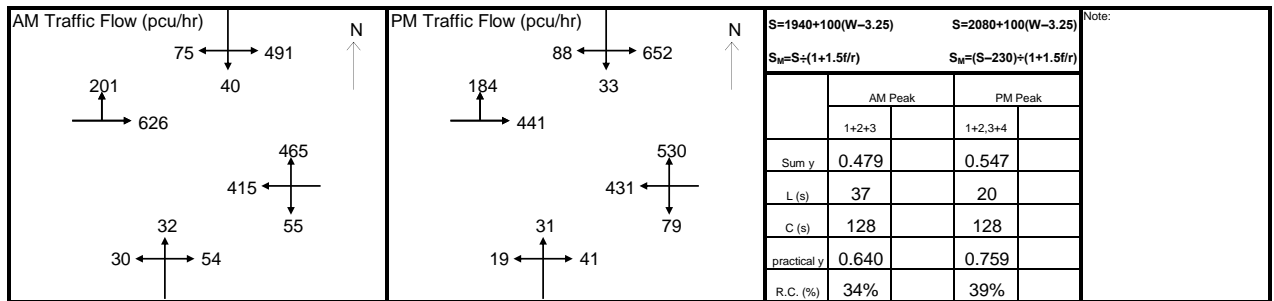


	1	2	3	4	5
AM	G = I/G = 6	G = I/G = 5	G = I/G = 9	G = 12 I/G = 8	G =
PM	G = I/G = 6	G = I/G =	G = I/G = 9	G = I/G = 8	G =

Signal Junction Analysis

Junction: Shap Pat Heung Road / Fung Ki Road Job Number: J7231
 Scenario: Future Condition (With Permitted Scheme) P. 5
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Shap Pat Heung Road	LT+SA	A1	1	3.50	14.0		52	1861	388	0.208		63	1841	292	0.159	0.159
EB	SA	A2	1	3.50				2105	439	0.209	0.209		2105	333	0.158	
Shap Pat Heung Road	LT+SA	B1	2	3.50	9.0		12	1926	465	0.241	0.241	15	1917	510	0.266	
WB	SA+RT	B2	2	3.50	18.0		99	1945	470	0.242		100	1943	530	0.273	
Fung Ki Road SB	LT	C1	2,3	3.50	13.0		100	1762	491	0.279		100	1762	652	0.370	0.370
	SA+RT	C2	3	3.50	22.0		32	2060	59	0.029	0.029	47	2040	62	0.030	
	RT	C3	3	3.50	19.0		100	1951	56	0.029		100	1951	59	0.030	
Fung Ki Road NB	LT	C1	4	3.50	10.0		100	1709	30	0.018		100	1709	19	0.011	
	ST+RT	C2	4	3.50	14.0		30	2039	46	0.023		18	2065	38	0.018	
	RT	C3	4	3.00	11.0		100	1808	40	0.022		100	1808	34	0.019	0.019
pedestrian phase	Fp	1, 4				min crossing time =	7	sec GM +	10	sec FGM =	17	sec				
	Gp	2, 3, 4				min crossing time =	5	sec GM +	10	sec FGM =	15	sec				
	Hp	1				min crossing time =	5	sec GM +	9	sec FGM =	14	sec				
	lp	1				min crossing time =	10	sec GM +	9	sec FGM =	19	sec				
	Jp	3				min crossing time =	5	sec GM +	8	sec FGM =	13	sec				

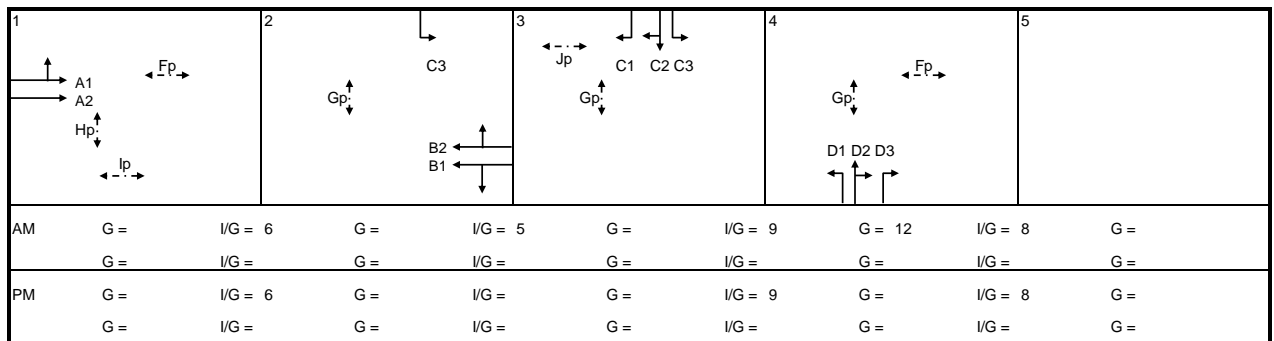
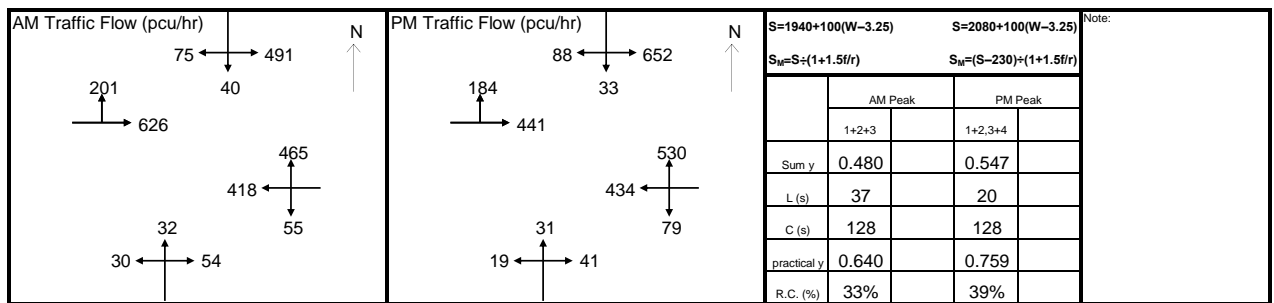


	1	2	3	4	5
AM	G = I/G = 6	G = I/G = 5	G = I/G = 9	G = 12 I/G = 8	G =
PM	G = I/G = 6	G = I/G =	G = I/G = 9	G = I/G = 8	G =

Signal Junction Analysis

Junction: Shap Pat Heung Road / Fung Ki Road Job Number: J7231
 Scenario: Future Condition (With Proposed Development) P. 6
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

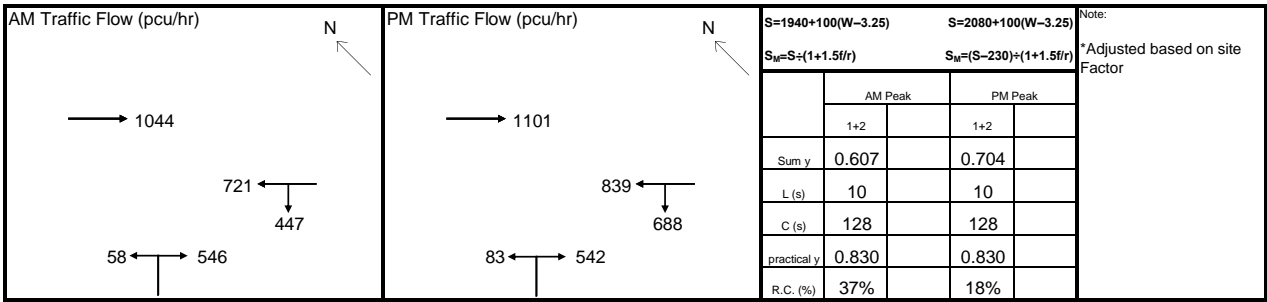
Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Shap Pat Heung Road	LT+SA	A1	1	3.50	14.0		52	1861	388	0.208		63	1841	292	0.159	0.159
EB	SA	A2	1	3.50				2105	439	0.209	0.209		2105	333	0.158	
Shap Pat Heung Road	LT+SA	B1	2	3.50	9.0		12	1926	467	0.242	0.242	15	1917	513	0.268	
WB	SA+RT	B2	2	3.50	18.0		99	1945	471	0.242		100	1943	530	0.273	
Fung Ki Road SB	LT	C1	2,3	3.50	13.0		100	1762	491	0.279		100	1762	652	0.370	0.370
	SA+RT	C2	3	3.50	22.0		32	2060	59	0.029	0.029	47	2040	62	0.030	
	RT	C3	3	3.50	19.0		100	1951	56	0.029		100	1951	59	0.030	
Fung Ki Road NB	LT	C1	4	3.50	10.0		100	1709	30	0.018		100	1709	19	0.011	
	ST+RT	C2	4	3.50	14.0		30	2039	46	0.023		18	2065	38	0.018	
	RT	C3	4	3.00	11.0		100	1808	40	0.022		100	1808	34	0.019	0.019
pedestrian phase	Fp	1, 4				min crossing time =	7	sec GM +	10	sec FGM =	17	sec				
	Gp	2, 3, 4				min crossing time =	5	sec GM +	10	sec FGM =	15	sec				
	Hp	1				min crossing time =	5	sec GM +	9	sec FGM =	14	sec				
	lp	1				min crossing time =	10	sec GM +	9	sec FGM =	19	sec				
	Jp	3				min crossing time =	5	sec GM +	8	sec FGM =	13	sec				



Signal Junction Analysis

Junction: Shap Pat Heung Road / Tai Kei Leng Road Job Number: J7231
 Scenario: Existing Condition P. 7
 Design Year: 2022 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

Approach	Nearside	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
							Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Shap Pat Heung Road		SA	A1	1	4.00			2015	504	0.250			2015	532	0.264		
SB		SA	A2	1	4.00			2155	540	0.251			2155	569	0.264		
Shap Pat Heung Road		LT+SA	A3	1	4.00	15.0		77	2152	584	0.271	0.271	91	2128	759	0.357	0.357
NB		SA	A4	1	4.00				2155	584	0.271			2155	768	0.356	
Tai Kei Leng Road		LT+RT*	B1	2	3.65	15.0		100	1800	604	0.336	0.336	100	1800	625	0.347	0.347
EB																	
pedestrian phase																	



1	2	3	4	5
AM	G = I/G = 7	G = I/G = 5	G = I/G =	G = I/G =
PM	G = I/G = 7	G = I/G = 5	G = I/G =	G = I/G =

Signal Junction Analysis

Junction: Shap Pat Heung Road / Tai Kei Leng Road
 Scenario: Future Condition (With Permitted Scheme)
 Design Year: 2031 Designed By: _____ Checked By: _____

Job Number: J7231
 P. 8
 Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak				
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y
Shap Pat Heung Road	SA	A1	1	4.00			2015	566	0.281			2015	548	0.272	
SB	SA	A2	1	4.00			2155	605	0.281			2155	586	0.272	
Shap Pat Heung Road	LT+SA	A3	1	4.00	15.0		67	2169	625	0.288	0.288	79	2148	765	0.356
NB	SA	A4	1	4.00				2155	620	0.288			2155	767	0.356
Tai Kei Leng Road	LT+RT	B1	2	4.50	15.0		100	1877	480	0.256		100	1877	435	0.232
EB	RT	B2	2	4.50	13.0		100	1977	506	0.256	0.256	100	1977	458	0.232
pedestrian phase															

<p>AM Traffic Flow (pcu/hr)</p> <div style="text-align: center;"> </div>	<p>PM Traffic Flow (pcu/hr)</p> <div style="text-align: center;"> </div>	<p>S=1940+100(W-3.25) S=2080+100(W-3.25) S_m=S÷(1+1.5f/r) S_m=(S-230)÷(1+1.5f/r)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th style="text-align: center;">AM Peak</th> <th style="text-align: center;">PM Peak</th> </tr> <tr> <td></td> <td style="text-align: center;">1+2</td> <td style="text-align: center;">1+2</td> </tr> <tr> <td>Sum y</td> <td style="text-align: center;">0.544</td> <td style="text-align: center;">0.588</td> </tr> <tr> <td>L (s)</td> <td style="text-align: center;">10</td> <td style="text-align: center;">10</td> </tr> <tr> <td>C (s)</td> <td style="text-align: center;">128</td> <td style="text-align: center;">128</td> </tr> <tr> <td>practical y</td> <td style="text-align: center;">0.830</td> <td style="text-align: center;">0.830</td> </tr> <tr> <td>R.C. (%)</td> <td style="text-align: center;">52%</td> <td style="text-align: center;">41%</td> </tr> </table> <p>Note:</p>		AM Peak	PM Peak		1+2	1+2	Sum y	0.544	0.588	L (s)	10	10	C (s)	128	128	practical y	0.830	0.830	R.C. (%)	52%	41%
	AM Peak	PM Peak																					
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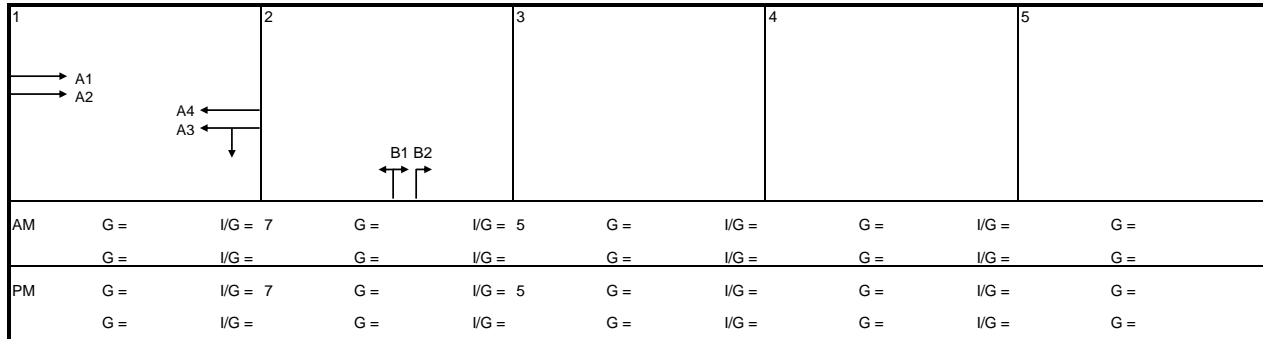
Signal Junction Analysis

Junction: Shap Pat Heung Road / Tai Kei Leng Road
 Scenario: Future Condition (With Proposed Development)
 Design Year: 2031 Designed By: _____

Job Number: J7231
 P. 9
 Checked By: _____ Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	AM Peak					PM Peak					
						Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	Turning %	Sat. Flow (pcu/hr)	Flow (pcu/hr)	y value	Critical y	
Shap Pat Heung Road	SA	A1	1	4.00			2015	566	0.281			2015	548	0.272		
SB	SA	A2	1	4.00			2155	605	0.281			2155	586	0.272		
Shap Pat Heung Road	LT+SA	A3	1	4.00	15.0		67	2169	626	0.289	0.289	79	2148	766	0.357	0.357
NB	SA	A4	1	4.00				2155	622	0.289			2155	769	0.357	
Tai Kei Leng Road	LT+RT	B1	2	4.50	15.0		100	1877	483	0.257		100	1877	436	0.232	
EB	RT	B2	2	4.50	13.0		100	1977	508	0.257	0.257	100	1977	459	0.232	0.232
pedestrian phase																

AM Traffic Flow (pcu/hr) 	PM Traffic Flow (pcu/hr) 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">$S=1940+100(W-3.25)$</td> <td colspan="2">$S=2080+100(W-3.25)$</td> </tr> <tr> <td colspan="2">$S_M=S÷(1+1.5f/r)$</td> <td colspan="2">$S_M=(S-230)÷(1+1.5f/r)$</td> </tr> <tr> <td colspan="4" style="text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">AM Peak</th> <th colspan="2">PM Peak</th> </tr> <tr> <td>1+2</td> <td></td> <td>1+2</td> <td></td> </tr> <tr> <td>Sum y</td> <td>0.546</td> <td>0.589</td> <td></td> </tr> <tr> <td>L (s)</td> <td>10</td> <td>10</td> <td></td> </tr> <tr> <td>C (s)</td> <td>128</td> <td>128</td> <td></td> </tr> <tr> <td>practical y</td> <td>0.830</td> <td>0.830</td> <td></td> </tr> <tr> <td>R.C. (%)</td> <td>52%</td> <td>41%</td> <td></td> </tr> </table> </td> </tr> </table>	$S=1940+100(W-3.25)$		$S=2080+100(W-3.25)$		$S_M=S÷(1+1.5f/r)$		$S_M=(S-230)÷(1+1.5f/r)$		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2">AM Peak</th> <th colspan="2">PM Peak</th> </tr> <tr> <td>1+2</td> <td></td> <td>1+2</td> <td></td> </tr> <tr> <td>Sum y</td> <td>0.546</td> <td>0.589</td> <td></td> </tr> <tr> <td>L (s)</td> <td>10</td> <td>10</td> <td></td> </tr> <tr> <td>C (s)</td> <td>128</td> <td>128</td> <td></td> </tr> <tr> <td>practical y</td> <td>0.830</td> <td>0.830</td> <td></td> </tr> <tr> <td>R.C. (%)</td> <td>52%</td> <td>41%</td> <td></td> </tr> </table>				AM Peak		PM Peak		1+2		1+2		Sum y	0.546	0.589		L (s)	10	10		C (s)	128	128		practical y	0.830	0.830		R.C. (%)	52%	41%	
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C (s)	128	128																																								
practical y	0.830	0.830																																								
R.C. (%)	52%	41%																																								



Roundabout Analysis

Junction: Shap Pat Heung Interchange Job Number: J7231
 Scenario: Existing Condition P. 10
 Design Year: 2022 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

AM Peak

Arm	To A	To B	To C	Total	q _c
From A	8	977	605	1590	1060
From B	679	0	793	1472	613
From C	481	1060	0	1541	687
Total	1168	2037	1398	4603	

PM Peak

Arm	To A	To B	To C	Total	q _c
From A	7	848	788	1643	757
From B	939	0	865	1804	795
From C	581	757	0	1338	946
Total	1527	1605	1653	4785	

Legend

Arm	Road (in clockwise order)
A	Shap Pat Heung Road SB
B	Slip Road WB
C	Slip Road EB
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	10.0	7.3	20.0	5.0	100	45	0.9
From B	8.5	7.3	30.0	3.0	100	40	0.6
From C	10.0	7.3	40.0	5.0	100	50	0.9
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	8.29	54.60	1.01	0.95	2511.79	0.56	1815.14	1977	1590	1643	0.88	0.83
From B	7.83	54.60	1.01	0.98	2371.37	0.54	2000.68	1904	1472	1804	0.74	0.95
From C	8.29	54.60	1.01	0.96	2511.79	0.56	2029.37	1890	1541	1338	0.76	0.71
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Shap Pat Heung Interchange Job Number: J7231
 Scenario: Future Condition (With Permitted Scheme) P. 11
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

AM Peak

Arm	To A	To B	To C	Total	q _c
From A	0	0	850	850	1144
From B	880	0	0	880	850
From C	365	1144	0	1509	880
				0	2389
Total	1245	1144	850	3239	

PM Peak

Arm	To A	To B	To C	Total	q _c
From A	0	0	899	899	832
From B	1190	0	0	1190	899
From C	342	832	0	1174	1190
				0	2364
Total	1532	832	899	3263	

Legend

Arm	Road (in clockwise order)
A	Shap Pat Heung Road SB
B	Slip Road WB
C	Slip Road EB
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	10.0	7.3	20.0	5.0	100	45	0.9
From B	8.5	7.3	30.0	3.0	100	40	0.6
From C	10.0	7.3	40.0	5.0	100	50	0.9
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	8.29	54.60	1.01	0.95	2511.79	0.56	1770	1937	850	899	0.48	0.46
From B	7.83	54.60	1.01	0.98	2371.37	0.54	1874	1848	880	1190	0.47	0.64
From C	8.29	54.60	1.01	0.96	2511.79	0.56	1926	1759	1509	1174	0.78	0.67
From D												
From E												
From F												
From G												
From H												

Roundabout Analysis

Junction: Shap Pat Heung Interchange Job Number: J7231
 Scenario: Future Condition (With Proposed Development) P. 12
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

AM Peak

Arm	To A	To B	To C	Total	Q _c
From A	0	0	853	853	1144
From B	881	0	0	881	853
From C	367	1144	0	1511	881
				0	2392
Total	1248	1144	853	3245	

PM Peak

Arm	To A	To B	To C	Total	Q _c
From A	0	0	900	900	832
From B	1191	0	0	1191	900
From C	344	832	0	1176	1191
				0	2367
Total	1535	832	900	3267	

Legend

Arm	Road (in clockwise order)
A	Shap Pat Heung Road SB
B	Slip Road WB
C	Slip Road EB
D	
E	
F	
G	
H	

Geometric Parameters

Arm	e (m)	v (m)	r (m)	L (m)	D (m)	∅ (°)	S
From A	10.0	7.3	20.0	5.0	100	45	0.9
From B	8.5	7.3	30.0	3.0	100	40	0.6
From C	10.0	7.3	40.0	5.0	100	50	0.9
From D							
From E							
From F							
From G							
From H							

Predictive Equation $Q_E = K(F - f_c q_c)$

Q _E	Entry Capacity
q _c	Circulating Flow across the Entry
K	= 1-0.00347(∅-30)-0.978[(1/r)-0.05]
F	= 303x ₂
f _c	= 0.210t _D (1+0.2x ₂)
t _D	= 1+0.5/(1+M)
M	= exp[(D-60)/10]
x ₂	= v+(e-v)/(1+2S)
S	= 1.6(e-v)/L

Limitation

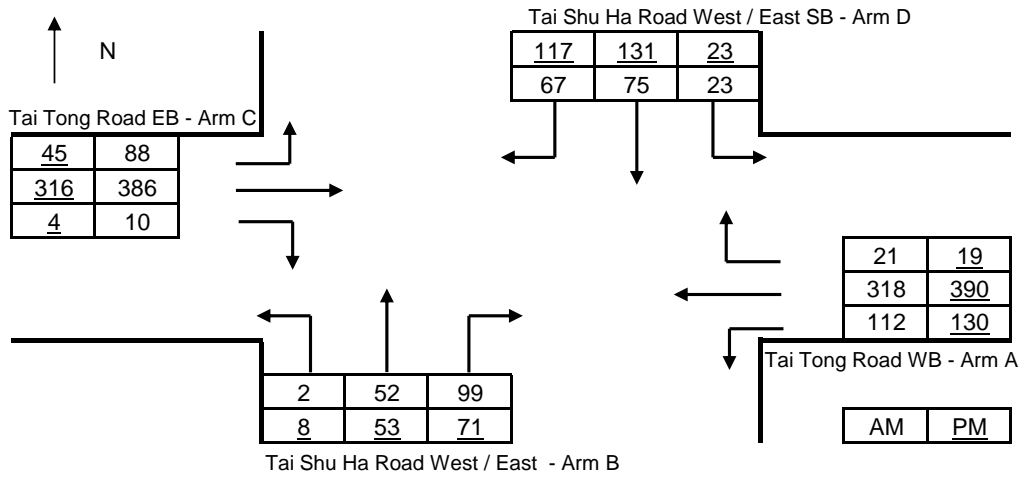
e	Entry Width	4.0 - 15.0 m
v	Approach Half Width	2.0 - 7.3 m
r	Entry Radius	6.0 - 100.0 m
L	Effective Length of Flare	1.0 - 100.0 m
D	Inscribed Circle Diameter	15 - 100 m
∅	Entry Angle	10° - 60°
S	Sharpness of Flare	0.0 - 3.0

Ratio-of-Flow to Capacity (RFC)

Arm	x ₂	M	t _D	K	F	f _c	Q _E		Entry Flow		RFC	
							AM	PM	AM	PM	AM	PM
From A	8.29	54.60	1.01	0.95	2511.79	0.56	1770	1937	853	900	0.48	0.46
From B	7.83	54.60	1.01	0.98	2371.37	0.54	1873	1848	881	1191	0.47	0.64
From C	8.29	54.60	1.01	0.96	2511.79	0.56	1925	1758	1511	1176	0.78	0.67
From D												
From E												
From F												
From G												
From H												

Priority Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Tong Road
 Design Year: 2022 Job Number: J7231 Date: 31 Aug 2023
 Scheme: Existing Condition Page 13



$$Y = 1 - 0.0345W$$

q-AB, etc = the design flow of movement AB, etc

where W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

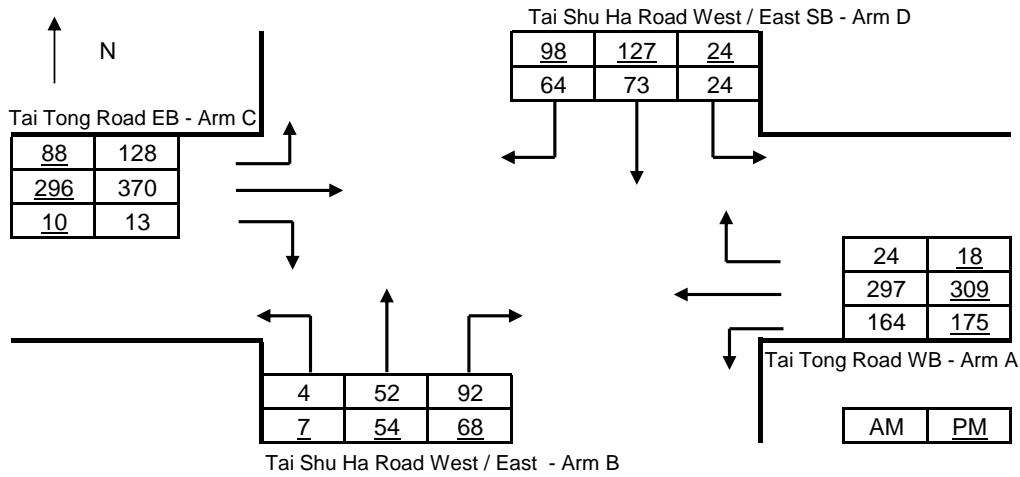
	Input		Input		Input		Input	
Geometry :	W	7.50	V-CB	200	V-AD	200	w-BA	3.50
	W-CR	0.00	V-IBA	25	V-IDC	22	w-BC	3.60
	W-CB	3.75	V-rBC	142	V-rDA	63	w-DA	5.00
	W-AD	3.75					w-DC	5.00

	Traffic Flows, pcu/min	AM	PM		Capacity, pcu/min	AM	PM
Analysis :	q-B-CD	0.66	0.75		Q-B-CD	6.05	6.50
	q-B-AD	2.15	1.67		Q-A-AD	6.12	5.73
	q-A-BCD	0.84	0.85		Q-A-BCD	14.68	16.21
	q-A-B	1.94	2.26		Q-A-B		
	q-A-C	5.50	6.78		Q-A-C		
	q-D-ABC	3.03	4.97		Q-D-ABC	6.96	7.06
	q-C-ABD	0.43	0.14		Q-C-ABD	15.33	13.58
	q-C-D	1.57	0.82		Q-C-D		
	q-C-A	6.89	5.74		Q-C-A		

Ratio-of-flow to Capacity		AM	PM
	B-CD	0.11	0.12
	B-AD	0.35	0.29
	A-BCD	0.06	0.05
	D-ABC	0.44	0.70
	C-ABD	0.03	0.01

Priority Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Tong Road
 Design Year: 2031 Job Number: J7231 Date: 31 Aug 2023
 Scheme: Future Condition (With Permitted Scheme) Page 14



$$Y = 1 - 0.0345W$$

q-AB, etc = the design flow of movement AB, etc

where W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

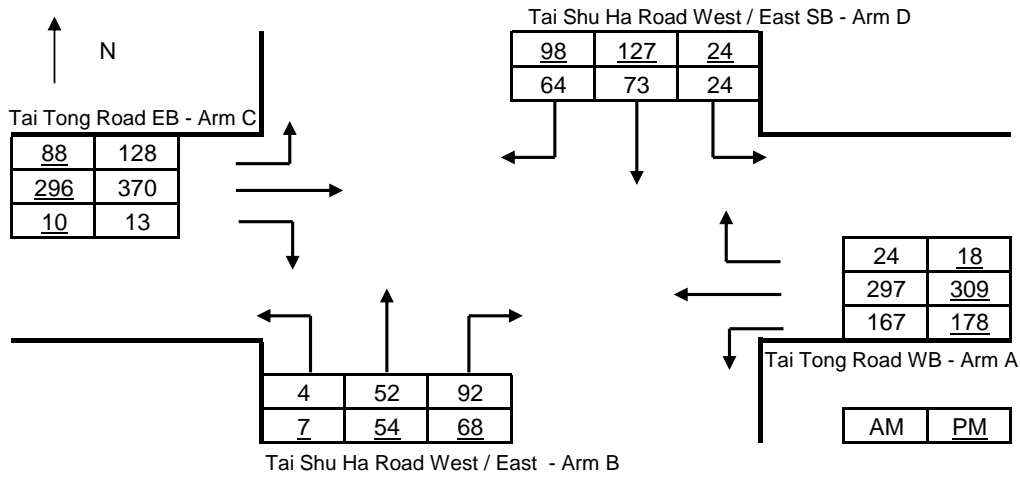
	Input		Input		Input		Input	
	W	7.50	V-CB	200	V-AD	200	w-BA	3.50
Geometry :	W-CR	0.00	V-IBA	25	V-IDC	22	w-BC	3.60
	W-CB	3.75	V-rBC	142	V-rDA	63	w-DA	5.00
	W-AD	3.75					w-DC	5.00

	Traffic Flows, pcu/min	AM	PM		Capacity, pcu/min	AM	PM
Analysis :	q-B-CD	0.68	0.73		Q-B-CD	6.12	6.69
	q-B-AD	2.03	1.64		Q-A-AD	6.13	6.09
	q-A-BCD	1.02	0.77		Q-A-BCD	14.98	15.66
	q-A-B	2.80	3.05		Q-A-B		
	q-A-C	5.08	5.39		Q-A-C		
	q-D-ABC	2.95	4.57		Q-D-ABC	6.94	7.26
	q-C-ABD	0.58	0.37		Q-C-ABD	15.52	14.01
	q-C-D	2.26	1.57		Q-C-D		
	q-C-A	6.53	5.29		Q-C-A		

Ratio-of-flow to Capacity		AM	PM
	B-CD	0.11	0.11
	B-AD	0.33	0.27
	A-BCD	0.07	0.05
	D-ABC	0.43	0.63
	C-ABD	0.04	0.03

Priority Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Tong Road
 Design Year: 2031 Job Number: J7231 Date: 31 Aug 2023
 Scheme: Future Condition (With Proposed Development) Page 15



Geometry :

$Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

where W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

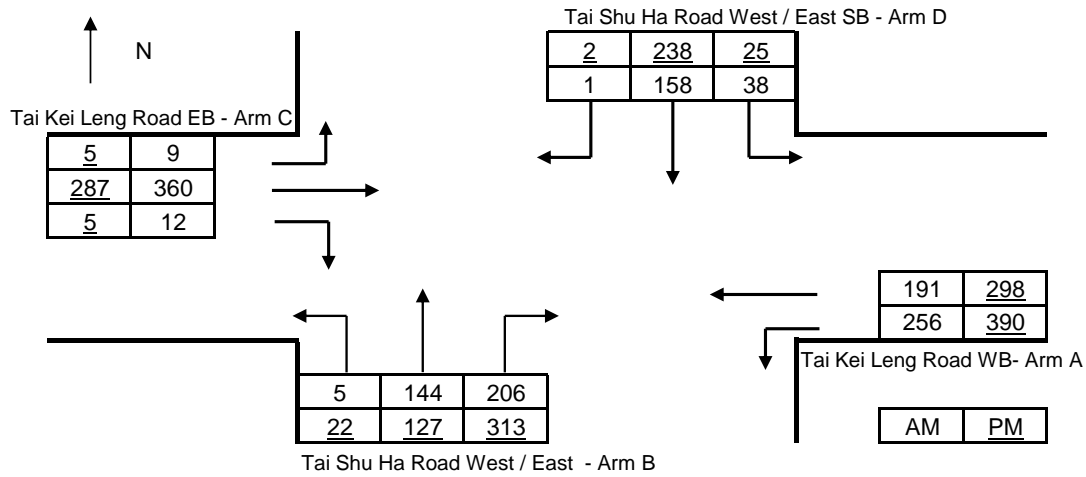
	Input		Input		Input		Input	
	W	7.50	V-CB	200	V-AD	200	w-BA	3.50
Geometry :	W-CR	0.00	V-IBA	25	V-IDC	22	w-BC	3.60
	W-CB	3.75	V-rBC	142	V-rDA	63	w-DA	5.00
	W-AD	3.75					w-DC	5.00

	Traffic Flows, pcu/min	AM	PM		Capacity, pcu/min	AM	PM
Analysis :	q-B-CD	0.68	0.73		Q-B-CD	6.12	6.68
	q-B-AD	2.03	1.64		Q-A-AD	6.13	6.09
	q-A-BCD	1.02	0.77		Q-A-BCD	15.01	15.70
	q-A-B	2.86	3.11		Q-A-B		
	q-A-C	5.08	5.39		Q-A-C		
	q-D-ABC	2.95	4.57		Q-D-ABC	6.94	7.26
	q-C-ABD	0.58	0.37		Q-C-ABD	15.51	14.00
	q-C-D	2.26	1.57		Q-C-D		
	q-C-A	6.53	5.29		Q-C-A		

Ratio-of-flow to Capacity		AM	PM
	B-CD	0.11	0.11
	B-AD	0.33	0.27
	A-BCD	0.07	0.05
	D-ABC	0.43	0.63
	C-ABD	0.04	0.03

Priority Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Kei Leng Road
 Design Year: 2022 Job Number: J7231 Date: 31 Aug 2023
 Scheme: Existing Condition Page 16



$$Y = 1 - 0.0345W$$

q-AB, etc = the design flow of movement AB, etc

where W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

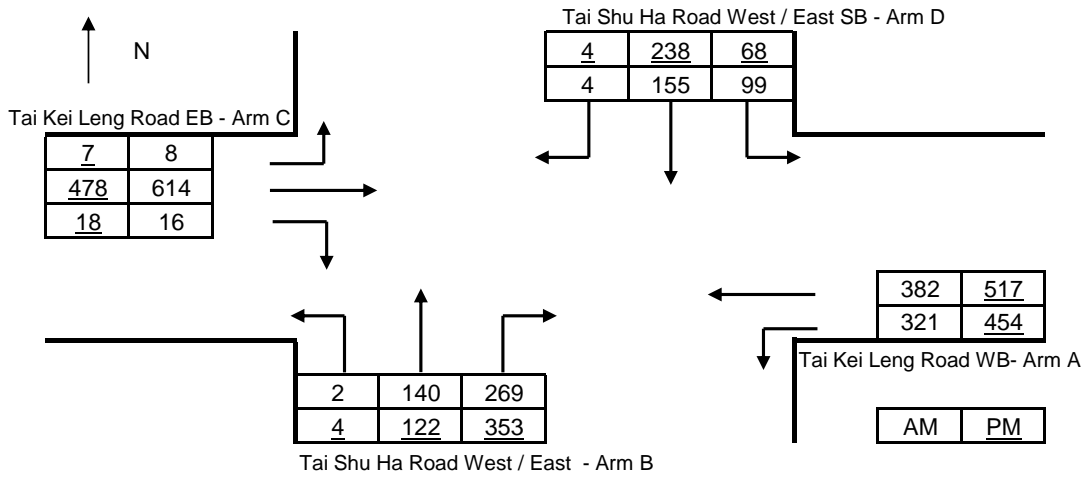
	Input		Input		Input		Input	
	W	7.00	V-CB	200	V-AD	200	w-BA	3.60
Geometry :	W-CR	0.00	V-IBA	41	V-IDC	30	w-BC	3.60
	W-CB	3.50	V-rBC	132	V-rDA	42	w-DA	3.40
	W-AD	3.50					w-DC	3.40

	Traffic Flows, pcu/min	AM	PM		Capacity, pcu/min	AM	PM
Analysis :	q-B-ACD	6.51	8.48		Q-B-ACD	6.70	5.90
	q-A-BCD	0.00	0.00		Q-A-BCD	9.68	10.09
	q-A-B	4.70	7.16		Q-A-B		
	q-A-C	3.50	5.47		Q-A-C		
	q-D-ABC	3.62	4.86		Q-D-ABC	6.47	5.93
	q-C-ABD	0.43	0.16		Q-C-ABD	14.05	12.15
	q-C-D	0.16	0.09		Q-C-D		
	q-C-A	6.41	5.19		Q-C-A		

Ratio-of-flow to Capacity		AM	PM
	B-ACD	0.97	1.44
	A-BCD	0.00	0.00
	D-ABC	0.56	0.82
	C-ABD	0.03	0.01

Priority Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Kei Leng Road
 Design Year: 2031 Job Number: J7231 Date: 31 Aug 2023
 Scheme: Future Condition (With Permitted Scheme) Page 17



$$Y = 1 - 0.0345W$$

q-AB, etc = the design flow of movement AB, etc

where W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

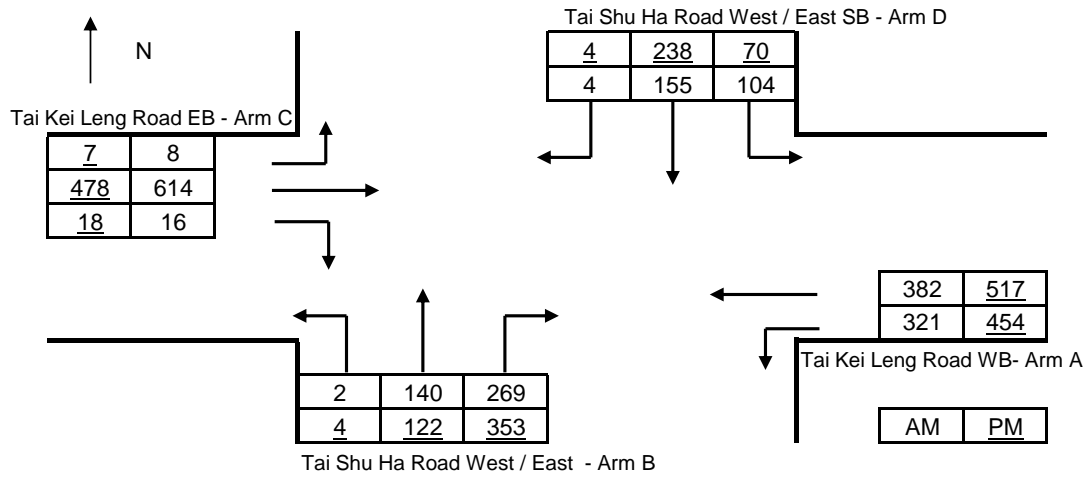
	Input		Input		Input		Input	
	W	7.00	V-CB	200	V-AD	200	w-BA	3.60
Geometry :	W-CR	0.00	V-IBA	41	V-IDC	30	w-BC	3.60
	W-CB	3.50	V-rBC	132	V-rDA	42	w-DA	3.40
	W-AD	3.50					w-DC	3.40

	Traffic Flows, pcu/min	AM	PM		Capacity, pcu/min	AM	PM
Analysis :	q-B-ACD	7.54	8.79		Q-B-ACD	4.52	3.45
	q-A-BCD	0.00	0.00		Q-A-BCD	8.47	9.10
	q-A-B	5.89	8.33		Q-A-B		
	q-A-C	7.01	9.49		Q-A-C		
	q-D-ABC	4.73	5.69		Q-D-ABC	5.18	4.60
	q-C-ABD	0.96	0.94		Q-C-ABD	16.50	13.79
	q-C-D	0.14	0.12		Q-C-D		
	q-C-A	10.61	8.17		Q-C-A		

Ratio-of-flow to Capacity		AM	PM
	B-ACD	1.67	2.55
	A-BCD	0.00	0.00
	D-ABC	0.91	1.24
	C-ABD	0.06	0.07

Priority Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Kei Leng Road
 Design Year: 2031 Job Number: J7231 Date: 31 Aug 2023
 Scheme: Future Condition (With Proposed Development) Page 18



Geometry :

$Y = 1 - 0.0345W$

q-AB, etc = the design flow of movement AB, etc

where W = major road width

W-CR = central reserve width

w-BA, etc = lane width to vehicle

v-rBA, etc = visibility to the right for waiting vehicles in stream BA, etc

v-lBA, etc = visibility to the left for waiting vehicles in stream BA, etc

	Input		Input		Input		Input	
	W	7.00	V-CB	200	V-AD	200	w-BA	3.60
Geometry :	W-CR	0.00	V-IBA	41	V-IDC	30	w-BC	3.60
	W-CB	3.50	V-rBC	132	V-rDA	42	w-DA	3.40
	W-AD	3.50					w-DC	3.40

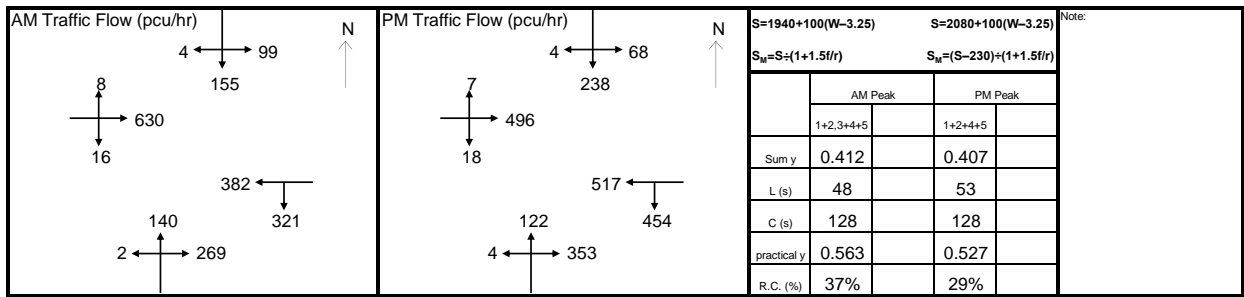
	Traffic Flows, pcu/min	AM	PM	Capacity, pcu/min	AM	PM
Analysis :	q-B-ACD	7.54	8.79	Q-B-ACD	4.49	3.44
	q-A-BCD	0.00	0.00	Q-A-BCD	8.47	9.10
	q-A-B	5.89	8.33	Q-A-B		
	q-A-C	7.01	9.49	Q-A-C		
	q-D-ABC	4.83	5.73	Q-D-ABC	5.22	4.61
	q-C-ABD	0.96	0.94	Q-C-ABD	16.50	13.79
	q-C-D	0.14	0.12	Q-C-D		
	q-C-A	10.61	8.17	Q-C-A		

Ratio-of-flow to Capacity		AM	PM
	B-ACD	1.68	2.56
	A-BCD	0.00	0.00
	D-ABC	0.93	1.24
	C-ABD	0.06	0.07

Signal Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Kei Leng Road Job Number: J7231
 Scenario: Future Condition with Road Improvement Scheme (With Permitted Scheme) P. 17
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

Approach	Nearside	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	Turning %	Sat. Flow (pcu/hr)	AM Peak			Turning %	Sat. Flow (pcu/hr)	PM Peak		
									Flow (pcu/hr)	y value	Critical y			Flow (pcu/hr)	y value	Critical y
Tai Kei Leng Road		LT	A1	1,2	4.50	20.0	100	1921	321	0.167		100	1921	454	0.236	
WB		SA	A2	2	3.80			2135	191	0.089			2135	259	0.121	0.121
		SA	A3	2	3.80			2135	191	0.089			2135	258	0.121	
Tai Shu Ha Road East		LT+SA	B1	4	4.00	15.0	40	1938	258	0.133	0.133	23	1970	310	0.157	0.157
SB		+RT														
Tai Kei Leng Road		LT+SA	C1	2,3	3.65	10.0	2	1974	334	0.169	0.169	3	1971	266	0.135	
EB		SA+RT	C2	2,3	3.65		5	1890	320	0.169		7	1890	255	0.135	
Tai Shu Ha Road East		LT+SA	D1	1	3.65	13.0	33	1907	209	0.110	0.110	49	1874	241	0.129	0.129
NB		+RT														
		RT	D2	1	3.65	10.0	100	1843	202	0.110		100	1843	238	0.129	
pedestrian phase			Fp	5				min crossing time = 7	sec GM +	11		sec FGM =	18	sec		
			Gp	4,5				min crossing time = 10	sec GM +	15		sec FGM =	25	sec		
			Hp	1,2,3,5				min crossing time = 6	sec GM +	6		sec FGM =	12	sec		
			Ip	5				min crossing time = 8	sec GM +	10		sec FGM =	18	sec		
			Jp	2,3,4,5				min crossing time = 10	sec GM +	10		sec FGM =	20	sec		
			Lp	3,4,5				min crossing time = 7	sec GM +	8		sec FGM =	15	sec		
			Np	1,5				min crossing time = 8	sec GM +	8		sec FGM =	16	sec		

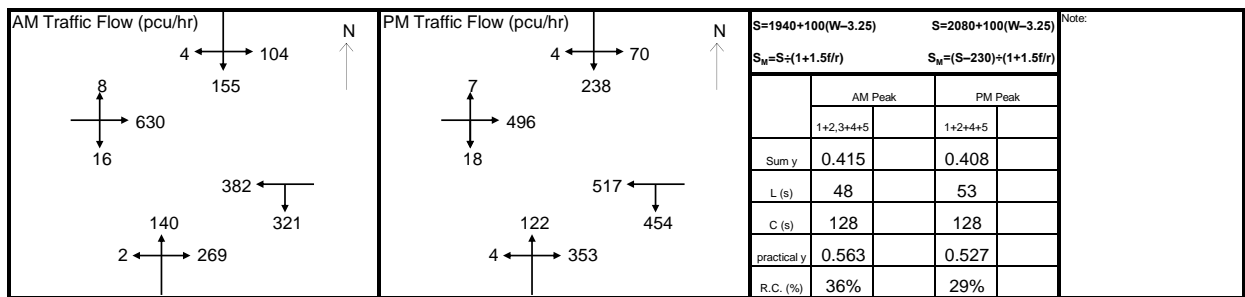


1	2	3	4	5
AM G = I/G = 10 G = I/G = G = I/G = 9 G = I/G = 12 G = 18 I/G = 2				
AM G = I/G = 10 G = I/G = 5 G = I/G = 9 G = I/G = 12 G = 18 I/G = 2				

Signal Junction Analysis

Junction: Tai Shu Ha Road West / Tai Shu Ha Road East / Tai Kei Leng Road Job Number: J7231
 Scenario: Future Condition with Road Improvement Scheme (With Proposed Development) P. 18
 Design Year: 2031 Designed By: _____ Checked By: _____ Date: 31 Aug 2023

Approach	Phase	Stage	Width (m)	Radius (m)	% Up-hill Gradient	Turning %	Sat. Flow (pcu/hr)	AM Peak			Turning %	Sat. Flow (pcu/hr)	PM Peak		
								Flow (pcu/hr)	y value	Critical y			Flow (pcu/hr)	y value	Critical y
Tai Kei Leng Road	LT	A1	1,2	4.50	20.0	100	1921	321	0.167		100	1921	454	0.236	
WB	SA	A2	2	3.80			2135	191	0.089			2135	259	0.121	0.121
	SA	A3	2	3.80			2135	191	0.089			2135	258	0.121	
Tai Shu Ha Road East	LT+SA	B1	4	4.00	15.0	41	1936	263	0.136	0.136	24	1968	312	0.159	0.159
SB	+RT														
Tai Kei Leng Road	LT+SA	C1	2,3	3.65	10.0	3	1971	334	0.169	0.169	3	1971	266	0.135	
EB	SA+RT	C2	2,3	3.65		5	1890	320	0.169		7	1890	255	0.135	
Tai Shu Ha Road East	LT+SA	D1	1	3.65	13.0	33	1907	209	0.110	0.110	49	1874	241	0.129	0.129
NB	+RT														
	RT	D2	1	3.65	10.0	100	1843	202	0.110		100	1843	238	0.129	
pedestrian phase	Fp	5			min crossing time =	7	sec GM +	11	sec FGM =	18	sec				
	Gp	4,5			min crossing time =	10	sec GM +	15	sec FGM =	25	sec				
	Hp	1,2,3,5			min crossing time =	6	sec GM +	6	sec FGM =	12	sec				
	Ip	5			min crossing time =	8	sec GM +	10	sec FGM =	18	sec				
	Jp	2,3,4,5			min crossing time =	10	sec GM +	10	sec FGM =	20	sec				
	Lp	3,4,5			min crossing time =	7	sec GM +	8	sec FGM =	15	sec				
	Np	1,5			min crossing time =	8	sec GM +	8	sec FGM =	16	sec				



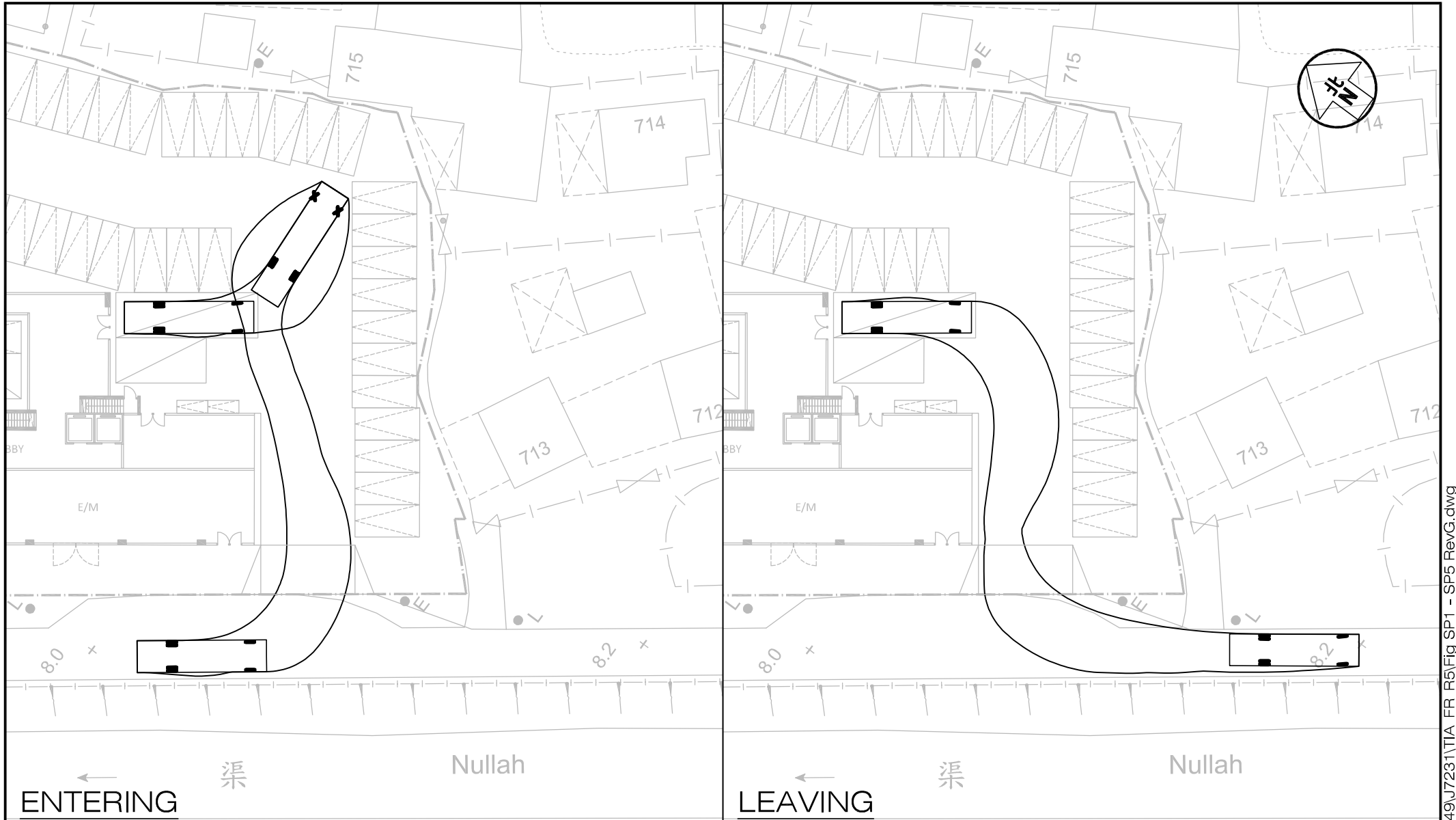
1	2	3	4	5
AM G = I/G = 10 G = I/G =	AM G = I/G = 10 G = I/G = 5	AM G = I/G = 9 G = I/G = 9	AM G = I/G = 12 G = I/G = 12	AM G = 18 I/G = 2 G = 18 I/G = 2
AM G = I/G =	AM G = I/G =	AM G = I/G =	AM G = I/G =	AM G = I/G =

**Appendix B –
Public Transport Survey Result**

TABLE B1 DETAILED INFORMATION OCCUPANCY SURVEY RESULT ON THE PUBLIC TRANSPORT NEAR THE SUBJECT SITE

Direction	Routes	AM				PM			
		No. of Trips	No. of Passenger		Occu-pancy [c] = [b]/[a]	No. of Trips	No. of Passenger		Occu-pancy [c] = [b]/[a]
			Capacity [a]	Occupied [b]			Capacity [a]	Occupied [b]	
To Yuen Long Town and other districts	KMB 68E	4	544	404	74%	2	146	60	41%
	KMB 68F	2	143	45	31%	2	143	40	28%
	KMB 268C	3	420	377	90%	/	/	/	/
	KMB 968	7	989	869	88%	/	/	/	/
	MTRB K66	7	875	317	36%	5	625	125	20%
	GMB 73	20	323	265	82%	8	128	79	62%
	RMB	57	921	885	96%	37	594	318	54%
	Total	101	4215	3162	75%	55	1636	622	38%
From Yuen Long Town and other districts	KMB 68E	2	266	127	48%	3	403	283	70%
	KMB 68F	2	143	45	31%	3	207	125	60%
	KMB 268C	/	/	/	/	/	/	/	/
	KMB 968	/	/	/	/	/	/	/	/
	MTRB K66	4	500	219	44%	7	875	710	81%
	GMB 73	16	256	81	32%	15	240	213	89%
	RMB	67	1096	160	15%	46	751	711	95%
	Total	91	2261	632	28%	74	2476	2042	82%

Appendix C – Swept Path Analysis



Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG J7231

Figure No. SP1 Revision G

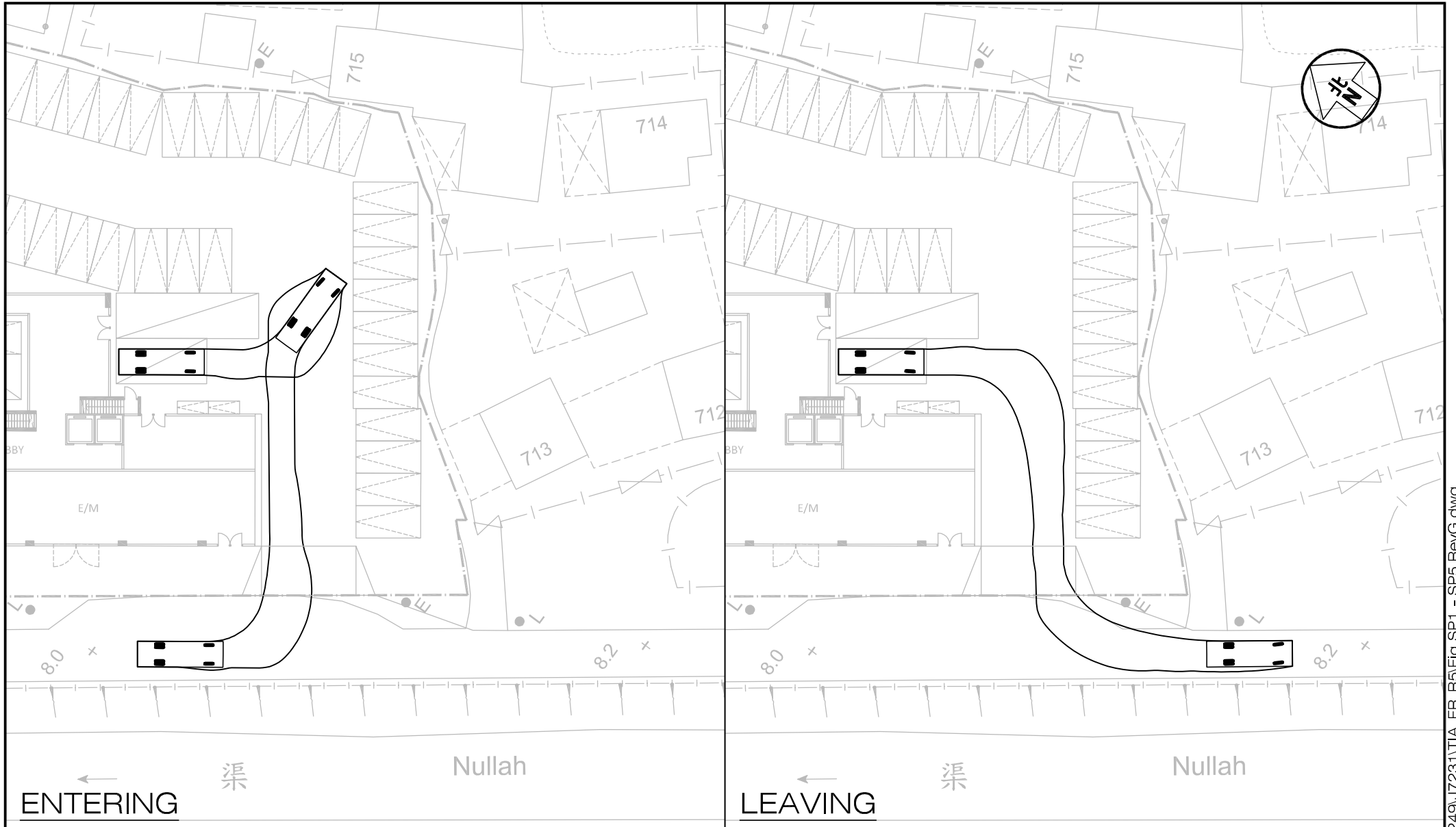
CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title **SWEPT PATH OF HGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY**

Designed by L K W Drawn by W S W Checked by K C
Scale in A4 1 : 400 Date 30 AUG 2023

21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong
Tel : (852) 2520 5990 Fax : (852) 2528 6343
Email : mail@ckmasia.com.hk

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Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG**

Figure No. **SP2**
 Revision **G**

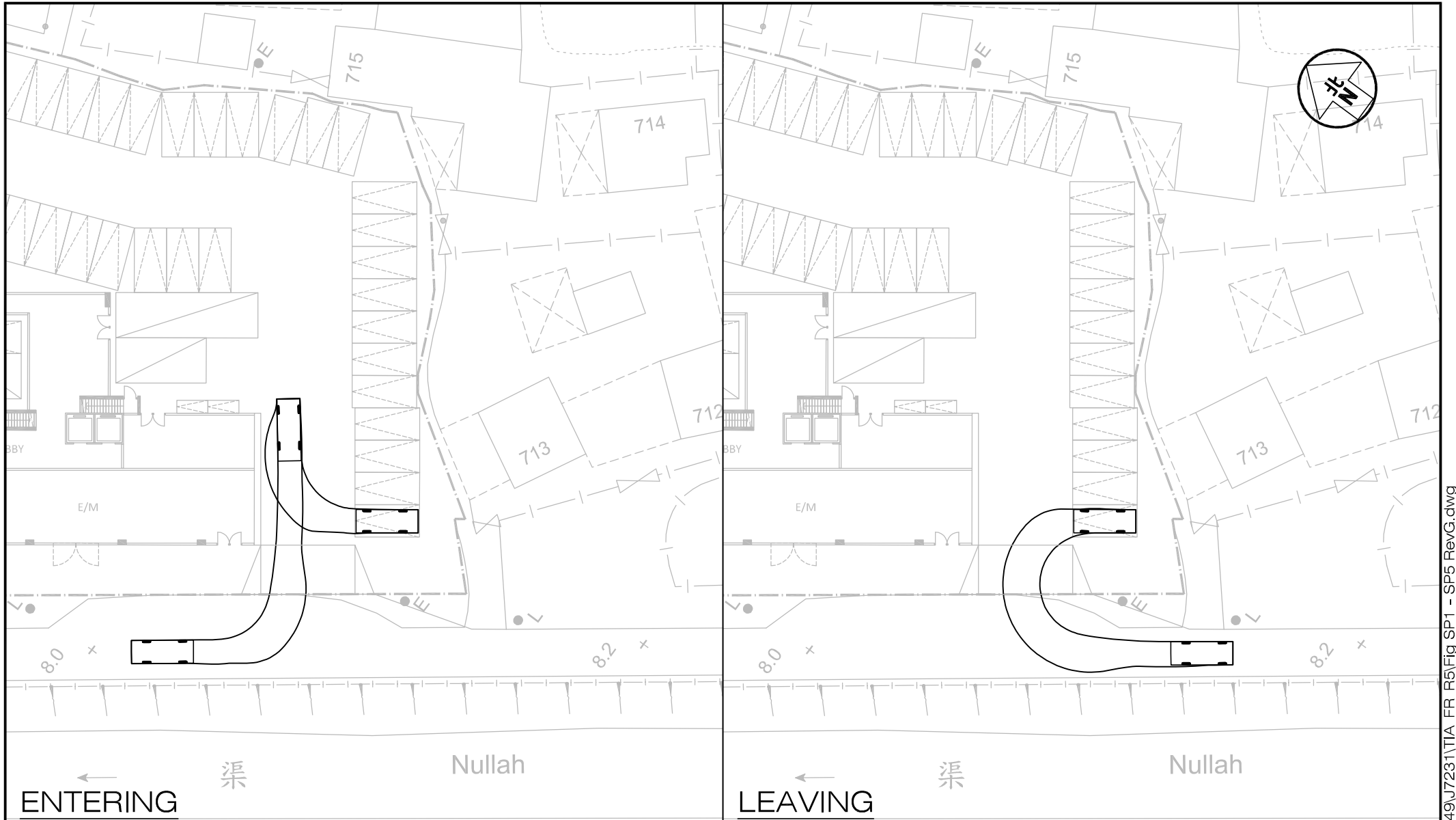
CKM Asia Limited
 Traffic and Transportation Planning Consultants

Figure Title **SWEPT PATH OF LGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY**

Designed by **L K W**
 Drawn by **W S W**
 Checked by **K C**
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Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG J7231

Figure No. SP3
Revision G

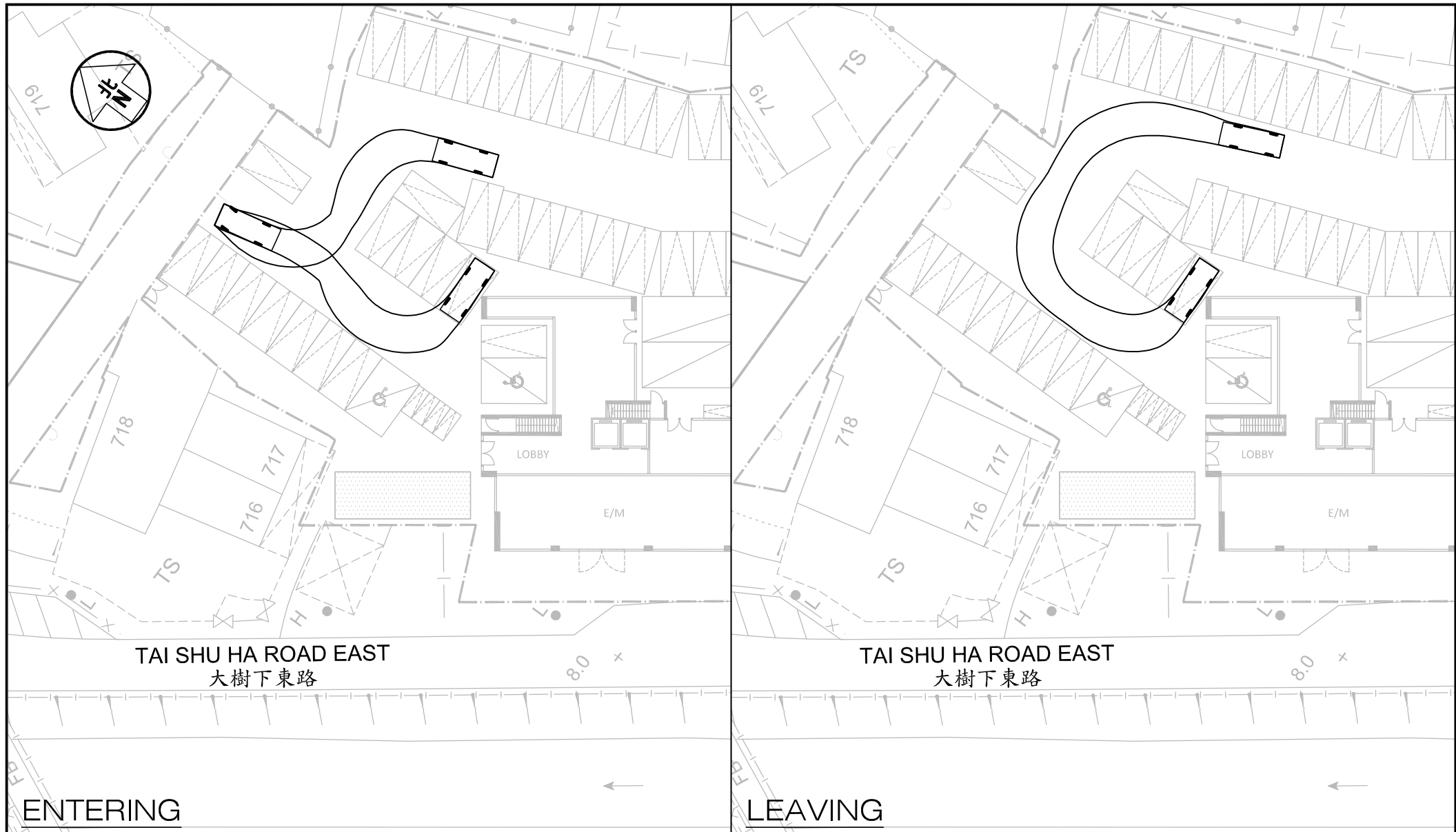
CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title
SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE

Designed by L K W
Drawn by W S W
Checked by K C
Scale in A4 1 : 400
Date 30 AUG 2023

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Project Title **PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG** J7231

Figure No. **SP4** Revision **G**

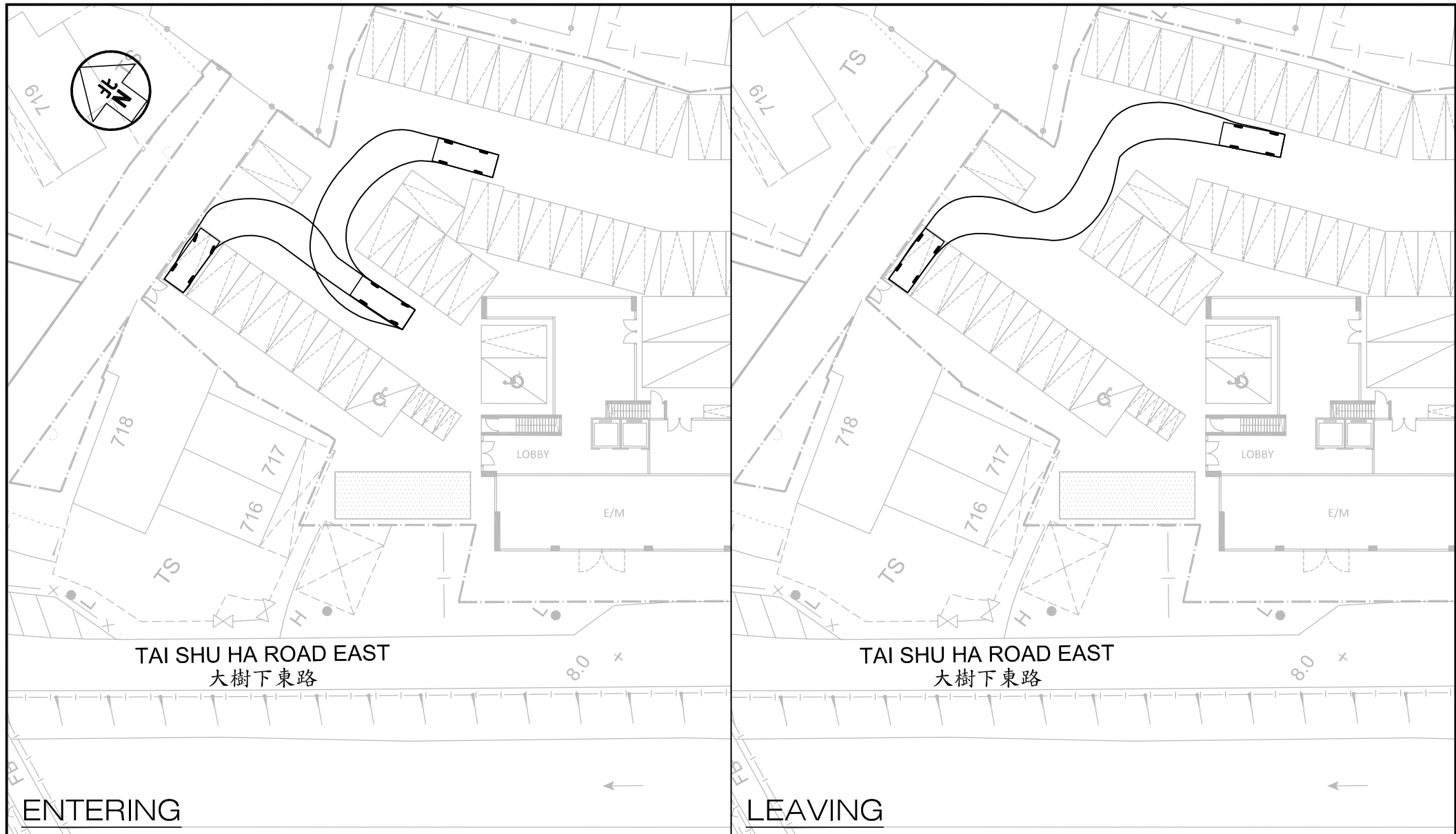
CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title **SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE**

Designed by **L K W** Drawn by **W S W** Checked by **K C**
Scale in A4 **1 : 400** Date **30 AUG 2023**

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Wan Chai, Hong Kong
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Project Title PROPOSED FLAT AND SHOP AND SERVICES USES WITH MINOR RELAXATION OF PLOT RATIO RESTRICTION AT LOTS 4614 AND 4615RP IN DD116, AND LOTS 1753SBRP (PART), 1753SBSS3 (PART), 1756SA (PART), 1756RP (PART), 1757, 1758RP, 1760RP IN DD120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG J7231

Figure No. SP5 Revision G

CKM Asia Limited
Traffic and Transportation Planning Consultants

Figure Title
SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE

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Drawn by W S W
Checked by K C
Scale in A4 1 : 400
Date 30 AUG 2023

21st Floor, Methodist House, 36 Hennessy Road,
Wan Chai, Hong Kong
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Appendix D – Yuen Long South NDA



HOME / YUEN LONG SOUTH DEVELOPMENT AREA

[Home](#)

[What's New](#)

[Yuen Long South Development Area](#)

[Background](#)

[Positioning of Yuen Long South Development Area](#)

[Planning, Urban and Landscape Design Concepts](#)

[Revised Recommended Outline Development Plan](#)

[Development Phasing](#)

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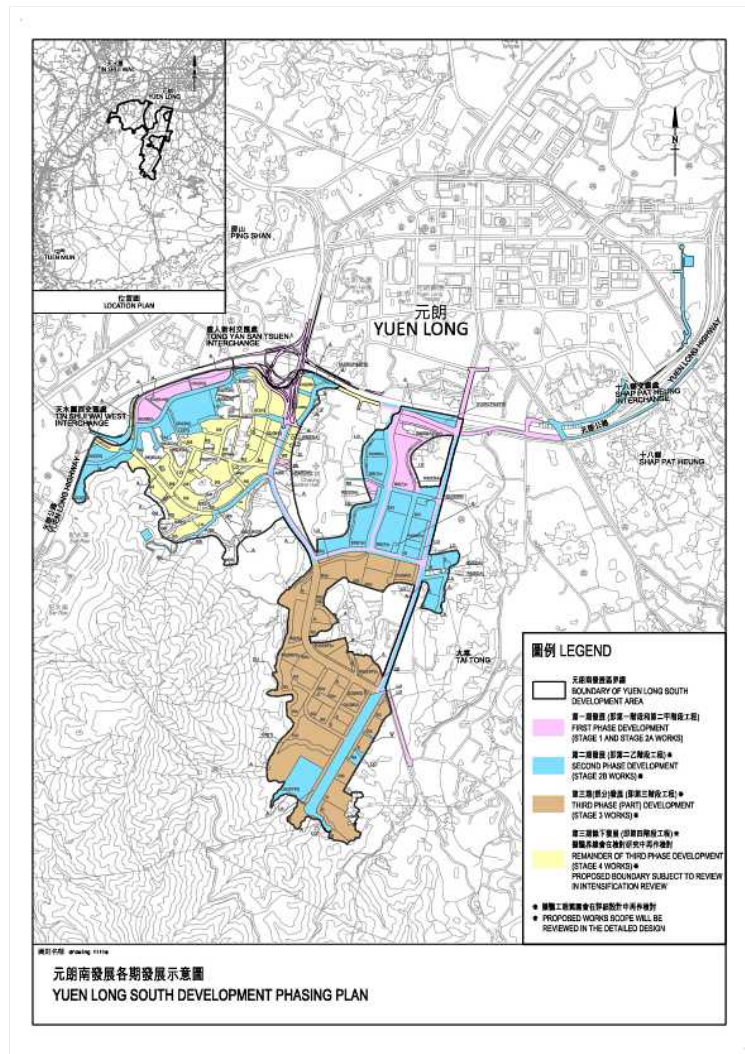


Last Review Date: 20/04/2022

YUEN LONG SOUTH DEVELOPMENT AREA

Development Phasing

The phasing plan and key figures of the Yuen Long South Development key figures are provided below:



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Development Area](#)[Background](#)[Positioning of Yuen Long
South Development Area](#)[Planning, Urban and
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Last Review Date: 20/04/2022

	First Phase Development	Second Phase Development	Third Phase Development [#]	Entire Development [#]
Development area	22 ha	63 ha	100 ha	185 ha
Housing yield (public/private)	4 300 units (4 300/Nil)	12 600 units (12 600/Nil)	16 000 units (5 400/10 600)	32 900 units (22 300/10 600)
Estimated new population	13 200	38 500	47 000	98 700
Industrial gross floor area	218 400 m ²	278 500 m ²	N/A	496 900 m ²
Commercial gross floor area	16 600 m ²	48 400 m ²	164 900 m ²	229 900 m ²
Estimated new employment	1 700	4 100	7 900	13 700
Private land to be resumed for Development area	15 ha [*]	135 ha		150 ha
Government land to be cleared for Development area	7 ha [*]	28 ha		35 ha
No. of households to be cleared	95	462		557
No. of business undertakings to be cleared	220	644		864
Active farmland to be affected	0.5 ha	4.5 ha		5 ha (Based on the site survey conducted in 2013 under the "Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation")
Timing for site formation and engineering infrastructure works	2022 - 2028	2025 - 2031 tentative	2029 – 2033/2038 tentative	2022 - 2038 tentative

Footnote:

[#] The development area, development intensity and flat yield of the Third Phase development and accordingly the entire development will be subject to change pending the Intensification Review.

^{*} Not including about 31 ha of affected area (27 ha government land and 4 ha private land) mainly for roadworks outside the boundary of YLS Development.

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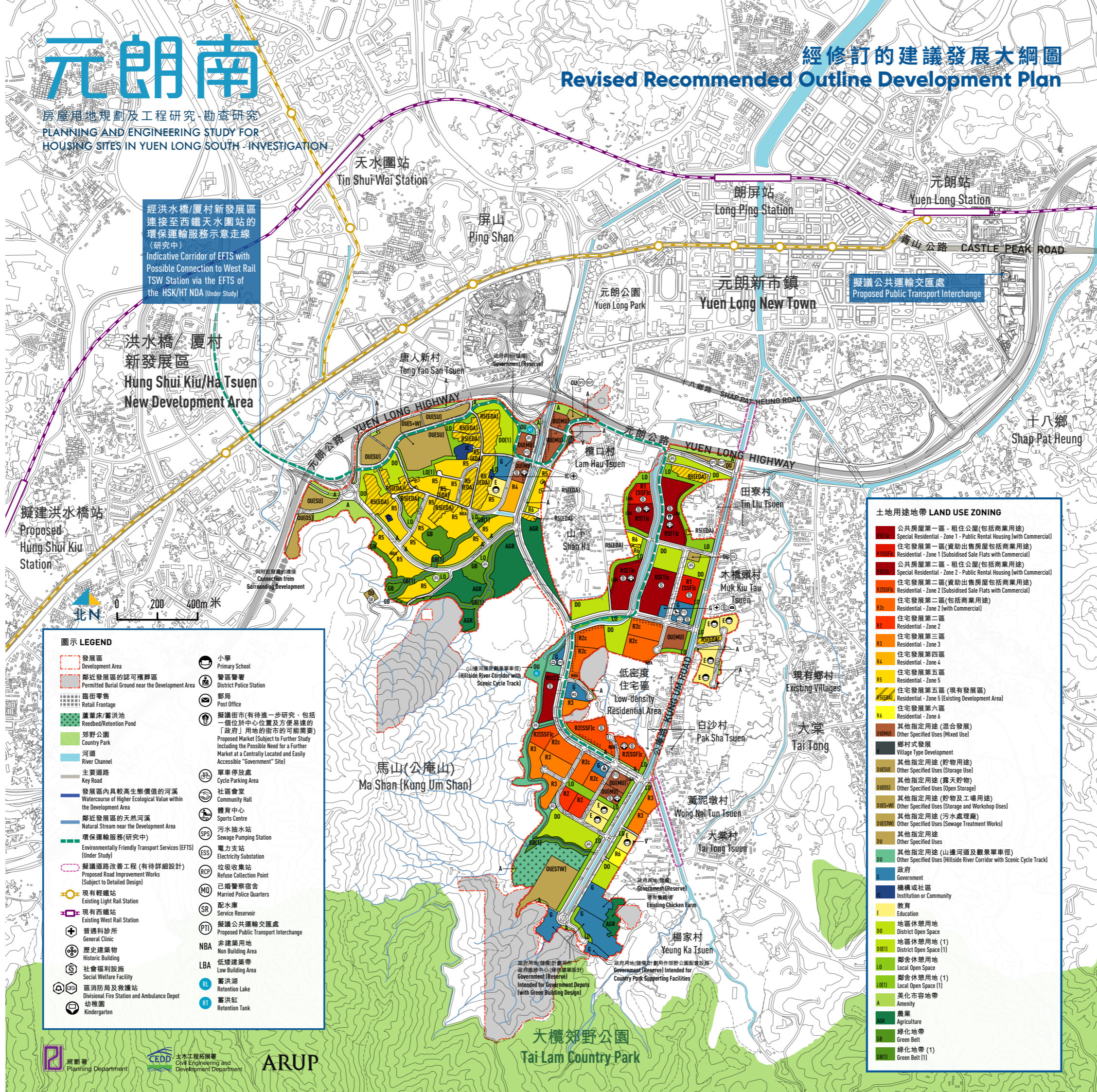
Best viewed with Google Chrome / Microsoft Edge.



元朗南

房屋用地規劃及工程研究- 調查研究
 PLANNING AND ENGINEERING STUDY FOR
 HOUSING SITES IN YUEN LONG SOUTH - INVESTIGATION

經修訂的建議發展大綱圖 Revised Recommended Outline Development Plan



經洪水橋/厦村新發展區
 連接至西鐵天水圍站的
 環保運輸服務示意走線
 (研究中)
 Indicative Corridor of EFTS with
 Possible Connection to West Rail
 TSW Station via the EFTS of
 the HSK/HT NDA (Under Study)

洪水橋/厦村
 新發展區
 Hung Shui Kiu/Ha Tsuen
 New Development Area

擬建洪水橋站
 Proposed
 Hung Shui Kiu
 Station



圖示 LEGEND	
	發展區 Development Area
	鄰近發展區的認可殯葬區 Permitted Burial Ground near the Development Area
	臨街零售 Retail Frontage
	蘆葦床/蓄洪池 Reedbed/Retention Pond
	郊野公園 Country Park
	河道 River Channel
	主要道路 Key Road
	發展區內具較高生態價值的河渠 Watercourse of Higher Ecological Value within the Development Area
	鄰近發展區的自然河渠 Natural Stream near the Development Area
	環保運輸服務(研究中) Environmentally Friendly Transport Services (EFTS) (Under Study)
	擬議道路改善工程(有待詳細設計) Proposed Road Improvement Works (Subject to Detailed Design)
	現有輕鐵站 Existing Light Rail Station
	現有西鐵站 Existing West Rail Station
	普通科診所 General Clinic
	歷史建築物 Historic Building
	社會福利設施 Social Welfare Facility
	區消防局及救護站 Divisional Fire Station and Ambulance Depot
	幼稚園 Kindergarten
	小學 Primary School
	警區警署 District Police Station
	郵局 Post Office
	擬議街市(有待進一步研究, 包括一個位於中心位置及方便易達的「政府」用地的街市的可能需要) Proposed Market (Subject to Further Study Including the Possible Need for a Further Market at a Centrally Located and Easily Accessible "Government" Site)
	單車停放處 Cycle Parking Area
	社區會堂 Community Hall
	體育中心 Sports Centre
	污水抽水站 Sewage Pumping Station
	電力站 Electricity Substation
	垃圾收集站 Refuse Collection Point
	已婚警察宿舍 Married Police Quarters
	配水庫 Service Reservoir
	擬議公共運輸交匯處 Proposed Public Transport Interchange
	非建築用地 Non Building Area
	低樓建築帶 Low Building Area
	蓄洪湖 Retention Lake
	蓄洪缸 Retention Tank

土地用途地帶 LAND USE ZONING	
	公共房屋第一區 - 租住公屋(包括商業用途) Special Residential - Zone 1 - Public Rental Housing (with Commercial)
	住宅發展第一區(資助出售房屋包括商業用途) Residential - Zone 1 (Subsidised Sale Flats with Commercial)
	公共房屋第二區 - 租住公屋(包括商業用途) Special Residential - Zone 2 - Public Rental Housing (with Commercial)
	住宅發展第二區(資助出售房屋包括商業用途) Residential - Zone 2 (Subsidised Sale Flats with Commercial)
	住宅發展第二區(包括商業用途) Residential - Zone 2 (with Commercial)
	住宅發展第二區 Residential - Zone 2
	住宅發展第三區 Residential - Zone 3
	住宅發展第四區 Residential - Zone 4
	住宅發展第五區 Residential - Zone 5
	住宅發展第五區(現有發展區) Residential - Zone 5 (Existing Development Area)
	住宅發展第六區 Residential - Zone 6
	其他指定用途(混合發展) Other Specified Uses (Mixed Use)
	鄉村式發展 Village Type Development
	其他指定用途(貯物用途) Other Specified Uses (Storage Use)
	其他指定用途(露天貯物) Other Specified Uses (Open Storage)
	其他指定用途(貯物及工場用途) Other Specified Uses (Storage and Workshop Uses)
	其他指定用途(污水處理廠) Other Specified Uses (Sewage Treatment Works)
	其他指定用途 Other Specified Uses
	其他指定用途(山邊河道及觀景單車徑) Other Specified Uses (Hillside River Corridor with Scenic Cycle Track)
	政府 Government
	機構或社區 Institution or Community
	教育 Education
	地區休憩用地 District Open Space
	地區休憩用地(1) District Open Space (1)
	地區休憩用地(1) District Open Space (1)
	鄰舍休憩用地 Local Open Space
	鄰舍休憩用地(1) Local Open Space (1)
	鄰舍休憩用地(1) Local Open Space (1)
	美化市容地帶 Amenity
	農業 Agriculture
	綠化地帶 Green Belt
	綠化地帶(1) Green Belt (1)

**Appendix E – Extract of Site Formation and
Infrastructure Works for Proposed
Public Housing Developments at Sha
Po, Shap Pat Heung and Tai Kei Leng**

元朗區議會會議

擬議修訂《錦田北分區計劃大綱核准圖編號 S/YL-KTN/9》

及

元朗沙埔公營房屋發展計劃

1. 目的

本文件旨在向各議員徵詢有關《錦田北分區計劃大綱核准圖編號 S/YL-KTN/9》(下稱《大綱圖》)，就元朗沙埔棕地群作公營房屋及社區用地發展計劃所擬議的修訂項目(圖 1)，以及該公營房屋發展計劃(圖 2)的意見。

2. 前言

2.1 2017 年 4 月，規劃署展開《新界棕地使用及作業現況研究—可行性研究》(下稱《棕地研究》)，以掌握新界各處棕地的狀況、了解有關主要行業的運作細節，以及探討相關的主要課題。2019 年 11 月，規劃署公布《棕地研究》的結果，該研究指出在 1 579 公頃棕地當中，共有 450 公頃未有發展計劃、但具較高發展潛力的棕地。

2.2 為配合行政長官於《2019 年施政報告》中提出增加土地供應以回應市民對房屋迫切需要的目標，規劃署分階段檢視這 450 公頃棕地，以評估當中有多少適合作短、中期公營房屋發展。規劃署於 2019 年完成檢視首階段 160 公頃較接近現有基建設施的棕地，並於元朗、屯門及大埔物色了八組具潛力在短、中期作較高密度公營房屋發展的棕地群，位於元朗沙埔的棕地群是其中之一。

2.3 2020 年 7 月，土木工程拓展署(下稱土拓署)就擬議在元朗沙埔棕地群發展公營房屋及社區用地的計劃展開工程可行性研究。有關研究已進行一系列技術評估，以確保擬議的發展計劃在實施所需的緩解措施後不會帶來重大的影響。

2.4 上述的發展計劃位於元朗沙埔村以北，新田公路及新潭路以東，模範鄉以南及逢吉鄉以西。擬議發展用地在《大綱圖》上現劃為「工業(丁類)」地帶及「農業」地帶，現時主要為一些棕地作業（包括露天貯物場、工場和倉庫）及鄉郊民居。擬議發展用地面積約為 15.9 公頃，當中約 11.8 公頃的土地為擬議公營房屋發展用地，其總地積比率為 6.7 倍，預計可興建約 16 300 個公營房屋單位。

3. 擬議《大綱圖》修訂項目及相關發展計劃

3.1 擬議發展的初步主要發展參數¹ 概述如下(公營房屋發展計劃概念設計見圖 2):

擬議發展用地面積	約 15.9 公頃
擬議房屋發展用地面積	約 11.8 公頃
擬議房屋發展總地積比率	不超過 6.7 倍
擬議樓宇高度	不高於主水平基準上 185 米
擬建單位數目	約 16 300 個單位
預計人口	約 46 000 人
康樂設施	參照《香港規劃標準與準則》的指引，提供休憩及兒童遊樂設施、綠化空間等。
泊車設施	參照《香港規劃標準與準則》的指引，提供附屬泊車設施。
其他設施	擬議發展用地內提供一間小學、消防局、警局、康樂體育中心、小型足球場、綜合公共交通交匯處、零售設施、停車場、幼稚園及社會福利設施。
公營房屋發展的預計竣工年份	2031 ²

¹ 發展參數及附件只供參考，有關公營房屋及社區用地發展計劃的細節尚待詳細規劃及於設計階段與相關部門磋商。

² 公營房屋發展的預計竣工年份須視乎實際情況或須有所修訂，例如有關地盤能否如期移交香港房屋委員會等。

- 3.2 為配合上述發展計劃，政府當局現建議把該用地由「工業(丁類)」地帶及「農業」地帶改劃為「住宅(甲類)」地帶(修訂項目A項)及「政府、機構或社區」地帶(修訂項目B項)(圖3)。此外，我們建議把不被納入發展計劃的「上將府」等建築物的用地由「工業(丁類)」地帶改劃作「住宅(丙類)3」地帶(修訂項目C項)(圖3)，以反映有關建築物目前的用途。
- 3.3 根據土拓署所委託顧問進行的工程可行性研究，預期元朗沙埔公營房屋及社區用地發展項目不會對附近地區的交通及運輸、環境、排污、排水、供水、視覺、景觀及空氣流通等方面帶來無法克服的技術問題。交通及運輸影響評估結果顯示，在實施了建議的交通改善措施後，擬議發展對整體交通及運輸不會帶來重大的影響。在視覺及空氣流通方面，透過合適的布局、座向和間距規劃，擬議建築物會保持相當的通透性。適當的園林及建築設計亦會為居民提供理想的生活環境。

4. 徵詢意見

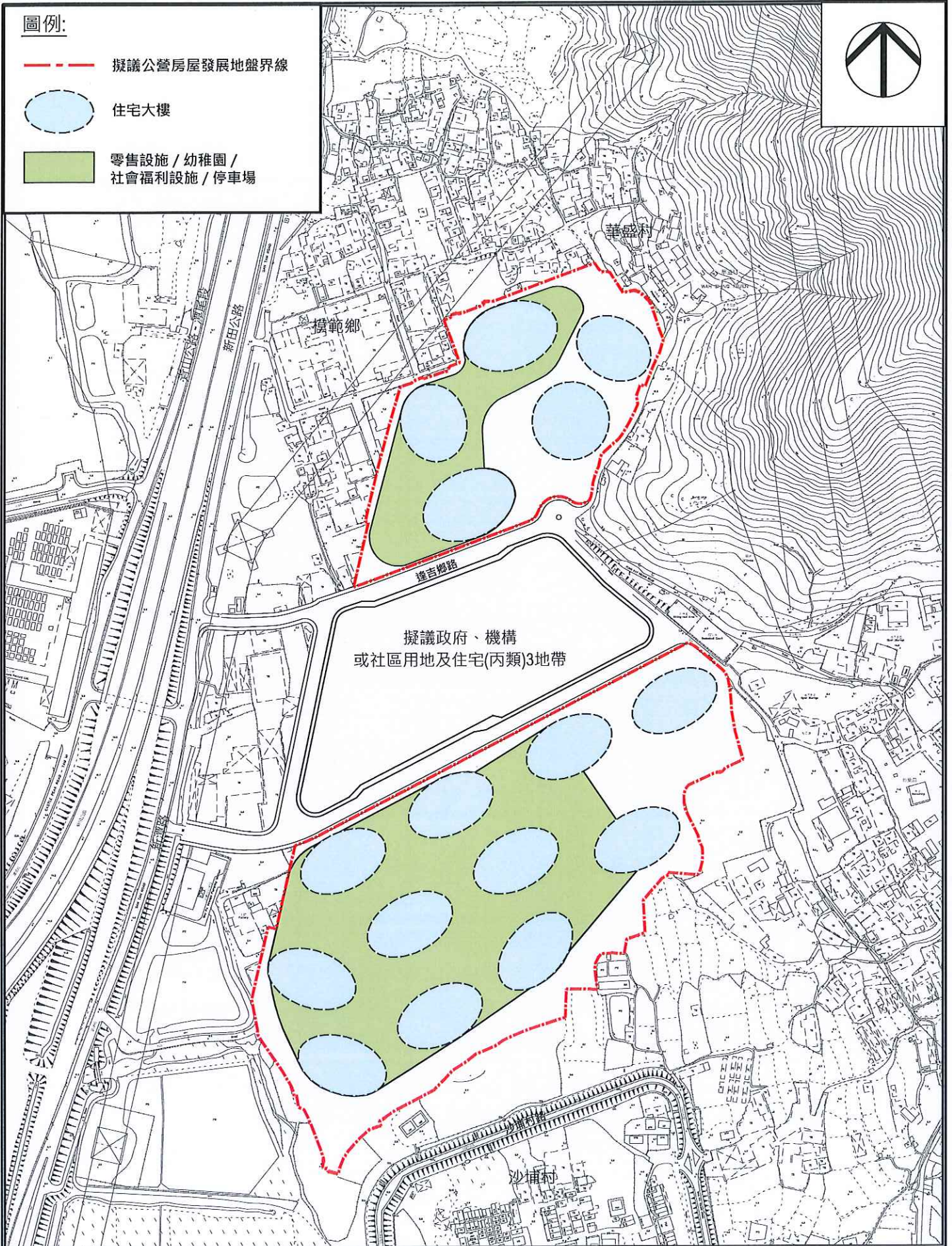
歡迎各位議員對上述擬議《大綱圖》修訂項目及公營房屋發展計劃提出意見。議員就《大綱圖》修訂項目提出的意見，將會與修訂項目和政府部門的意見一併提交城市規劃委員會(下稱「城規會」)轄下的鄉郊及新市鎮規劃小組委員會(下稱「小組委員會」)考慮。如小組委員會同意有關擬議修訂項目，城規會將根據《城市規劃條例》第5條展示涵蓋有關修訂項目的分區計劃大綱草圖作公眾諮詢，為期兩個月。屆時，公眾人士可對修訂項目提出申述。至於議員對公營房屋發展計劃的意見，房屋署會在詳細規劃及設計階段考慮。

5. 附件

- 圖 1 位置圖
圖 2 擬議公營房屋發展計劃-概念設計圖
圖 3 擬議修訂項目

圖例:

- 擬議公營房屋發展地盤界線
- 住宅大樓
- 零售設施 / 幼稚園 / 社會福利設施 / 停車場



元朗沙埔公營房屋發展計劃 - 概念設計圖

(備註: 只供參考, 最終設計會因應需要而更改)



房屋署
HOUSING DEPARTMENT

1:4000 @ A4

圖 2

日期: 10/2022

元朗區議會會議

擬議修訂《元朗分區計劃大綱核准圖編號 S/YL/25》

及

元朗大旗嶺公營房屋發展計劃

1. 目的

本文件旨在向各議員徵詢有關《元朗分區計劃大綱核准圖編號 S/YL/25》(下稱《大綱圖》)，就元朗大旗嶺棕地群作公營房屋發展計劃所擬議的修訂項目(圖 1)，以及該發展計劃(圖 2)的意見。

2. 前言

- 2.1 2017年4月，規劃署展開《新界棕地使用及作業現況研究—可行性研究》(下稱《棕地研究》)，以掌握新界各處棕地的狀況、了解有關主要行業的運作細節，以及探討相關的主要課題。2019年11月，規劃署公布《棕地研究》的結果。該研究指出在1,579公頃棕地當中，共有450公頃未有發展計劃、但具較高發展潛力的棕地。
- 2.2 為配合行政長官於《2019年施政報告》中提出增加土地供應以回應市民對房屋迫切需要的目標，規劃署分階段檢視這450公頃棕地，以評估當中有多少適合作短、中期公營房屋發展。規劃署於2019年完成檢視首階段160公頃較接近現有基建設施的棕地，並於元朗、屯門及大埔物色了八組具潛力在短、中期作較高密度公營房屋發展的棕地群，當中包括位於元朗大旗嶺的棕地群。
- 2.3 2020年7月，土木工程拓展署(下稱土拓署)就擬議在元朗大旗嶺棕地群發展公營房屋的計劃展開工程可行性研究。有關研究已進行一系列技術評估，以確保擬議的發展計劃在實施緩解措施後不會帶來重大的影響。

2.4 擬議發展計劃位於元朗新市鎮的東南面，元朗公路和大旗嶺路以北，及十八鄉交匯處以西。此發展用地在《大綱圖》上現主要劃為「休憩用地」地帶及小部分為「住宅(乙類)」地帶，現時主要為一些棕地作業(包括露天貯物場、停車場、汽車維修工場和倉庫等)及鄉郊民居。擬議發展用地面積及總地積比率分別約為 1.8 公頃及 6.7 倍，預計可興建約 2,300 個公營房屋單位。

3. 擬議《大綱圖》修訂項目及相關發展計劃

3.1 擬議發展的初步主要發展參數¹ 概述如下(公營房屋發展計劃概念設計見圖 2):

擬議房屋發展用地面積	約 1.8 公頃
擬議房屋發展總地積比率	不超過 6.7 倍
擬議樓宇高度	不高於主水平基準上 185 米
擬建單位數目	約 2 300 個單位
預計人口	約 6 440 人
康樂設施	將參照《香港規劃標準與準則》的指引，提供休憩及兒童遊樂設施、綠化空間等。
泊車設施	將參照《香港規劃標準與準則》的指引，提供附屬泊車設施。
其他設施	房屋發展用地外提供巴士專用區。房屋發展用地內提供幼稚園、零售設施、停車場及社會福利設施。
公營房屋發展的預計竣工年份	2031 ²

3.2 為配合上述元朗大旗嶺公營房屋發展計劃，政府當局現建議把該用地由「休憩用地」地帶及「住宅(乙類)」地帶改劃為「住宅(甲類) 6」地帶(修訂項目 A 項)(圖 3)。

¹ 發展參數及附件只供參考，有關公營房屋發展計劃的細節尚待詳細規劃及於設計階段與相關部門磋商。

² 公營房屋發展的預計竣工年份須視乎實際情況或須有所修訂，例如有關地盤能否如期移交香港房屋委員會等。

3.3 根據土拓署所委託顧問進行的工程可行性研究，預期該發展計劃不會對附近地區的交通及運輸、環境、排污、排水、供水、視覺、景觀及空氣流通等方面帶來無法克服的技術問題。根據交通及運輸影響評估結果顯示，在實施了建議的交通改善措施後，擬議發展計劃對整體交通及運輸不會帶來重大的影響。在視覺及空氣流通方面，透過合適的布局、座向和間距規劃，擬議建築物會保持相當的通透性。適當的園林及建築設計亦會為居民提供理想的生活環境。

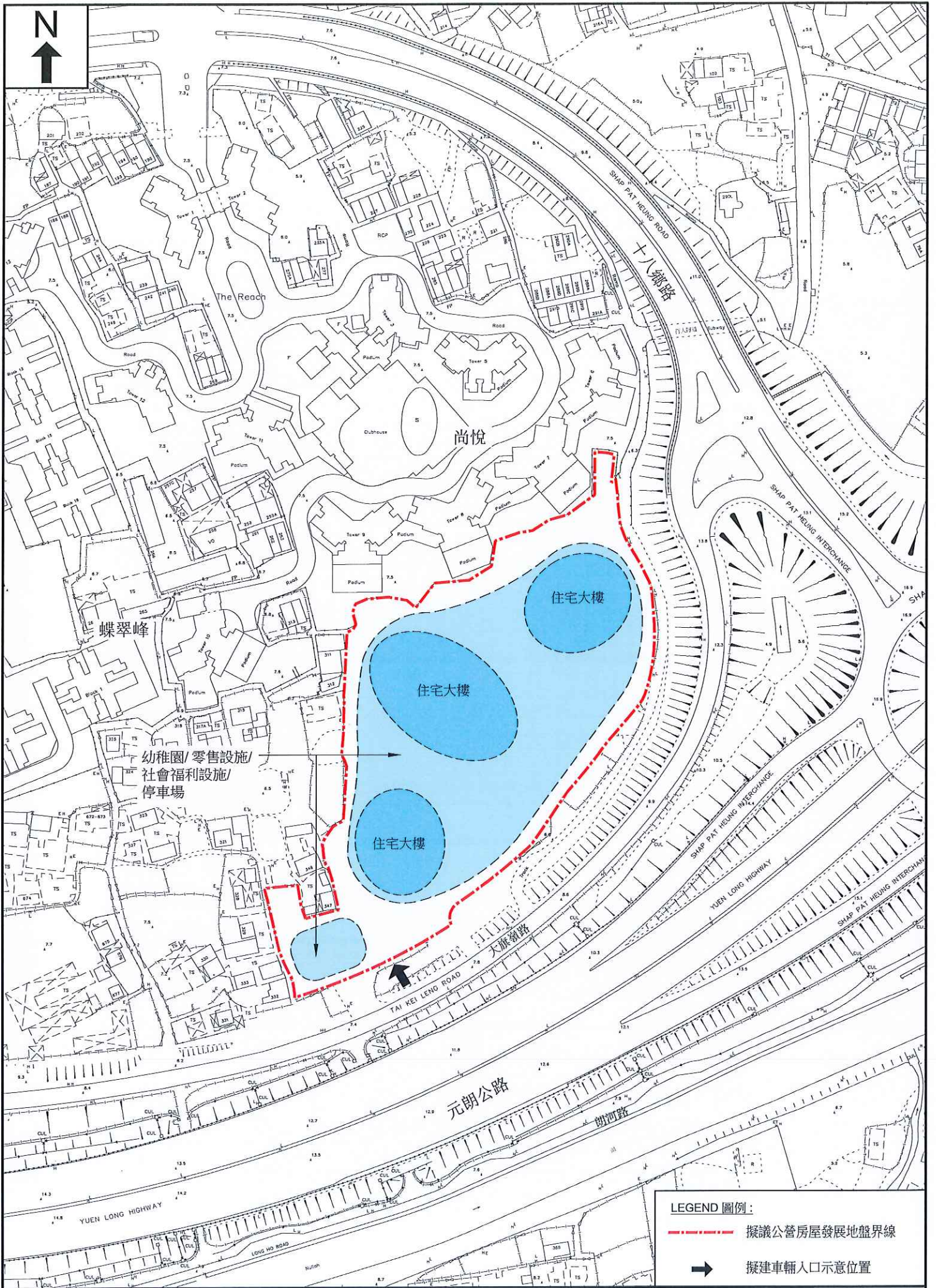
4. 徵詢意見

歡迎各位議員對上述擬議《大綱圖》修訂項目及公營房屋發展計劃提出意見。議員就《大綱圖》有關修訂項目提出的意見，會與修訂項目和政府部門的意見一併提交城市規劃委員會（下稱「城規會」）轄下的鄉郊及新市鎮規劃小組委員會（下稱「小組委員會」）考慮。如小組委員會同意有關擬議修訂項目，城規會將根據《城市規劃條例》第5條展示涵蓋有關修訂項目的分區計劃大綱草圖作公眾諮詢，為期兩個月。屆時，公眾人士可對修訂項目提出申述。至於議員對公營房屋發展計劃的意見，房屋署會與相關政府部門商討，及在詳細規劃及設計階段考慮。

5. 附件

- 圖 1 位置圖
- 圖 2 擬議公營房屋發展計劃 - 概念設計圖
- 圖 3 平面圖

規劃署、土木工程拓展署及房屋署
2022年10月



大旗嶺公營房屋發展計劃 - 概念設計圖

(備註：只供參考，最終設計會因應需要而更改)

1:2000 @ A4

LEGEND 圖例：

--- 擬議公營房屋發展地盤界線

➔ 擬建車輛入口示意位置

：房屋署

圖2

日期：

10.2022

元朗區議會

工務計劃項目第 B875CL，B874CL 號及 B873CL 號
元朗沙埔、十八鄉和大旗嶺公營房屋發展
之工地平整和基礎設施工程
- 諮詢擬建公共道路及污水設施

目的

本文件旨在向元朗區議會介紹土木工程拓展署(土拓署)因應元朗沙埔、十八鄉和大旗嶺公營房屋發展計劃所擬建公共道路及排污設施工程。土拓署計劃在進行詳細設計前，徵詢各委員對上述擬建公共道路及排污設施工程的意見。

項目背景

2. 因應社會對公營房屋的殷切需求，政府在不同地區物色適合發展公營房屋的土地，以善用土地資源，推動房屋政策。這些用地包括一幅位於元朗沙埔村以北，新田公路及新潭路以東，模範鄉以南及逢吉鄉以西的用地、一幅位於元朗竹新村以南，元朗公路、十八鄉交匯處及元朗排水繞道以東的用地及一幅位於元朗新市鎮的東南面，元朗公路和大旗嶺路以北，及十八鄉交匯處以西的用地，以發展公營房屋。(位置圖請參閱附件一及附件二)。

3. 為配合上述發展計劃，土拓署已於二零二二年七月展開《元朗沙埔、十八鄉和大旗嶺公營房屋發展之工地平整及基礎設施工程－勘查研究、設計及建造》的顧問合約。有關基礎設施工程包括建造新道路、優化發展用地周邊道路設計及增建連接發展用地與周邊地區的行人過路設施、排污設施及食水和沖廁水供應設施等。為配合上述發展計劃，有關的基礎設施工程將會在公營房屋發展項目入伙前完成。

4. 擬建工地平整及基礎設施工程主要包括以下項目(位置圖載於附件一及附件二)：

- (i) 在發展用地進行工地平整，包括土力及斜坡穩固工程以及興建擋土牆；
- (ii) 興建相關公共道路，包括行車道及行人道等工程，以連接擬建發展；
- (iii) 推展有關發展的相關交通改善工程，包括改善附近的道路、路口及行人過路設施等，以滿足因發展項目所產生的交通需求；及
- (iv) 相關的排水、排污及水務工程。

擬建公共道路、道路改善措施及公共運輸設施工程

(一) 沙埔

5. 顧問公司的初步交通及運輸影響評估中所提出的道路改善措施主要包括將一段由近青山公路－潭美段/新潭路交界處至錦綉花園迴旋處的新潭路由雙線行車擴闊至三到四線不分隔公共行車道(約長 2,000 米)，及擴闊於錦綉花園迴旋處的出入口，以連接計劃中的發展用地和現有公共道路。此外，政府亦會為受道路擴闊工程影響之行人天橋進行改善工程。(位置圖載於附件一)。

6. 為應付擬建發展計劃所增加的交通流量，本工程亦將會包括以下道路及路口改善工程(位置圖載於附件一)：

- (i) 於錦綉花園迴旋處，擴闊青山公路－潭尾段(北行)及新田公路支路(南行)的迴旋處入口，以及增設由新田公路支路(北行)進入青山公路－潭美段(南行)的專用左轉行車路；
- (ii) 於凹頭迴旋處增設一段往青山公路－元朗段東行線的行車路；
- (iii) 擴闊一段由逢吉鄉路往新潭路的連接路；及
- (iv) 於擬建發展用地內增設一條新連接路往新潭路。

7. 此外，擬建發展計劃將因應詳細需求研究提供公共運輸交匯處，以配合該發展項目的公共交通需求。

(二) 十八鄉和大旗嶺

8. 顧問公司的初步交通及運輸影響評估中所提出的道路改善措施主要包括於擬建發展用地內增設一條連接路及擴闊一段通過元朗排水繞道的行車路，以連接計劃中的元朗十八鄉發展用地和現有公共道路。此外，為應付擬議發展計劃所增加的交通流量，有關工程包括改善十八鄉交匯處、大樹下西路／大樹下東路／大旗嶺路交界處、及大樹下西路／大樹下東路／朗河路迴旋處，以配合將來的交通需求(位置圖載於附件二)。

9. 此外，擬建發展計劃將於十八鄉發展用地及於大旗嶺發展用地分別興建巴士總站及巴士專用區，以配合該發展項目的公共交通需求。

10. 為配合上述三項擬議房屋發展及周邊地區的暢達性，政府亦建議於合適位置提供公共運輸工具使用的上落客設施。

11. 總括而言，根據初步交通評估結果，若能在整體公營房屋發展項目入伙前完成相關道路改善工程，預計區內將不會因擬建公營房屋發展項目出現不可接受的交通影響。

擬建排污設施工程

(一) 沙埔

12. 排污影響評估顯示，這項公營房屋發展所產生的污水可以收集至公共污水管道，並輸送至元朗污水處理廠。為配合擬建發展計劃的污水排放需求，現時的沙埔污水泵房需要進行擴建工程。該污水泵房現時採用全封閉模式，並在擴建後繼續採取全封閉模式運作，以減少噪音和氣味的影響。因此，只要採用了建議的污水收集系統及污水處理策略後，擬建房屋發展項目將不會對污水系統方面產生負面影響。有關擬建排污設施的位置圖，請參閱附

件一。

13. 沙埔污水泵房屬於《環境影響評估條例》(第 499 章)的指定工程項目。現時，沙埔污水泵房的建造和營運已根據《環境影響評估條例》取得環境許可證。顧問公司將會在工程的勘查研究、設計及建造階段就沙埔污水泵房擴建工程按照《環境影響評估條例》進行評估程序，確保沙埔污水泵房擴建工程不會對附近環境造成負面影響，並向環境保護署申請更改現有環境許可證後才施工。根據在可行性研究階段已完成的初步環境評審報告，沙埔污水泵房擴建工程預計不會對附近環境造成負面影響。

(二) 十八鄉和大旗嶺

14. 排污影響評估顯示，這項公營房屋發展所產生的污水可以經擬建的污水管道收集至現有公共污水管道，並輸送至新圍污水處理廠，而現有污水網絡可以承受擬議發展項目所增加的污水流量。因此，只要採用了建議的污水收集系統及污水處理策略後，擬建公營房屋發展項目將不會對污水系統方面產生負面影響。有關擬建污水排放設施的位置圖，請參閱附件二。

15. 在施工期間，區內部分道路會分階段實施臨時交通安排。土拓署會要求承建商採取適當措施，包括分階段施工及依據路政署的“道路工程的照明、標誌及防護工作守則”提供足夠及清晰的臨時交通指示等，務求把工程對附近道路交通的影響減至最低。

16. 上述擬建排污設施工程將會於公營房屋發展項目入伙前完成。

土地徵收

17. 為了落實有關的基礎設施工程，當局會根據相關條例，收回工程範圍內的有關的私人土地，並會按現行政策及法例向受影響的土地業權人及有關人士作出補償。

下一步工作

18. 政府計劃就上述擬建的基礎設施工程，預計於二零二三年上半年按《道路(工程、使用及補償)條例》(第 370 章)和《水污染管制(排污設備)規例》(第 358AL 章附屬法例)刊登憲報以諮詢公眾。在工程獲批准後，上述工地平整及基礎設施工程預計在二零二五年動工，並於二零二六年至二零三一年分階段完成，及把平整後的工地轉交給房屋署進行公營房屋發展工程。

19. 土拓署現正進行勘測、設計工作包括進一步的詳細交通影響評估，待法定程序和詳細設計完成後，會向立法會提出撥款申請建造有關擬建工地平整及基礎設施工程，以配合這項公營房屋發展計劃。

意見徵詢

20. 歡迎各位議員對上述擬建公共道路、道路改善措施、公共運輸設施及排污設施工程提供寶貴意見。

附件

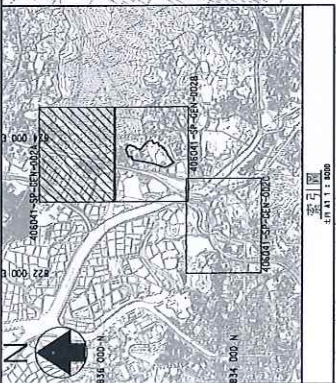
附件一 元朗沙埔公營房屋發展之工地平整和基礎設施工程平面圖

附件二 元朗十八鄉和大旗嶺公營房屋發展之工地平整和基礎設施工程平面圖

土木工程拓展署

二零二二年十月

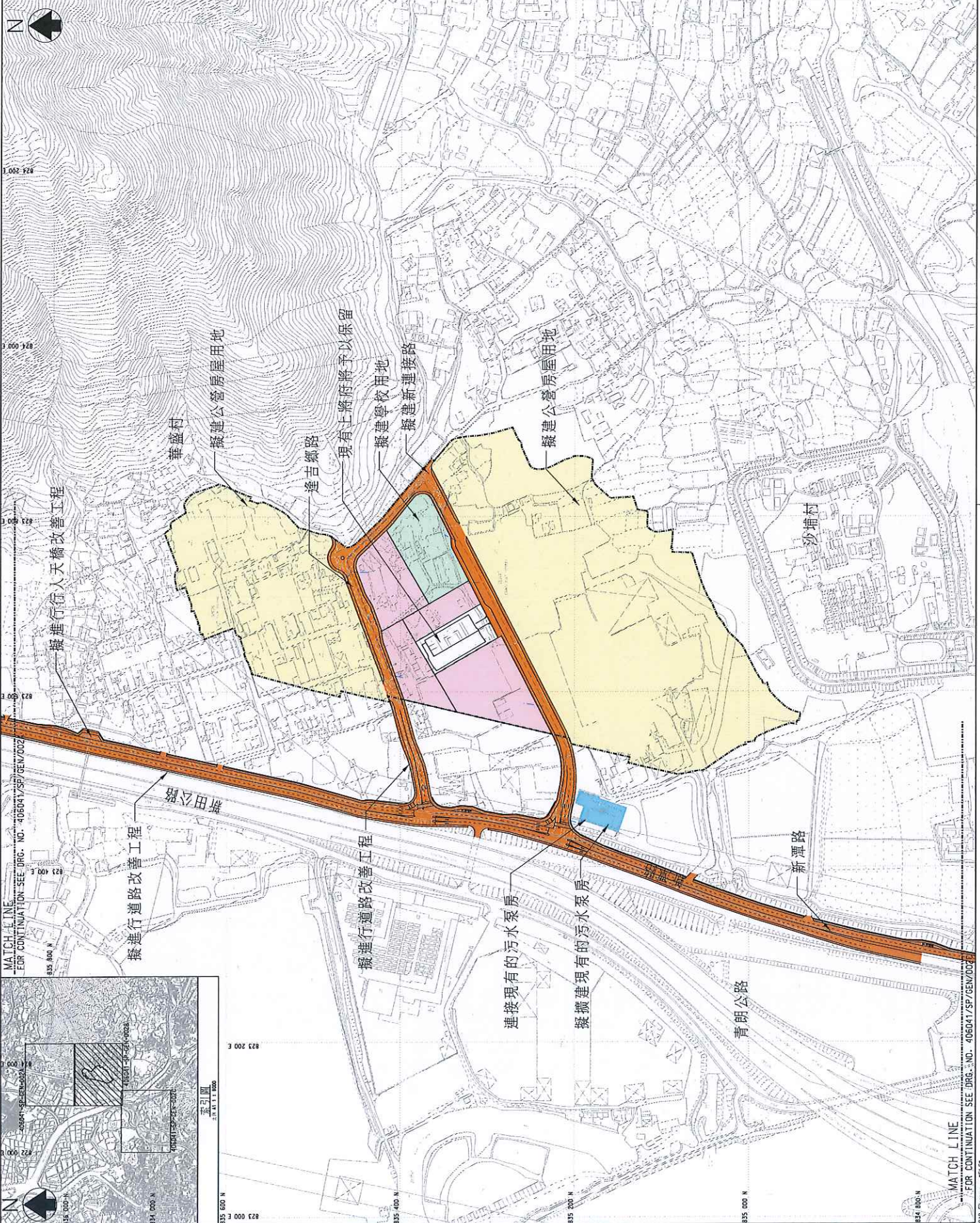
- 圖例:
- 公務局用地
 - 學校用地
 - 擬議政府、團體或住宅地
 - 擬議現有的污水渠
 - 擬議的公共道路/渠進行改善工程
 - 擬議的公共道路/渠
 - 擬議的公共道路/渠
 - 擬議的污水渠
 - 擬議的污水渠



<p>合約編號: CE 10/2020 (CE) 元朗沙埔、十八鄉及大嶼嶼公務局屋 發展之土地平整及基礎設施工程 - 可行性研究</p>
<p>元朗沙埔公務局屋發展計劃 土地平整及基礎設施 工程平面圖</p>
<p>406041/SP/GEN/002A</p>
<p>A1 : 2000 A3 : 4000</p>
<p>土木工程師 羅啟 CEDD Civil Engineering and Development Department</p>
<p>binnies BINNIES HONG KONG LIMITED 寶尼新工程師有限公司</p>

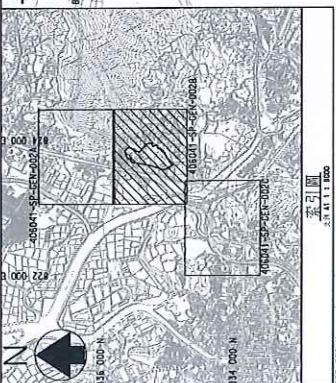
圖例:

- 公務房屋用地
- 學校用地
- 擬建的政府、機構或社區用地
- 擬擴建現有的污水泵房
- 擬建的公共屋邨/擬進行道路改善工程 (有關該項改善工程的地區只對另一項項目所擬建的公共屋邨/擬改善的公共屋邨)
- 擬建的污水管



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MATCH LINE FOR CONTINUATION SEE DRG. NO. 406041/SP/GEN/002B



合約編號 CE 10/2020 (CE)
元朗沙埔十八鄉公營房屋發展之土地平整及基礎設施工程
- 可行性研究

元朗沙埔公營房屋發展計劃
土地平整與基礎設施
工程平面圖

406041/SP/GEN/002B

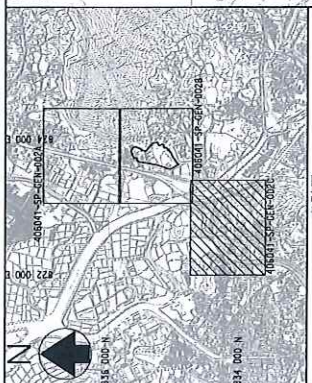
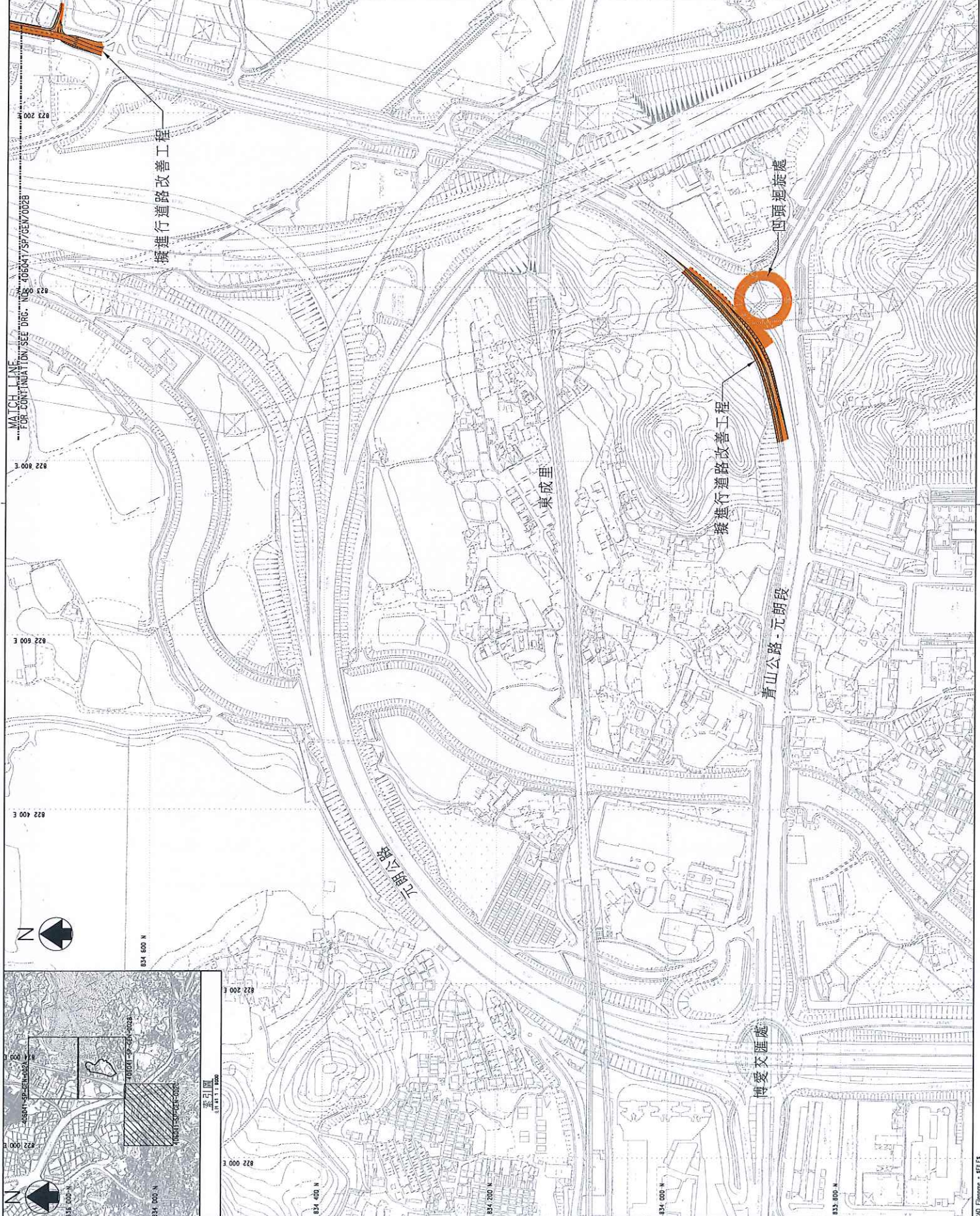
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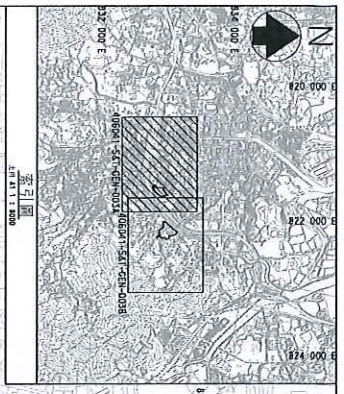
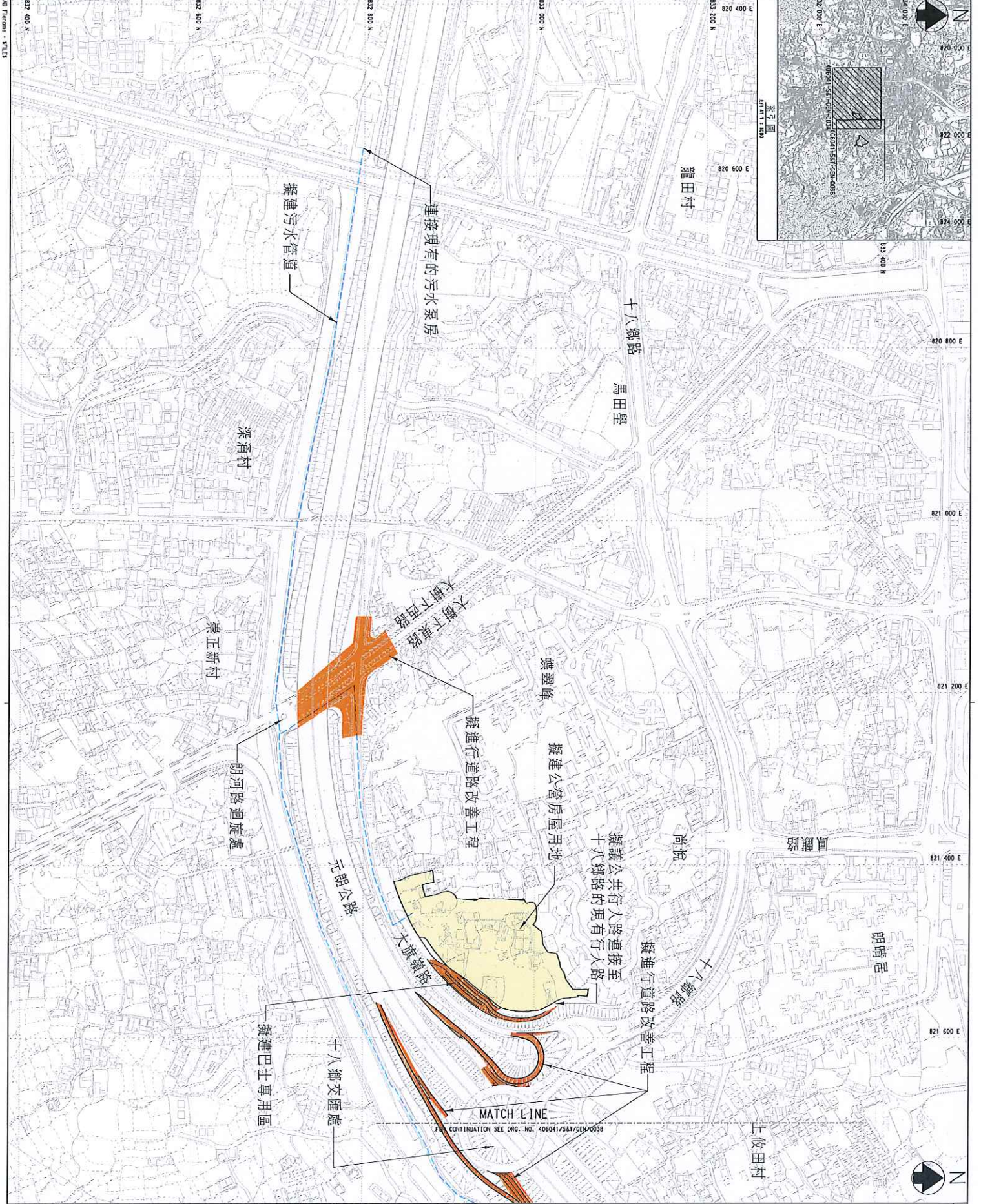
土木 工程 拓展 署
CEDD Civil Engineering and Development Department

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- 圖例:
- 公營房屋用地
 - 學校用地
 - 擬建由政府、機構或社團用地
 - 擬建現有污水渠
 - 擬建公共道路/擬進行道路改善工程
 - 另一主要項目所擬建的公共道路/擬改善的公共道路
 - 擬建的污水渠

<small>項目名稱</small>	合約編號 CE 10/2020 (CE) 元朗沙埔十八鄉及大嶺坳公營房屋發展之土地平整及基礎設施工程 - 可行性研究
<small>項目地點</small>	元朗沙埔公營房屋發展計劃 土地平整及基礎設施工程 工程平面圖
<small>圖則編號</small>	406041/SP/GEN/002C
<small>日期</small>	A1 : 2000 A3 : 2000
土木工程拓展署 CEDD Civil Engineering and Development Department	
BINNIES HONG KONG LIMITED 賓尼士工程顧問有限公司	





圖例:

	公營房屋用地
	學校用地
	擬建的公共道路/擬進行道路改善工程/擬建或預期的單車徑/現有或預期的單車徑/擬或預期的公共通道/擬或預期的巴士專用區
	擬建的污水管道

<p>合約編號 CE 10/2020 (1E) 元朗沙埔·十八鄉及大鵬湖公營房屋發展之土地平整及基礎設施工程 - 可行性研究</p>	<p>元朗十八鄉及大鵬湖公營房屋發展計劃 土地平整及基礎設施工程 工程中期圖</p>	<p>406041/S&T/GEN/003A</p> <p>AS 1: 4000</p>	<p>EDD Civil Engineering and Development Department</p> <p>土木工程拓展署 Civil Engineering and Development Department</p> <p>BIMNES HONG KONG LIMITED 賓尼新工程顧問有限公司</p>
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圖例:

- 公營房屋用地
- 學校用地
- 擬建公營屋宇/擬進行道路改善工程
- 工務處擬議的臨時建築地盤/擬建學校用地
- 工務處擬議的臨時建築地盤/擬建學校用地
- 擬建改善的公營屋宇
- 擬建改善的公營屋宇
- 擬建改善的公營屋宇

合約編號: CE 10/2020 (CE)
 元朗沙埔十八鄉及大旗嶺公營房屋
 發展之土地平整及基礎設施工程
 - 可行性研究

元朗十八鄉及大旗嶺公營房屋發展計劃
 土地平整及基礎設施
 工程平面圖

406041/5&T/6EN/003B

比例尺
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