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**Appendix B –**

**Traffic Impact Assessment**

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**Section 16 Planning Application for Proposed Amendments  
to an Approved Scheme (under Application No. A/H6/91  
with Minor Relaxation of Plot Ratio Restriction Approved)  
for Permitted Flat Use at 4, 4A, 4B and 4C Tai Hang Road,  
Hong Kong**

**Traffic Impact Assessment**

**Final Report**

**April 2026**



**CTA Consultants Limited**

**志達顧問有限公司**

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## 1. INTRODUCTION

### 1.1 Background

- 1.1.1 A planning application No. A/H6/91 was submitted to the Town Planning Board (the Board) on 4 June 2021 under Section 16 of the Town Planning Ordinance for Proposed Minor Relaxation of Plot Ratio (PR) Restriction for Permitted Flat Use at 4, 4A, 4B and 4C Tai Hang Road, Hong Kong. The Application Site covers an area of about 1,711m<sup>2</sup>, and is zoned “Residential (Group B)” on the Approved Causeway Bay Outline Zoning Plan (OZP) No. S/H6/17, subject to a maximum PR of 5 and a maximum building height (BH) of 30 storeys (including carports). The application sought to relax the PR from 5 to 5.687 (+13.74%) to facilitate a 30-storey residential development providing a total of 61 residential units. The application was approved with conditions by the Board on 14 January 2022 (the Approved Scheme).
- 1.1.2 Subsequent to the approval of the above planning application, the Applicant has been actively proceeding with the detailed design and implementation of the residential development. In response to the latest market trend and to address the continuous housing demand in Hong Kong, the Applicant hereby submits the current application to propose amendments to the Approved Scheme to increase the number of units from 61 to 176, with no change to other major development parameters including GFA, PR and number of storeys as compared with the Approved Scheme.
- 1.1.3 We, CTA Consultants Limited (CTA), are commissioned by the Applicant to prepare a Traffic Impact Assessment (TIA) study in supporting of the proposed residential development in traffic engineering point of view.



## 1.2 Study Objectives

1.2.1 The main objectives of this study are listed as follows:

- To assess the existing traffic condition in the vicinity of the proposed development;
- To forecast the traffic demands on the adjacent road network in the design year 2033;
- To estimate the likely traffic generated by the proposed development on the adjacent road network;
- To recommend the proposed parking provision of the proposed development;
- To recommend improvement measures, if necessary to alleviate and foreseeable traffic problems on the road network in the vicinity.

## 1.3 Structure of the Report

1.3.1 Following this introductory chapter, there are **SIX** further chapters:

- **Chapter 2 – THE PROPOSED DEVELOPMENT**, which presents the site location and details of the proposed development;
- **Chapter 3 – THE EXISTING TRAFFIC CONDITIONS**, which describes the existing local road network and the public transport provisions in the vicinity of the subjected area, and presents a summary of the traffic count survey and assesses the traffic conditions;
- **Chapter 4 – THE FUTURE TRAFFIC CONDITIONS**, which discusses the potential traffic generation and attraction of the proposed development and summaries the methodology for future traffic forecasts;
- **Chapter 5 – TRAFFIC IMPACT ASSESSMENT**, which presents the findings of the traffic impact assessment for the future design and recommends improvement measure, if necessary; and



- **Chapter 6 – PEDESTRIAN IMPACT ASSESSMENT**, which describes the existing pedestrian network in the vicinity of the subject site and estimates the future condition for design year; and
- **Chapter 7 – SUMMARY AND CONCLUSION**, which summaries the findings of the study and presents the conclusions regarding the traffic issues associated with proposed development.



## 2. THE PROPOSED DEVELOPMENT

### 2.1 Site Location

2.1.1 The Application Site is situated at Nos. 4 - 4C Tai Hang Road, Hong Kong. The location of the proposed development is shown in **Figure 1.1**.

### 2.2 Proposed Development

2.2.1 The proposed development parameters are summarized in below **Table 2.1**.

**Table 2.1 Proposed Development Parameters**

	<b>Approved Scheme (A/H6/91)</b>	<b>Proposed Scheme</b>	<b>Difference</b>
<b>Site Area (R(B))</b>	1,711 m <sup>2</sup>	1,711 m <sup>2</sup>	-
<b>Plot Ratio</b>	5.687	5.687	-
<b>Total Gross Floor Area (GFA)</b>	9,730.12 m <sup>2</sup>	9,730.12 m <sup>2</sup>	-
<b>Proposed Usage</b>	Residential	Residential	-
<b>Nos. of Unit</b>	61	176	+115
<b>No. of Block</b>	1	1	-
<b>Average Flat Size</b>	159.5 m <sup>2</sup>	55.3m <sup>2</sup>	-104.2 m <sup>2</sup>

### 2.3 Development Access

2.3.1 The proposed vehicular access to the proposed development is located at Tai Hang Road. As requested by TD during the submission of the GBP of the approved scheme, to minimize the traffic impact of long vehicle egress from the proposed development to Tai Hang Road, vehicle longer than 7 m could only turn right to Tai Hang Road to uphill direction. The proposed scheme follows the same principle of turn banning. Traffic signs of ban left turn for vehicles longer than 7m will be added as shown in **Figure 2.1**.





### 3. THE EXISTING TRAFFIC CONDITIONS

#### 3.1 Existing Road Network

3.1.1 The existing road network in the vicinity of the proposed development is shown in **Figure 3.1**. The area surrounding the Application Site is mainly served by Tai Hang Road and Lai Tak Tsuen Road. Tai Hang Road connects the area to Wan Chai through Stubbs Road in the south and to Causeway Bay through Moreton Terrace Flyover in the west.

3.1.2 Lower portion of Tai Hang Road is a single 3-lane road of which two lanes are for eastbound (uphill direction) and one lane for westbound (downhill direction).

3.1.3 Upper portion of Tai Hang Road is a single 2-lane road running in east-west direction.

3.1.4 Lai Tak Tsuen Road is a single 2-lane road serving the local residence in Lai Tak Tsuen connecting the area to North Point and Fortress Hill through Yee King Road in the north and Causeway Bay through to Tai Hang Road in the south.

#### 3.2 Critical Junctions

3.2.1 **Six** key junctions were identified to be critical for the traffic impact assessment due to the proposed development which are listed in the below **Table 3.1** and showed in **Figure 3.1**. Their existing junction layout arrangements and the method of control are shown in **Figures 3.2 to 3.7** respectively.



**Table 3.1 Identified Critical Junctions**

Ref.	Junction	Type	Fig. No.
J1	Causeway Road / Irving Street / Leighton Road / Tung Lo Wan Road	Signal	3.2
J2	Tung Lo Wan Road / Ka Ning Path / Eastern Hospital Road	Signal	3.3
J3	Causeway Road / Moreton Terrace	Signal	3.4
J4	Tung Lo Wan Road / Moreton Terrace	Signal	3.5
J5	Tai Hang Road / Pedestrian Crossing near Ka Ning Path	Signal	3.6
J6	Tai Hang Road / Lai Tak Tsuen Road / Fuk Kwan Avenue	Roundabout	3.7

3.2.2 In order to study the existing traffic condition in the above critical junctions, traffic survey in form of manual classified counts was conducted.

3.2.3 The survey was carried out during the morning and evening peak periods on a typical weekday on 25 March 2026. Analysis of the observed traffic data indicated that the AM and PM peak hour flows occurred from 07:45am to 08:45am and PM between 18:00pm to 19:00pm respectively.

3.2.4 The 2026 observed AM and PM peak hour traffic flows are presented in **Figure 3.8**.

3.2.5 Existing operational performance of the critical junctions are listed in **Table 3.2** below.

**Table 3.2 Observed Junctions Performance**

Ref.	Junction	Type	2026 RC(%) / DFC	
			AM Peak	PM Peak
J1	Causeway Road / Irving Street / Leighton Road / Tung Lo Wan Road	Signal	86%	120%
J2	Tung Lo Wan Road / Ka Ning Path / Eastern Hospital Road	Signal	96%	99%
J3	Causeway Road / Moreton Terrace	Signal	55%	59%
J4	Tung Lo Wan Road / Moreton Terrace	Signal	74%	78%
J5	Tai Hang Road / Pedestrian Crossing near Ka Ning Path	Signal	47%	47%
J6	Tai Hang Road / Lai Tak Tsuen Road / Fuk Kwan Avenue	Roundabout	0.66	0.59

Note: (1) RC = Reserve Capacity for signal junction;

(2) DFC = Design Flow/Capacity Ratio for Priority Junction or Roundabout



3.2.6 The assessment results in **Table 3.2** indicate that all critical junctions are at present operating with ample capacities during the peak hours.

### 3.3 Existing Public Transport Facilities

3.3.1 Numerous road-based public transport services are currently operating in the vicinity of the subject site. Details of Franchised Bus and GMB routes operating in the vicinity of the 500m catchment area are summarized in the below **Table 3.3**.

**Table 3.3 Road-Based Public Transport Service in the Vicinity**

Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	2	Grand Promenade – Central (Macau Ferry)	20-30
	2A	Yiu Tung Estate – Exhibition Centre Station	5-24
	2A*	Yiu Tung Estate – Causeway Bay (Hysan Place)	Mon – Sat: 20-80
	2X	Grand Promenade – Exhibition Centre Station	6-20
	5B	Felix Villas - Hong Kong Stadium	Mon – Sat: 8-30
	5B*	Felix Villas - Hong Kong Stadium (omit Charter Road)	Sun & PH: 10-30
	5B*	Causeway Bay (Tung Lo Wan Road) - Felix Villas	Mon – Fri: 08:40
	5X	Causeway Bay (Whitfield Road) - Kennedy Town	20-30
	5X*	Causeway Bay (Whitfield Road) - Kennedy Town (omit Ice House Street)	Sun and PH: 30
	8	Heng Fa Chuen - Exhibition Centre Station	12-25
	8H	Siu Sai Wan (Island Resort) - Tung Wah Eastern Hospital	30
	8P	Siu Sai Wan (Island Resort) - Exhibition Centre Station	5-22
	8P*	Siu Sai Wan (Island Resort) - Exhibition Centre Station (omit Fullview Garden)	Mon - Sat: 5-10
	8P*	Siu Sai Wan (Island Resort) - Causeway Bay (Hysan Place)	Mon - Sat: 13-33
	8X	Siu Sai Wan (Island Resort) - Happy Valley (Upper)	6-20
	8X*	Siu Sai Wan (Island Resort) - Moreton Terrace	Mon - Fri: 07:37, 08:35, 09:35, 17:48, 18:45, 19:45
	8X*	Siu Sai Wan (Island Resort) - Victoria Park	Mon - Fri: 08:25, 09:25, 10:25, 18:30, 19:25, 20:25
	10	Kennedy Town – North Point Ferry	8-30
10*	Kennedy Town – North Point Ferry (omit Charter Road)	Sun and PH: 12-25	



Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	11	Central (Ferry Piers) – Jardine’s Lookout (Circular)	12-30
	15B	The Peak - Wan Chai (Convention Centre)	Sun and PH: 17:30, 19:30
	19P	Shau Kei Wan - Tai Hang Road	School Days: 07:00
	23	North Point Ferry Pier - Pokfield Road	7-20
	23B	Braemar Hill – Park Road/Robinson Road	School Days 06:55, 07:10, 07:30, 15:30, 16:00, 16:35
	25	Central (Pier 5) – Braemar Hill (Circular)	10-20
	25*	Central (Piers 3) - Braemar Hill (Circular) (via Central Star Ferry)	Sat, Sun&PH: 20
	25*	Central (Pier 3) - Concordia Lutheran School	School Day: 07:20
	25*	Central (Piers 3) - Fortress Hill Road	23:15, 23:30
	25A	Exhibition Centre Station - Braemar Hill (Circular)	12-30
	26	Lai Tak Tsuen – Hollywood Road (Circular)	Mon – Sat: 10-25
	26*	Lai Tak Tsuen - Hollywood Road (Circular) (omit Charter Road)	Sun & PH: 20-25
	38	North Point Ferry - Chi Fu Fa Yuen	6-20
	38*	North Point Ferry - Chi Fu Fa Yuen (omit Wai Fu)	Mon - Sat: 8-15
	38*	Causeway Bay (Central Library) - Chi Fu	Mon - Sat: 17:55, 18:25
	41A	North Point Ferry Pier – Wah Fu (Central)	5-30
	41A*	North Point Ferry Pier – Wah Fu (Central) (via Braemar Hill)	School Days 07:00, 07:20, 14:35, 15:20
	42	North Point Ferry Pier – Wah Fu (South)	Mon - Sat: 10-20
	42C	Cyberport – North Point Ferry Pier	Mon - Fri: 08:05, 08:35, 18:10, 18:40
	63	North Point Ferry Pier – Stanley Market	Mon – Sat: 30
	63*	North Point Ferry Pier – Stanley Prison	Mon - Sat: 06:30, 19:30
	65	North Point Ferry Pier – Stanley Market	Sun and PH: 12-30
	72	Causeway Bay (Moreton Terrace) – Wah Kwai Estate	4-20
	72A	Causeway Bay (Moreton Terrace) – Sham Wan	20-35
77	Shau Kei Wan – Tin Wan Estate	11-30	
81	Hing Wah Estate – Lai Tak Tsuen	15-20	
81A	Lai Tak Tsuen – Chai Wan (Hing Wah Estate)	School Days: 06:55, 07:02, 07:10, 16:05	



Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	99	South Horizons - Shau Kei Wan	14-25
	102	Mei Foo – Shau Kei Wan	5-20
	102*	Hung Hom (Cross Harbour Tunnel) - Shau Kei Wan	Mon - Fri: 08:30, 09:00
	103	Pokfield Road – Chuk Yuen Estate	14-30
	106	Wong Tai Sin – Siu Sai Wan (Island Resort)	6-22
	108	Braemar Hill – Kai Yip	10-30
	112	North Point - So Uk	5-30
	116	Quarry Bay - Tsz Wan Shan (Central)	4-20
	116*	Fortress Hill Station - Tsz Wan Shan (Central)	Mon - Fri: 20:40, 21:55, 22:40
	170	Wah Fu (Central) – Sha Tin Station	15-30
	170*	Wah Fu (Central) – Sha Tin Station (via Ocean Park)	Sun & PH: 17
	511	Tai Hang Drive - Central (Central Ferry Piers)	Mon – Fri: 07:50, 08:10, 08:25, 08:40
	592	Causeway Bay (Moreton Terrace) – South Horizons	8-30
	600	Anderson - Central (Rumsey Street)	15-30
	601	Po Tat – Admiralty Station (East)	6-25
	601P	Sheung Wan – Po Tat	Mon – Fri: 15-25
	603	Central (Central Ferry Piers) – Ping Tin	10-30
	603A	Ping Tin – Central Market	Mon - Fri: 07:39, 07:51, 17:16, 17:40
	619	Central (Macau Ferry) – Shun Lee	7-27
	619X	Central (Macau Ferry) – Shun Lee	Mon – Fri: 16:45, 17:18, 17:37, 18:01, 18:30
	621	Central (Hong Kong Station) – Laguna City	Mon - Fri: 18:05, 18:35
	671	Diamond Hill Station – Ap Lei Chau (Lee Lok Street)	15-40
	673	Sheung Shui – Central (Hong Kong Station)	20-30
	673A	Sheung Shui – Central (Rumsey Street)	Mon - Fri: 06:50, 17:45
	678	Sheung Shui – Causeway Bay	Mon - Fri: 10-20
	679	Queen's Hill Fanling - Central (Hong Kong Station)	Mon - Fri: 07:00, 07:30
	680	Lee On – Admiralty Station (East)	10-30
680	Lee On – Admiralty Station (East) (via Chung On Estate)	Mon - Fri: 07:30, 07:52	



Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	680P	Wu Kai Sha Station - Admiralty Station (East)	Mon - Fri: 07:10, 07:25, 07:40
	680X	Central (Macau Ferry) - Wu Kai Sha Station	Mon - Fri: 17:55, 18:15, 18:40, 19:05
	681	Central (Hong Kong Station) – Ma On Shan Town Centre	10-30
	681P	Yiu On – Sheung Wan	Mon - Fri: 17:45, 18:15
	690	Tseung Kwan O (Hong Sing Garden) – Central (Exchange Square)	20-30
	690S	Central (Exchange Square) - Hang Hau (via LOHAS Park)	Mon - Fri: 17:40, 18:00, 18:15, 18:30
	914	Hoi Lai Estate – Causeway Bay (Tin Hau)	13-30
	914P	Hoi Lai Estate – Causeway Bay (Tin Hau)	Mon-Sat: 08:35
	914X	Hoi Lai Estate – Causeway Bay (Tin Hau)	Mon - Fri: 07:38, 08:05
	930B	Kwai Shing Circuit - Causeway Bay (Moreton Terrace) (omit Kwai Fong)	Mon - Fri: 07:45
	930X	Causeway Bay (Moreton Terrace) - Tsuen Wan (Discovery Park)	12-25
	930X	Tsuen Wan (Discovery Park) - Causeway Bay (Moreton Terrace) (omit Nina Tower)	Mon - Fri: 8-20
	936	Tsuen Wan (Shek Wai Kok) – Causeway Bay (Cotton Path)	15-30
	936A	Tsuen Wan (Shek Wai Kok) – Causeway Bay (Cotton Path)	Mon - Sat: 12 - 15
	936A	Lei Muk Shue – Causeway Bay (Cotton Path)	Mon - Fri: 18:15
	948	Cheung On Estate – Causeway Bay (Tin Hau)	8-30
	948A	Cheung On Estate – Causeway Bay (Tin Hau)	Mon – Sat: 5-30
	948B	Greenfield Garden – Causeway Bay (Tin Hau)	Mon – Fri: 08:04, 08:15
	948P	Cheung On Estate – Causeway Bay (Tin Hau)	Mon - Sat: 10-16
	948X	Cheung Wang – Causeway Bay (Tin Hau)	Mon - Sat: 10-15
	952	Tuen Mun (Chi Lok Fa Yuen) - Causeway Bay (Moreton Terrace)	10-30
	952P	Tuen Mun (Chi Lok Fa Yuen) - Causeway Bay (Moreton Terrace)	Mon - Sat: 8-20
	952P	So Kwun Wat - Causeway Bay (Moreton Terrace)	Mon - Fri: 07:10, 07:25, 07:40, 07:50
	952P	Gold Coast - Causeway Bay (Moreton Terrace)	Mon - Fri: 07:33
	960C	Causeway Bay – Fu Tai Estate	Mon - Fri: 07:00, 07:15, 17:05, 17:22



Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	960P	Causeway Bay – Hung Shui Kiu	10-35
	960S	Causeway Bay – Tuen Mun (Fu Tai Estate)	Mon - Sat: 6-18
	961	Wan Chai (HKCECE) - Tuen Mun (Shan King Estate)	7-25
	961P	Tuen Mun (Leung King Estate) - Causeway Bay (Victoria Park)	Mon - Fri: 07:35
	961S	Tuen Mun (Leung King Estate) - Causeway Bay (Victoria Park)	Mon - Fri: 07:30
	961S	Tuen Mun (Leung King Estate) - Causeway Bay (Victoria Park) (via Yip Wong Estate)	Mon - Fri: 07:15, 07:45
	962	Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace)	Mon – Sat: 8-25
	962*	Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace) (via So Kwun Wat)	Mon - Fri: 18:30, 18:50, 19:10
	962G	Causeway Bay (Moreton Terrace) - Tuen Mun (Yuet Wu Villa)	Mon - Fri: 17:40, 18:05, 18:30
	962P	Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace)	Mon - Sat: 4-15
	962P	Yip Wong Estate – Causeway Bay (Moreton Terrace)	Mon - Fri: 07:18
	962X	Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace)	9-30
	967X	Causeway Bay (Moreton Terrace) - Tin Shui Wai (Tin Yan Estate)	12-20
	967X	Causeway Bay (Moreton Terrace) - Tin Shui Wai (Tin Yan Estate) (omit Admiralty Centre)	Mon - Fri: 15-30
	968	Yuen Long (West) – Causeway Bay (Tin Hau)	5-25
	968	Yeun Long Park – Causeway Bay (Tin Hau)	Mon - Sat: 6-20
	968A	Yuen Long (West) – Causeway Bay (Tin Hau)	Mon - Fri: 07:15, 07:30, 07:45
	969	Tin Shui Wai Town Center – Causeway Bay (Moreton Terrace)	8-30
	969	Tin Yan Estate – Causeway Bay (Moreton Terrace)	20-30
	969	Tin Shui Wai Town Center - Causeway Bay (Moreton Terrace) (omit Maywood Court and Kenswood Court)	Mon - Sat: 8-15
	969N	Tin Shui Wai Town Center – Causeway Bay (Moreton Terrace)	05:10
	969P	Tin Shui Wai Town Center – Causeway Bay (Moreton Terrace)	Mon – Sat: 8-20
	A11	Airport – North Point Ferry Pier	15-60
	E11	Tin Hau Station - Skycity	20-40
	E11A	Tin Hau Station - Skycity	35-44
	E11B	Tin Hau Station - Tung Chung (Mun Tung Estate)	10-40
	E11S	Tung Chung (Mun Tung Estate) - Tin Hau Station	Mon - Fri: 5-20
	P968	Yuen Long (West) – Causeway Bay (Tin Hau)	Mon - Fri: 30-60



Service	Route	Origin - Destination	Frequency (min)
Franchised Bus	N11	Central (Macau Ferry) - Airport (Ground Transportation Centre)	01:20, 02:20, 03:20, 04:20
	N122	Mei Foo – Shau Kei Wan	17-35
	N170	Sha Tin Central – Wah Fu (Central)	30
	N182	Central (Macau Ferry) – Kwong Yuen	20
	N307	Tai Wo – Sheung Wan	00:30, 00:10, 04:50, 05:20
	N368	Yuen Long (West) – Central (Macau Ferry)	20-25
	N373	Central (Macau Ferry) – Fanling (Luen Wo Hui)	20-30
	N619	Shun Lee – Central (Macau Ferry)	10-20
	N680	Kam Ying Court – Central (Macau Ferry)	20-30
	N691	Tiu Keng Leng – Central (Macau Ferry)	20-30
	N72	Quarry Bay (Hoi Chak Street) – Wah Kwai Estate	15-20
	N8P	Siu Sai Wan (Island Resort) – Wan Chai (Harbour Road) (Circular)	15-20
	N8X	Siu Sai Wan (Island Resort) – Kennedy Town	30
	N930	Tsuen Wan (Discovery Park) – Causeway Bay (Moreton Terrace)	01:35, 05:15, 05:35
	N952	Tuen Mun (Chi Lok Fa Yuen) - Causeway Bay (Moreton Terrace)	00:50, 01:10, 05:10, 05:40
	N962	Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace)	25-45
N969	Tin Shui Wai Town Centre – Causeway Bay (Moreton Terrace)	20-45	
NA11	HXMB Hong Kong Port – North Point Ferry Pier	From North Point: 04:20, 04:50 From HZMB: 04:00, 01:00 From Airport: 00:50, 01:10	
GMB	14M	Lan Fong Road – Moorsom Road (Circular)	4-12
	14M	Causeway Bay Lan Fong Road - Moorsom Road (Circular) (Special Route via Copper Road)	12-28
	21A	Lai Tak Tsuen (Circular) – Causeway Bay (Lan Fong Road)	4-12
	21M	Tai Hang Drive (Circular) – Causeway Bay (Lan Fong Road)	4-12
	25	Upper Braemar Hill – Causeway Bay (Circular)	5-8
	56	North Point (Marble Road) – Mid-Levels (Robinson Road)	20
	56A	Tin Hau Station – Mid-Levels (Robinson Road)	8-15
	56B	Tin Hau Station – Mid-Levels (Robinson Road)	10-30

Notes:

\*: Special Service

N: Night Time Services Only (After 00:00 am)



## 4. THE FUTURE TRAFFIC CONDITIONS

### 4.1 Design Year

4.1.1 It is anticipated that the proposed development will be completed by 2030 tentatively. In order to assess the possible impact of the development related to traffic on the local road network, year 2033 (i.e. 3 years after completion of the proposed development) is adopted as the design year for this study.

### 4.2 Reference Traffic Flows

4.2.1 To estimate the 2033 reference traffic flows (Approved Scheme) in the local road network, an appropriate growth factor has to be identified for the area in the first instance.

#### *Historical Trend*

4.2.2 Numerous of traffic count stations are located in the vicinity of the proposed development. The traffic counts reported in the Annual Traffic Census (ATC), which is published by Transport Department, over a period of six years, i.e. 2018 to 2024 are summarized in below **Table 4.1**.

**Table 4.1 – Historical Traffic Data from Annual Traffic Census (ATC)**

ATC Stn.	Road Name	Annual Average Daily Traffic (AADT)							Annual Growth Rate
		2018	2019	2020	2021	2022	2023	2024	
1024	Tai Hang Rd. (From Ka Ning Path – Lai Tak Tseun Rd.)	24,560	25,010	23,090	25,500	24,170	24,880	24,290	-0.18%
1852	Tai Hang Rd. (From Lai Tak Tseun Rd. – Perkins Rd.)	11,610*	11,510*	10,950*	11,950	9,290	9,500*	9,410*	-3.44%
<b>Total</b>		<b>36,170</b>	<b>36,520</b>	<b>34,040</b>	<b>37,450</b>	<b>33,460</b>	<b>34,380</b>	<b>33,700</b>	<b>-1.17%</b>

\*AADT estimated by Growth Factor

4.2.3 As shown in **Table 4.1**, it is noted that the average annual traffic growth pattern in the vicinity of the proposed development shows a growth trend of -1.17% per year.



Planning Data

4.2.4 Reference is also made to the latest 2021-Based Territorial Population and Employment Data Matrix (TPEDM) planning data published by Planning Department in Wai Chai District. The average annual growth rates in terms of population and employment from 2026 to 2031 are tabulated in **Table 4.2**.

**Table 4.2 TPEDM Population and Employment Planning Data**

Wai Chai District			
Data	Year		Average Annual Growth Rate
	2026	2031	
Population	156,000	145,700	-1.36%
Employment	301,700	287,250	-0.98%
<b>Total</b>	<b>457,700</b>	<b>432,950</b>	<b>-1.11%</b>

4.2.5 The planning data indicates that the total of population and employment in the area is expected to develop with annual growth rate of -1.11% from 2026 to 2031.

Adopted Growth Rate

4.2.6 A.A.D.T. of ATC indicates that the traffic flows in the local road network have annual growth rate of -1.17% during past years from 2018 to 2024.

4.2.7 Whilst, the projection population data indicates that the population in the area are expected to develop with annual growth rate of -1.11% from 2026 to 2031.

4.2.8 As a conservative approach, annual growth rate **+0.50%** is adopted for the Year 2033 traffic forecast. It is deemed sufficient to allow for any unexpected future growth as a result of some changes in land use or development in the study area.



### 4.3 Traffic Generations and Attractions of Proposed Development

4.3.1 In order to estimate the traffic generation and attraction of the proposed development, reference has been made to the trip generation rates as stipulated in Volume 1 Chapter 3 Appendix D Table 1 of the latest T.P.D.M. published by Transport Department. The adopted trip rates are summarized in below **Table 4.3**.

**Table 4.3 Adopted Trip Rate of Proposed Development**

Proposed Development	Avg Flat Size	AM Peak		PM Peak	
		Generation	Attraction	Generation	Attraction
		(pcu/hr/flat)			
<u>Private Housing Medium - Density / R(B)</u>	60m <sup>2</sup>	0.1021	0.0709	0.0415	0.0464
	70m <sup>2</sup>	0.1117	0.0729	0.0454	0.0551
	120m <sup>2</sup> <sup>(1)</sup>	0.2601	0.1469	0.1353	0.1862
	130m <sup>2</sup> <sup>(2)</sup>	0.2822	0.1613	0.1490	0.2035
	140m <sup>2</sup> <sup>(1)</sup>	0.3042	0.1756	0.1626	0.2207
	160m <sup>2</sup> <sup>(2)</sup>	0.3483	0.2043	0.1899	0.2552
	165m <sup>2</sup> <sup>(2)</sup>	0.3593	0.2115	0.1967	0.2638
<u>Private Housing Medium - Density / R(C)</u>	180 m <sup>2</sup> <sup>(1)</sup>	0.2772	0.1769	0.1635	0.2394
	240m <sup>2</sup> <sup>(1)</sup>	0.3524	0.2837	0.2842	0.3948
	270m <sup>2</sup> <sup>(2)</sup>	0.3710	0.3130	0.3220	0.4459
	300m <sup>2</sup> <sup>(1)</sup>	0.3896	0.3423	0.3598	0.4970
	390m <sup>2</sup> <sup>(2)</sup>	0.4454	0.4302	0.4732	0.6503

Note:

- 1) The trip rates refer to TPDM Vol. 1 Appendix D Table 1 (“upper limit value”)
- 2) Technique of Interpolation/Extrapolation is adopted to derive the trip rate for this case.  
For example, to calculate the generation rate of AM peak “X” for Avg Flat Size 160 m<sup>2</sup>:  
 $(X - 0.3042) / (0.3042 - 0.2601) = (160 - 140) / (140 - 120)$   
 $X = (160 - 140) / (140 - 120) \times (0.3042 - 0.2601) + (0.3042) = 0.3483$

4.3.2 Based on the adopted trip rate listed in the above **Table 4.3** and the development parameters in **Table 2.1**, the trip generated and attracted by the proposed development are estimated and summarized in the following **Table 4.4**.



**Table 4.4 Estimated Traffic Generations and Attractions of Proposed Development**

Proposed Development	Avg Flat Size (m <sup>2</sup> )	Adopted Flat Size Trip Rate (m <sup>2</sup> )	No. of Flat	AM Peak Hour		PM Peak Hour	
				Gen.	Att.	Gen.	Att.
				pcu/hr			
Approved Scheme (A/H6/91) [A]	100 - 130	130	24	7	4	4	5
	130 - 160	160	24	8	5	5	6
	> 160	165	8	3	2	2	2
		270	4	1	1	1	2
		390	1	1	1	1	1
	<i>Sub-Total</i>			<i>61</i>	<i>20</i>	<i>13</i>	<i>13</i>
Proposed Scheme [B]	FS ≤ 40	60	54	6	4	2	3
	40 < FS ≤ 70	70	108	12	8	5	6
	100 < FS ≤ 130	130	12	3	2	2	2
	160 < FS	180	2	1	0	0	0
	<i>Sub-Total</i>			<i>176</i>	<i>22</i>	<i>14</i>	<i>9</i>
<b>Net Difference [B] – [A]</b>				<b>2</b>	<b>1</b>	<b>-4</b>	<b>-5</b>
<b>Net Difference (Adopted)</b>				<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>

4.3.3 From **Table 4.4**, the proposed scheme will generate -5 to 2 pcu/hr (adopted 0 to 2 pcu/hr) trips more than the approved scheme, which represents a very small fraction of the overall traffic in the area.

4.3.4 Based on the above information, the 2033 Reference Flows (Approved Scheme) is estimated and shown in **Figure 4.1**:

$$\begin{array}{l}
 \text{2033 Reference Flows (Approved Scheme)} \\
 = \\
 \text{2026 Observed Flows} \times \text{Adopted Growth Factor (i.e. +0.5\% p.a for 7 years)} + \text{Trip Generated by the Proposed Development under Approved Scheme}
 \end{array}$$



#### 4.4 Design Traffic Forecasts

4.4.1 The net traffic generated by the proposed development is then superimposed onto the 2033 reference traffic flows (Approved Scheme) as shown in **Figure 4.1** to derive the 2033 design traffic forecasts (Proposed Scheme).

$$\begin{array}{rcccl} \mathbf{2033\ Design\ Flows} & & & & \mathbf{Net\ Increase\ of} \\ \mathbf{(Proposed\ Scheme)} & = & \mathbf{2033\ Reference\ Flows} & + & \mathbf{Proposed} \\ & & \mathbf{(Approved\ Scheme)} & & \mathbf{Development\ Traffic} \end{array}$$

4.4.2 The 2033 AM and PM Peak design traffic flows (Proposed Scheme) are shown in **Figure 4.2**.



## 5. TRAFFIC IMPACT ASSESSMENT

### 5.1 Operational Assessment

5.1.1 To assess the traffic impact due to the proposed development, capacity analysis of the identified critical junctions for both reference and design scenarios in year 2033 has been carried out. The results are summarized in below **Table 5.1**.

**Table 5.1 Operational Performance of Critical Junctions in Year 2033**

Ref.	Junction	Type	2033 RC(%) / DFC			
			Reference Case (Approved Scheme)		Design Case (Proposed Scheme)	
			AM Peak	PM Peak	AM Peak	PM Peak
J1	Causeway Road / Irving Street / Leighton Road / Tung Lo Wan Road	Signal	79%	111%	79%	111%
J2	Tung Lo Wan Road / Ka Ning Path / Eastern Hospital Road	Signal	89%	92%	89%	92%
J3	Causeway Road / Moreton Terrace	Signal	50%	53%	50%	53%
J4	Tung Lo Wan Road / Moreton Terrace	Signal	67%	72%	67%	72%
J5	Tai Hang Road / Pedestrian Crossing near Ka Ning Path	Signal	40%	40%	40%	40%
J6	Tai Hang Road / Lai Tak Tsuen Road / Fuk Kwan Avenue	Roundabout	0.69	0.63	0.69	0.63

Note: (1) RC = Reserve Capacity for signal junction;

(2) DFC = Design Flow/Capacity Ratio for Priority Junction or Roundabout

5.1.2 Although there is an increase in the no. of units compare with the approved scheme, the average unit size of the proposed scheme become smaller, the overall traffic trips of the approved scheme and proposed Scheme are more or less the same. Based on the assessment result in above **Table 5.1**, there is no change in the RC/DFC between reference year and design year. It is revealed that the proposed increase the number of units would not cause any noticeable traffic effect and all critical junctions will be operating with sufficient capacity in year 2033.



## 6. PEDESTRIAN IMPACT ASSESSMENT

### 6.1 Existing Pedestrian Condition

6.1.1 In order to acquire the existing pedestrian condition around the proposed development, a pedestrian headcount survey was conducted at concerned footpath sections during AM and PM peak periods on same day as vehicular traffic survey.

6.1.2 The concept of Level-of-service (LOS) in accordance with T.P.D.M. and Highway Capacity Manual has been applied for assessing the concerned walkways. LOS directly relates to the pedestrian comfort and ease with which pedestrians queued and proceed at the walkway.

6.1.3 The survey results are summarised in **Table 6.1** and indicated that the pedestrian flow peaks at AM between 07:40am to 08:40am and PM between 17:30pm to 18:30pm at the concerned footpath. The location of the critical sections of footpath is shown in **Figure 6.1**.

**Table 6.1 LOS Assessment of the Critical Sections of Footpath in Existing Year 2026**

Critical Sections	Total Footpath Width (m) <sup>(1)</sup>	Effective Footpath Width (m) <sup>(2)</sup>	Existing Scenario					
			Two-way Pedestrian Flow (ped/hr)		Two-way Pedestrian Flow Rate (ped/min/m) <sup>(3)</sup>		LOS	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
P1	2.1	1.6	170	145	1.77	1.51	A	A

- Notes: (1) Total Footpath Width = Footpath Width between walls of buildings and road kerb  
(2) Effective Footpath Width = Total Footpath Width – Dead Width  
(Assume 0.5m for dead areas and 1m for shopping frontages)  
(3) Two-way Pedestrian Flow (ped/min/m) = Pedestrian Flow/ Minutes/ Through Zone Footpath Width



## 6.2 Future Pedestrian Condition

- 6.2.1 It is anticipated that the proposed redevelopment will be completed in 2030 tentatively for operation. In order to assess the possible impacts to the surrounding footpath due to the proposed development, year 2033 has been adopted as the design year for this study.
- 6.2.2 In order to estimate the 2033 pedestrian flows in the local road network, a growth factor is derived for the study area as detailed in **Section 4.2**. The average annual growth rate is adopted as **+0.05%** per annum.
- 6.2.3 The pedestrian trip generation and attraction for the proposed development can be defined from in-house survey and results are summarised in **Table 6.2**.

**Table 6.2 Adopted Pedestrian Trip Generation of Proposed Development**

Unit		AM Peak		PM Peak	
		Gen.	Attr.	Gen.	Attr.
Adopted Pedestrian Trip Rate					
Ped/hr/flat		0.6231	0.1385	0.1462	0.3077
Estimated Pedestrian Traffic Trips (176 flats)					
Approved Scheme (A/H6/91) [A]	Ped/hr	38	8	9	19
Proposed Scheme [B]	Ped/hr	110	24	26	54
<b>Net Difference [B] – [A]</b>	<b>Ped/hr</b>	<b>72</b>	<b>16</b>	<b>17</b>	<b>35</b>

- 6.2.4 The pedestrian trip generation and attraction (Approved Scheme) during the AM and PM peak are superimposed to the network to obtain the Reference Flow (Approved Scheme) in 2033, which are summarized as **Table 6.3** below.



**Table 6.3 LOS Assessment of the Critical Sections of Footpath in Reference Year 2033 (Approved Scheme)**

Critical Sections	Total Footpath Width (m) <sup>(1)</sup>	Effective Footpath Width (m) <sup>(2)</sup>	Reference Year 2033 (Approved Scheme)					
			Two-way Pedestrian Flow (ped/hr)		Two-way Pedestrian Flow Rate (ped/min/m) <sup>(3)</sup>		LOS	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
P1	2.1	1.6	220	180	2.29	1.88	A	A

- Notes: (1) Total Footpath Width = Footpath Width between walls of buildings and road kerb  
(2) Effective Footpath Width = Total Footpath Width – Dead Width (Assume 0.5m for dead areas and 1m for shopping frontages)  
(3) Two-way Pedestrian Flow (ped/min/m) = Pedestrian Flow/ Minutes/ Through Zone Footpath Width

6.2.5 The pedestrian trip generation and attraction (Proposed Scheme) during the AM and PM peak are superimposed to the network to obtain the Design Flow (Proposed Scheme) in 2033, which are summarized as **Table 6.4** below.

**Table 6.4 LOS Assessment of the Critical Sections of Footpath in Design Year 2033 (Proposed Scheme)**

Critical Sections	Total Footpath Width (m) <sup>(1)</sup>	Effective Footpath Width (m) <sup>(2)</sup>	Design Year 2033 (Proposed Scheme)					
			Two-way Pedestrian Flow (ped/hr)		Two-way Pedestrian Flow Rate (ped/min/m) <sup>(3)</sup>		LOS	
			AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
P1	2.1	1.6	320	230	5.33	3.83	A	A

- Notes: (1) Total Footpath Width = Footpath Width between walls of buildings and road kerb  
(2) Effective Footpath Width = Total Footpath Width – Dead Width (Assume 0.5m for dead areas and 1m for shopping frontages)  
(3) Two-way Pedestrian Flow (ped/min/m) = Pedestrian Flow/ Minutes/ Through Zone Footpath Width

6.2.6 It is revealed from the assessment results in **Table 6.4** that the concerned sections of footpath will have adequate capacity to cater for the design year 2033 pedestrian flows. Thus, pedestrian trips by the proposed development could be absorbed by the pedestrian network from traffic engineering point of view.



## 7. SUMMARY AND CONCLUSION

### 7.1 Summary

- 7.1.1 The Applicant hereby submits the current application to propose amendments to the Approved Scheme to increase the number of units from 61 to 176, with no change to other major development parameters including GFA, PR and number of storeys as compared with the Approved Scheme.
- 7.1.2 The proposed residential development providing 176 nos. of flats is scheduled for completion by 2030 tentatively.
- 7.1.3 The proposed vehicular access to the proposed development is located at Tai Hang Road which is currently a single 3-lane road of which two lanes are for eastbound (uphill direction) and one lane for westbound (downhill direction).
- 7.1.4 Required internal transport facilities provision for the proposed development as stipulated under the Binding Basic Terms Offer (BBTO) from DLO are checked and complied.
- 7.1.5 Manual count traffic survey was conducted in the surrounding road network of the proposed development in order to study the existing traffic conditions. Current operational performance of critical junctions has been assessed and the results indicated that all the identified critical junctions are at present operating with ample capacities.
- 7.1.6 Assessment of operational performance of the critical junctions indicates that all critical junctions will still operate within their capacities in both reference and design scenarios in year 2033.
- 7.1.7 Although there is an increase in the no. of units compared with the approved scheme, the average unit size of the proposed scheme becomes smaller and therefore, the overall traffic trips of the approved scheme and proposed Scheme are more or less the same. The increase the number of units will generate -5 to 2 pcu/hr in peak hours, which represents an insignificant impact to the overall traffic in the area.

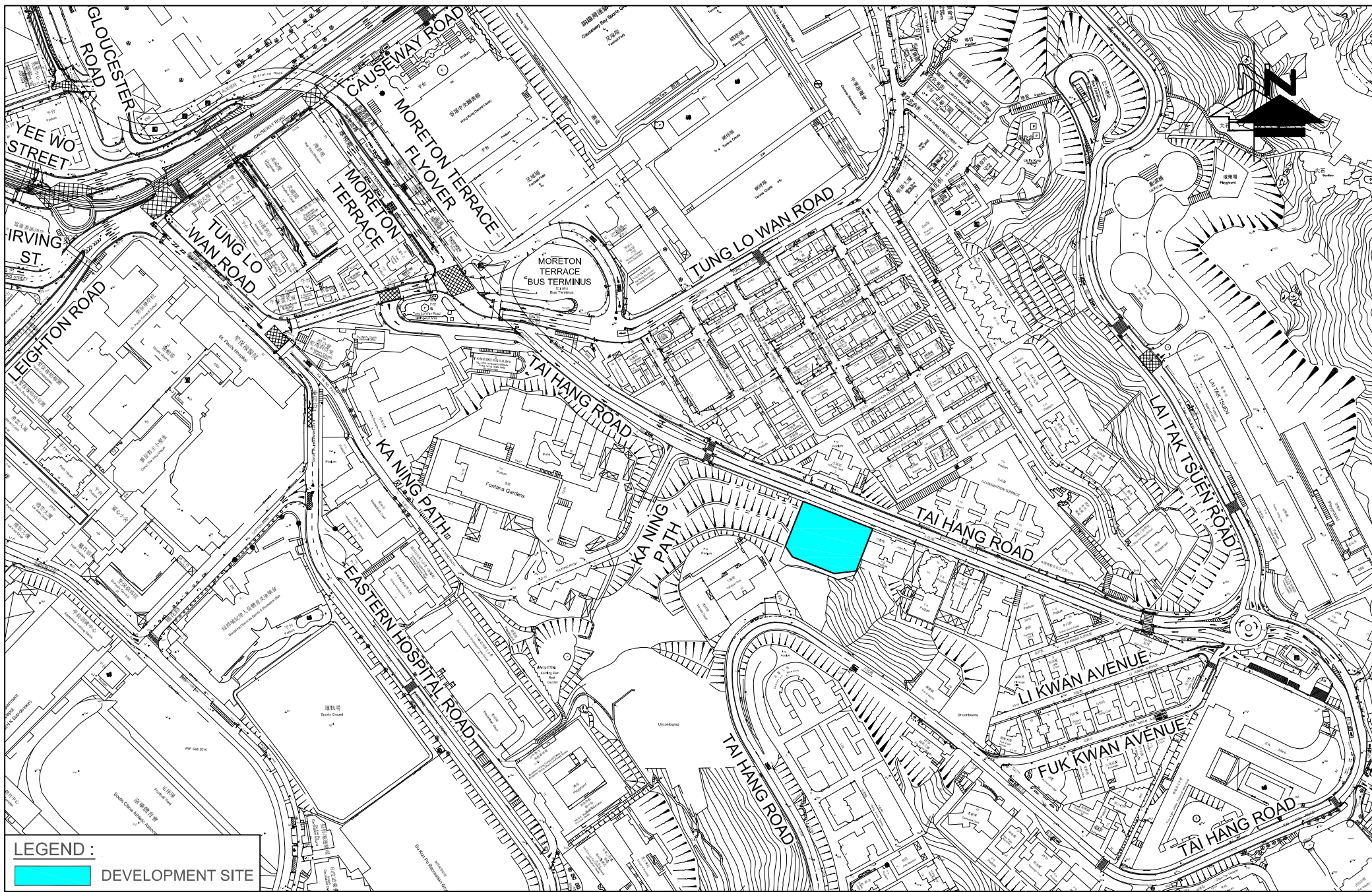


7.1.8 Manual count traffic survey on pedestrian was also conducted and assessment has been carried out. All critical section will still operate within their capacities in both reference and design scenarios in year 2033.

## **7.2 Conclusion**

7.2.1 In conclusion, this traffic impact assessment (TIA) has demonstrated that the traffic generated by the proposed development to the surrounding road network can be accommodated by existing road network.

7.2.2 Therefore, the proposed amendments to the Approved Scheme to increase the number of units from 61 to 176, with no change to other major development parameters including GFA, PR and number of storeys as compared with the Approved Scheme is considered acceptable in traffic engineering point of view.



**LEGEND :**  
 DEVELOPMENT SITE

FIGURE NO.: <b>1.1</b>		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
PROJECT NO.: 26021HK		DRAWING TITLE: <b>SITE LOCATION PLAN</b>
SCALE: 1 : 3250 @A4	DATE: 13 APR 2026	



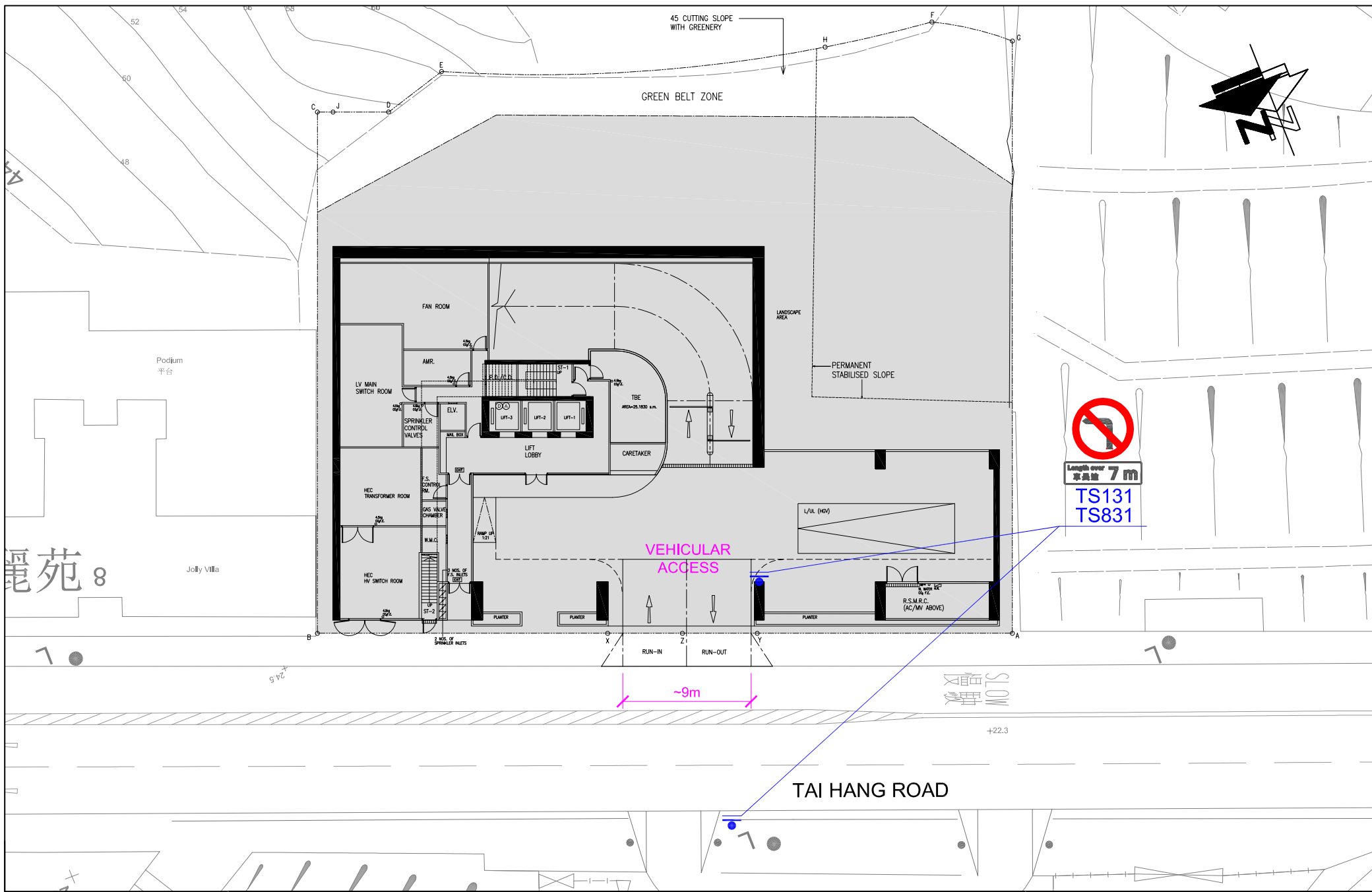


FIGURE NO.: 2.1		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
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SCALE: 1 : 350 @A4	DATE: 28 APR 2026	



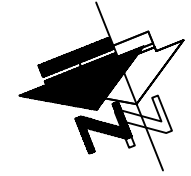
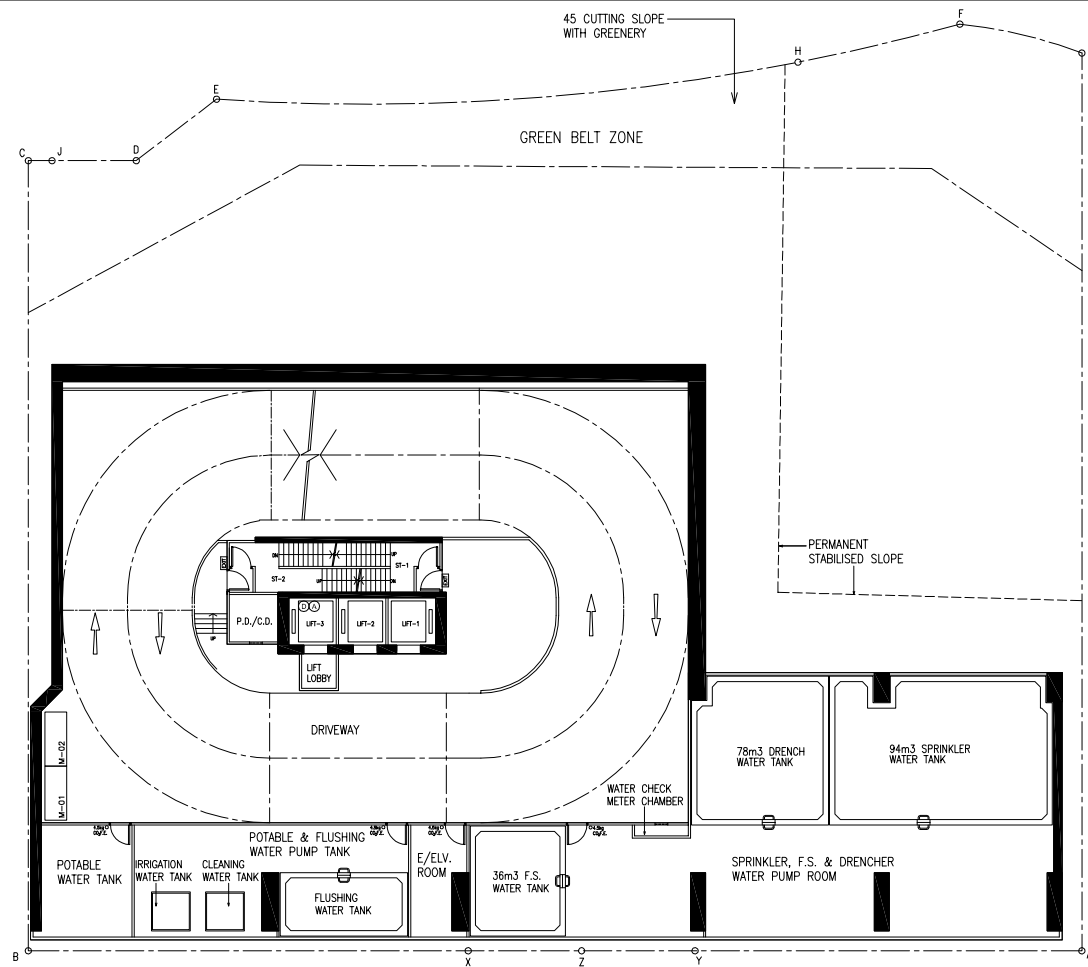


FIGURE NO.:	2.2
PROJECT NO.:	26021HK
SCALE:	DATE:
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PROJECT TITLE:	Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
DRAWING TITLE:	1/F LAYOUT PLAN



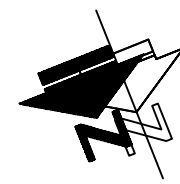
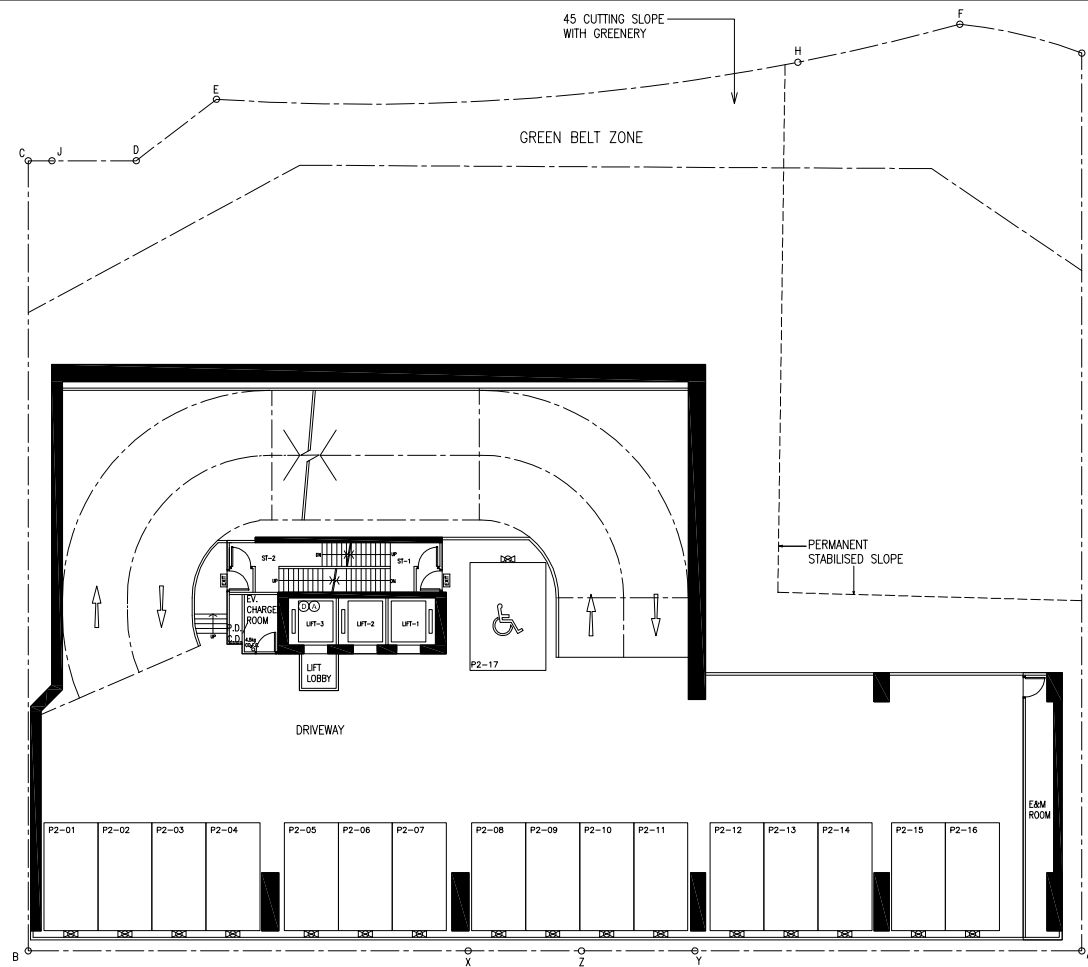


FIGURE NO.: <b>2.3</b>		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	 <b>CTA Consultants Limited</b> 志達顧問有限公司
PROJECT NO.: 26021HK		DRAWING TITLE: <b>2/F LAYOUT PLAN</b>	
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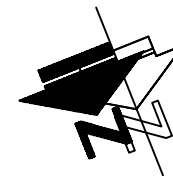
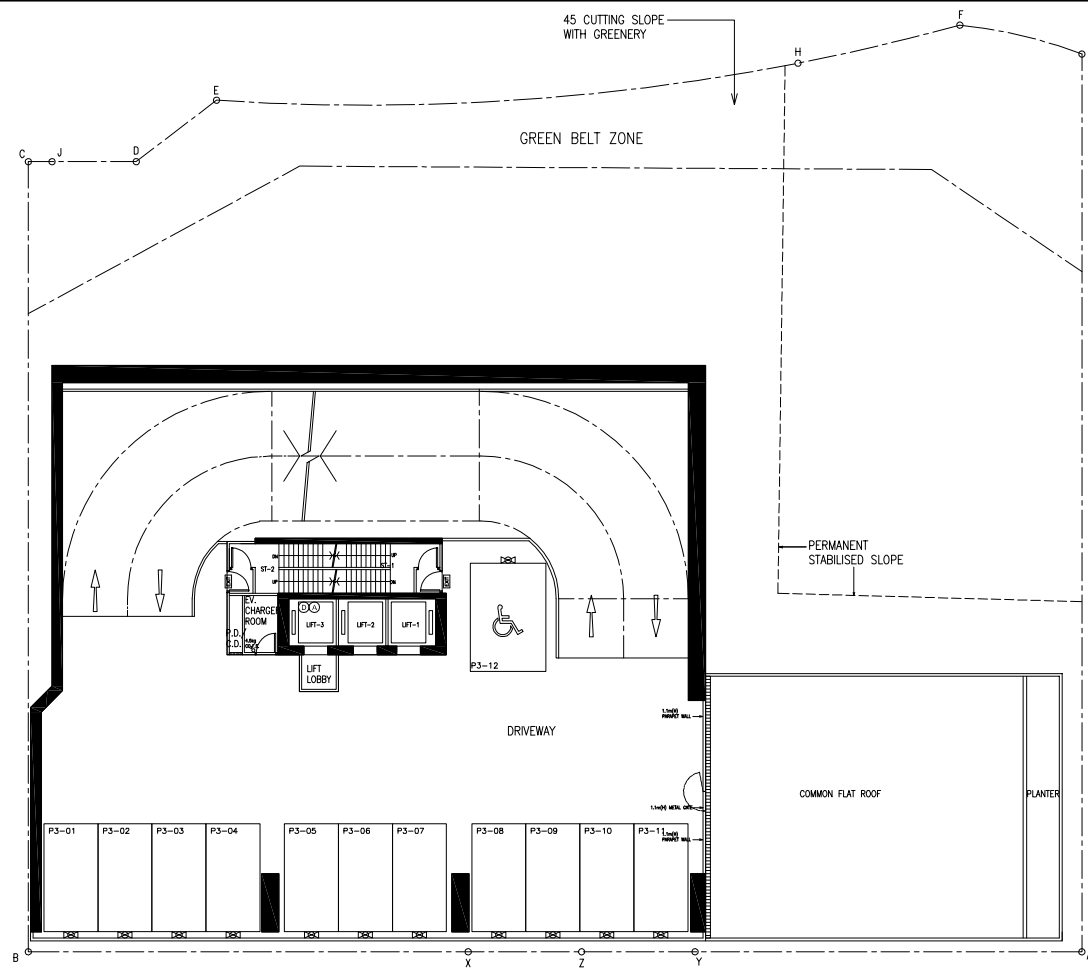


FIGURE NO.:	2.4
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SCALE:	DATE:
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DRAWING TITLE:	3/F LAYOUT PLAN



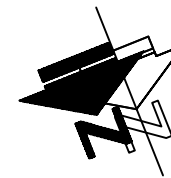
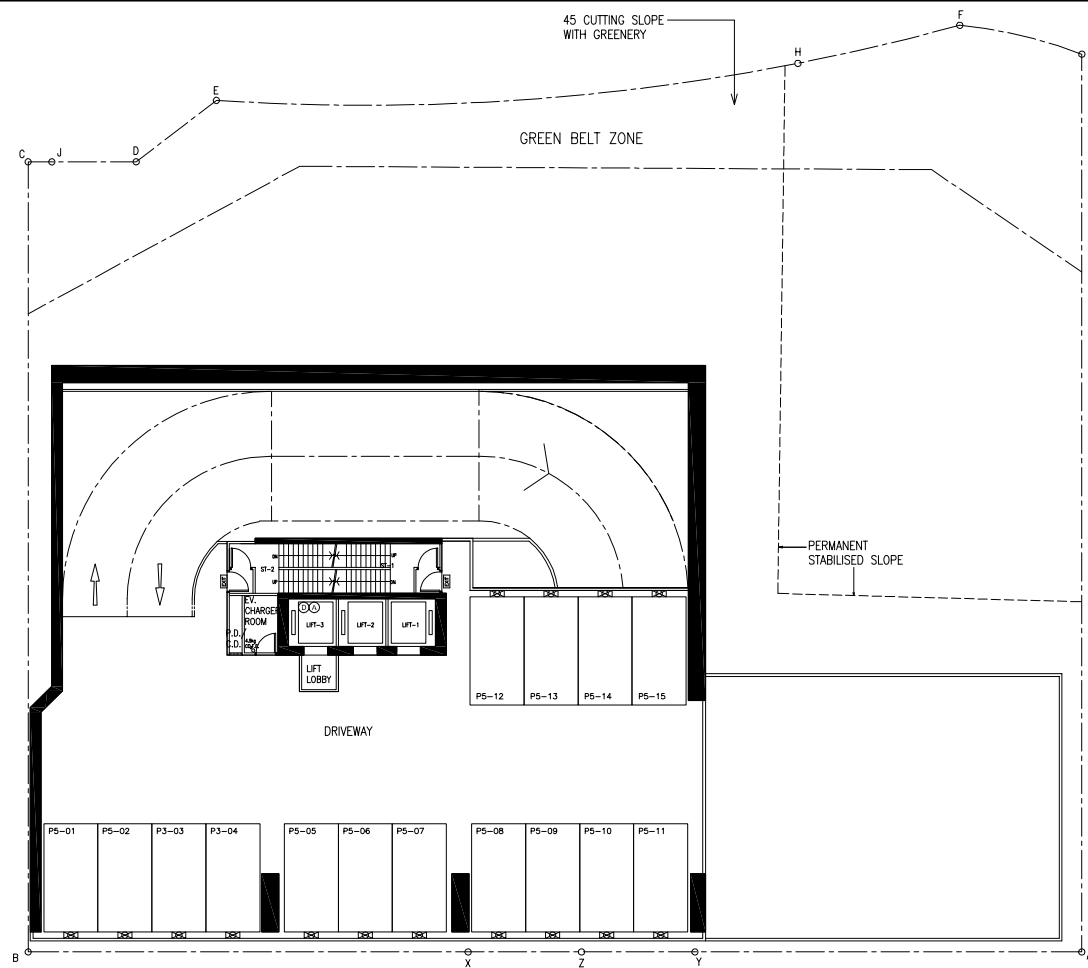


FIGURE NO.: 2.5

PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong

PROJECT NO.: 26021HK

DRAWING TITLE: 5/F LAYOUT PLAN

SCALE: 1 : 350 @A4

DATE: 28 APR 2026



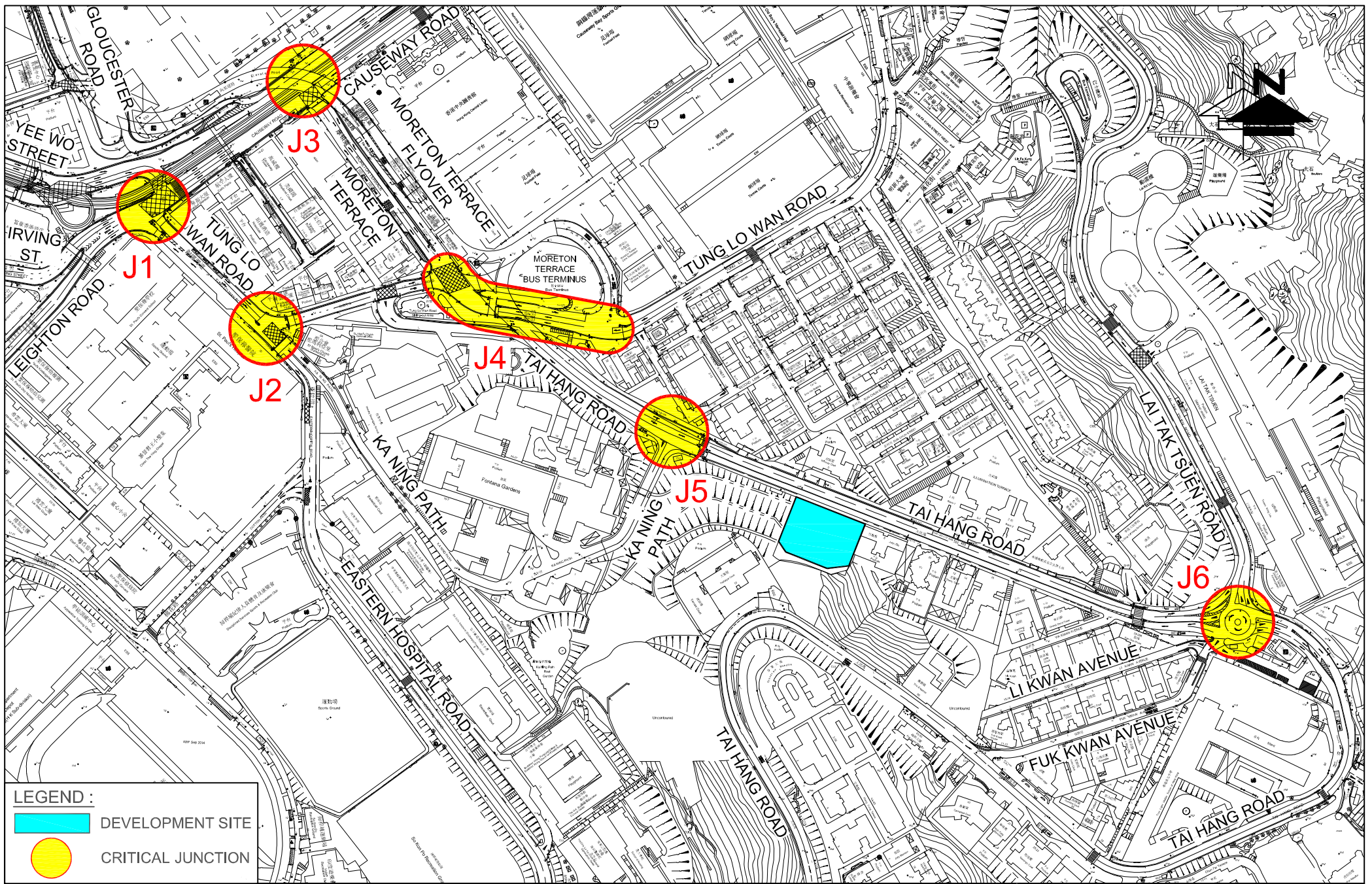


FIGURE NO.:		3.1	PROJECT TITLE:	Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
PROJECT NO.:		26021HK	DRAWING TITLE:	IDENTIFIED CRITICAL JUNCTIONS
SCALE:	DATE:			
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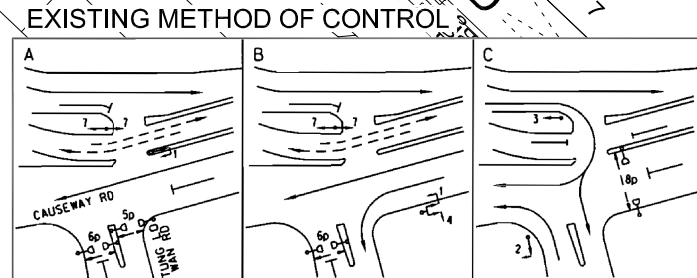
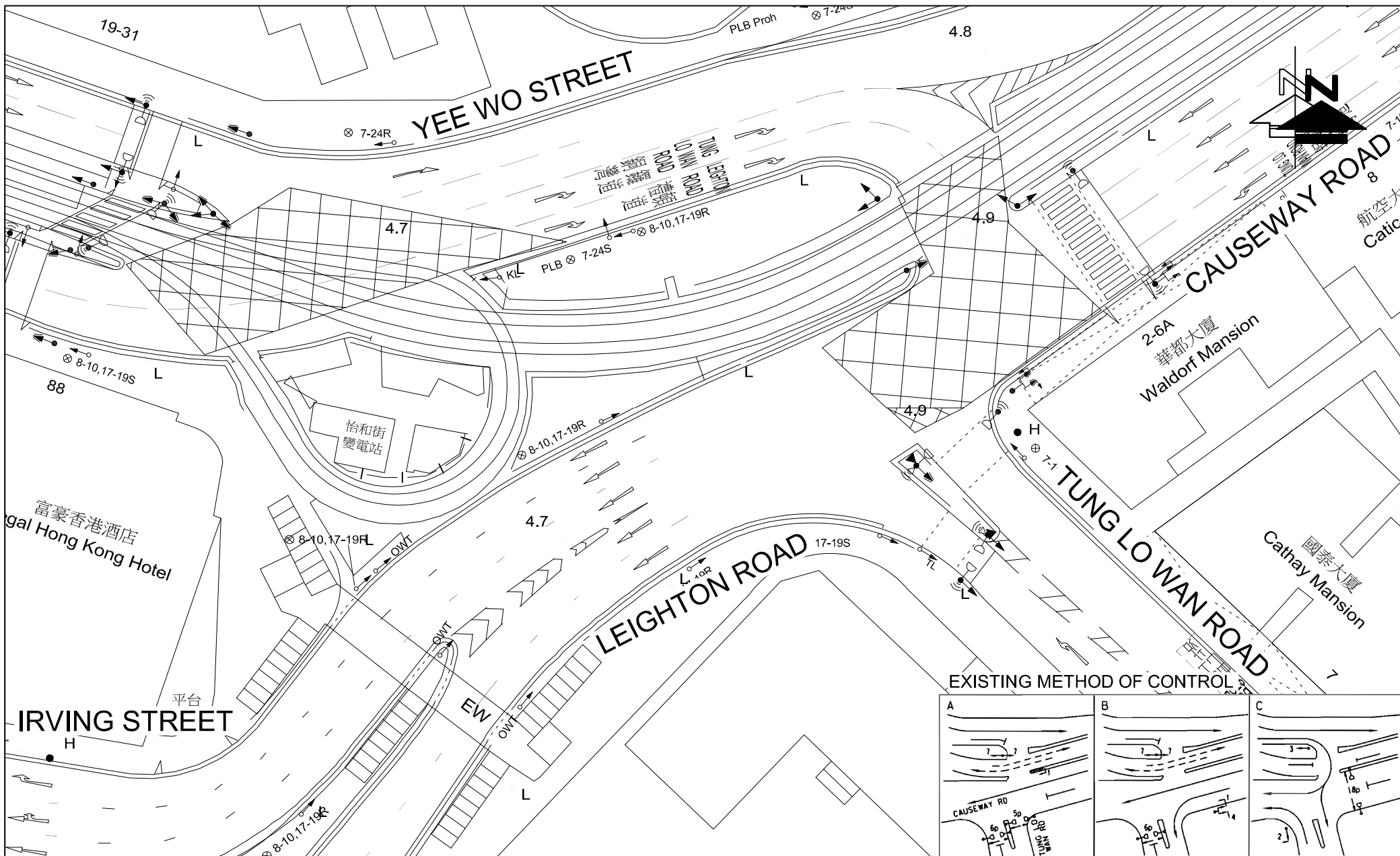



FIGURE NO.: <b>3.2</b>		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
PROJECT NO.: 26021HK		DRAWING TITLE: <b>EXISTING JUNCTION LAYOUT OF CAUSEWAY ROAD / TUNG LO WAN ROAD / LEIGHTON ROAD / IRVING STREET / YEE WO STREET (J1)</b>	
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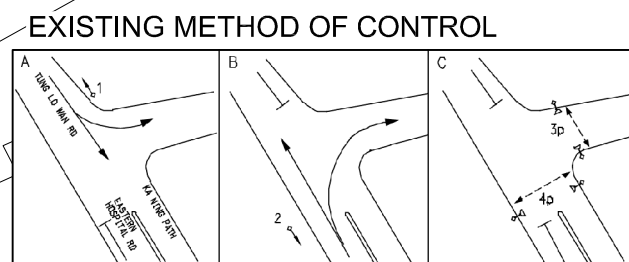
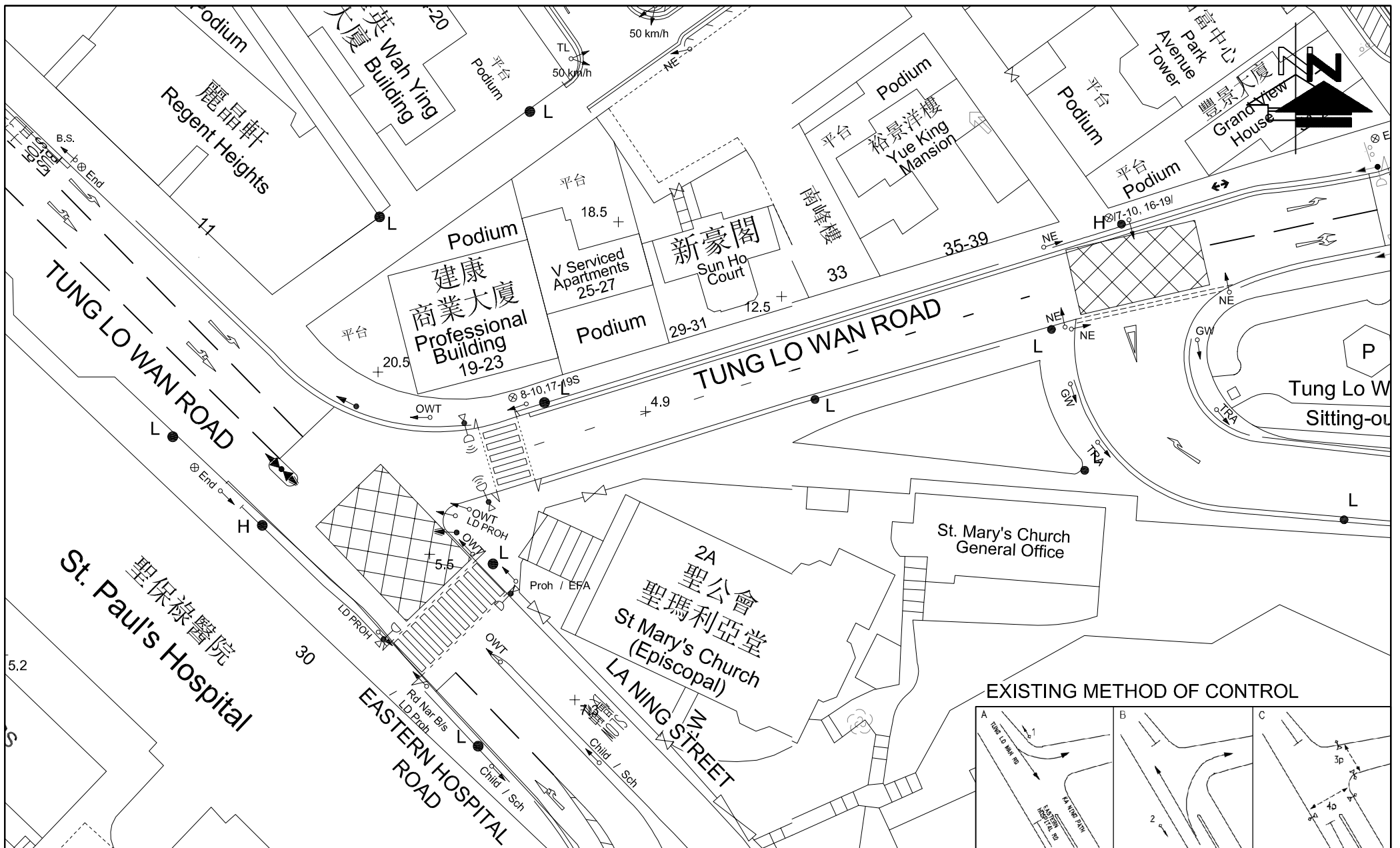

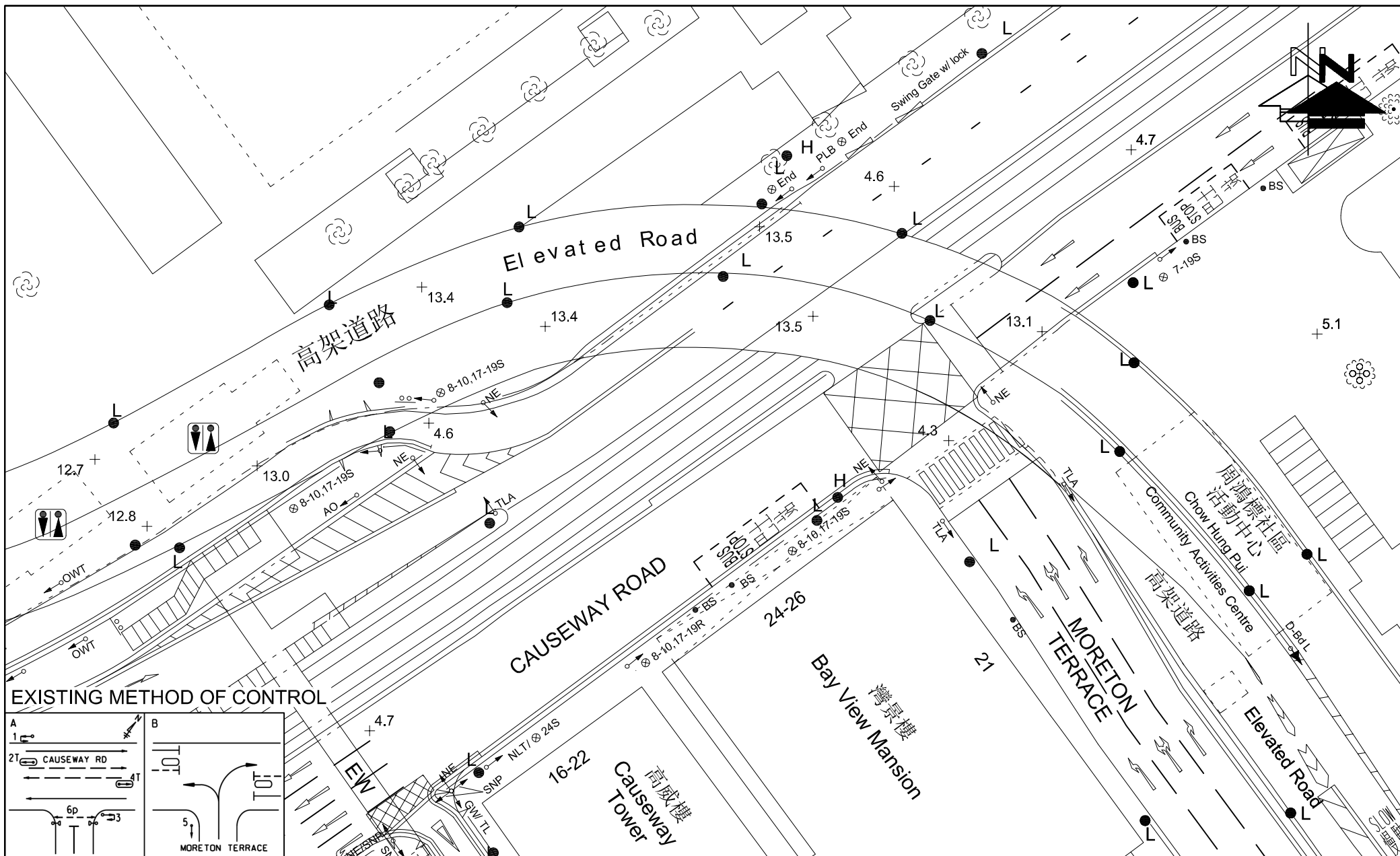


FIGURE NO.: <b>3.3</b>		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
PROJECT NO.: 26021HK		DRAWING TITLE: <b>EXISTING JUNCTION LAYOUT OF TUNG LO WAN ROAD / EASTERN HOSPITAL ROAD / KA NING PATH (J2)</b>	
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EXISTING METHOD OF CONTROL

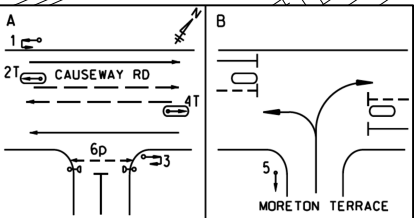
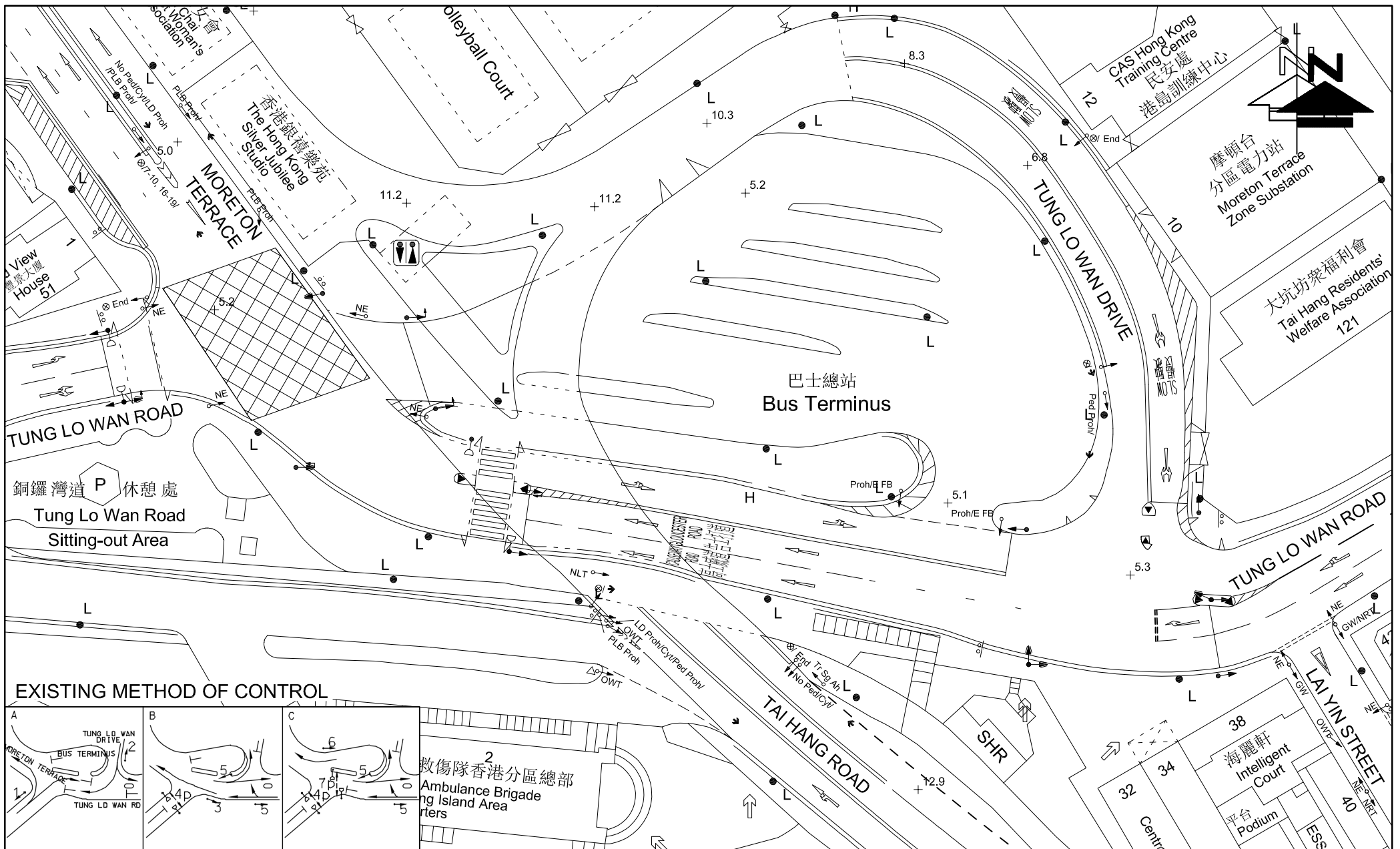


FIGURE NO.: <b>3.4</b>		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	 <b>CTA Consultants Limited</b> 志達顧問有限公司
PROJECT NO.: 26021HK		DRAWING TITLE: <b>EXISTING JUNCTION LAYOUT OF CAUSEWAY ROAD / MORETON TERRACE (J3)</b>	
SCALE: 1 : 500 @A4	DATE: 20 APR 2026		



EXISTING METHOD OF CONTROL

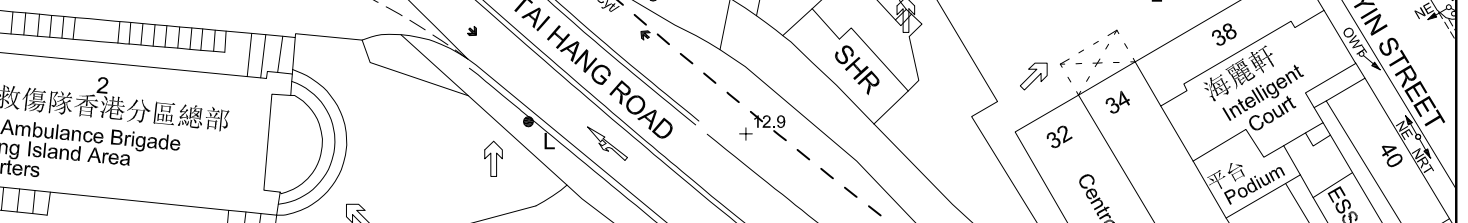
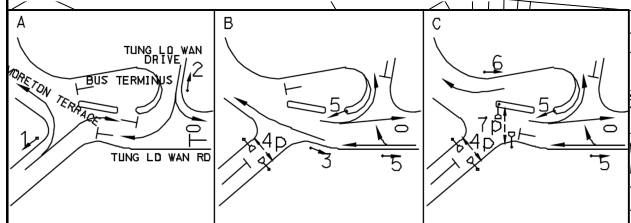
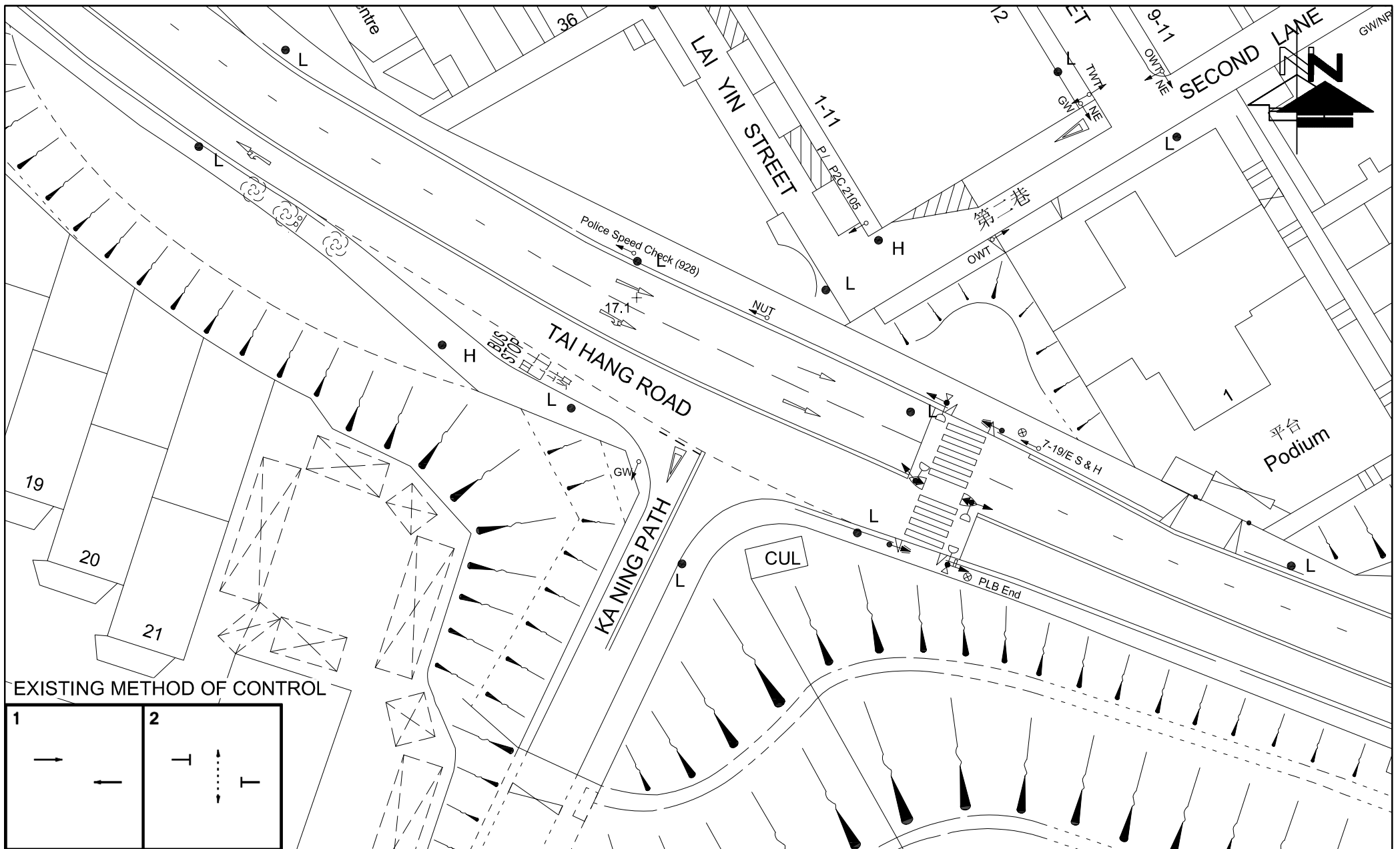


FIGURE NO.:		PROJECT TITLE:	
3.5		Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	
PROJECT NO.:		DRAWING TITLE:	
26021HK		EXISTING JUNCTION LAYOUT OF TUNG LO WAN ROAD / MORETON TERRACE (J4)	
SCALE:	DATE:		
1 : 600 @A4	20 APR 2026		

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志達顧問有限公司



EXISTING METHOD OF CONTROL

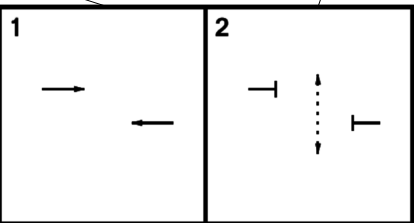



FIGURE NO.: <b>3.6</b>		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	 <b>CTA Consultants Limited</b> 志達顧問有限公司
PROJECT NO.: 26021HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TAI HANG ROAD / PEDESTRIAN CROSSING NEAR KA NING PATH (J5)	
SCALE: 1 : 500 @A4	DATE: 20 APR 2026		

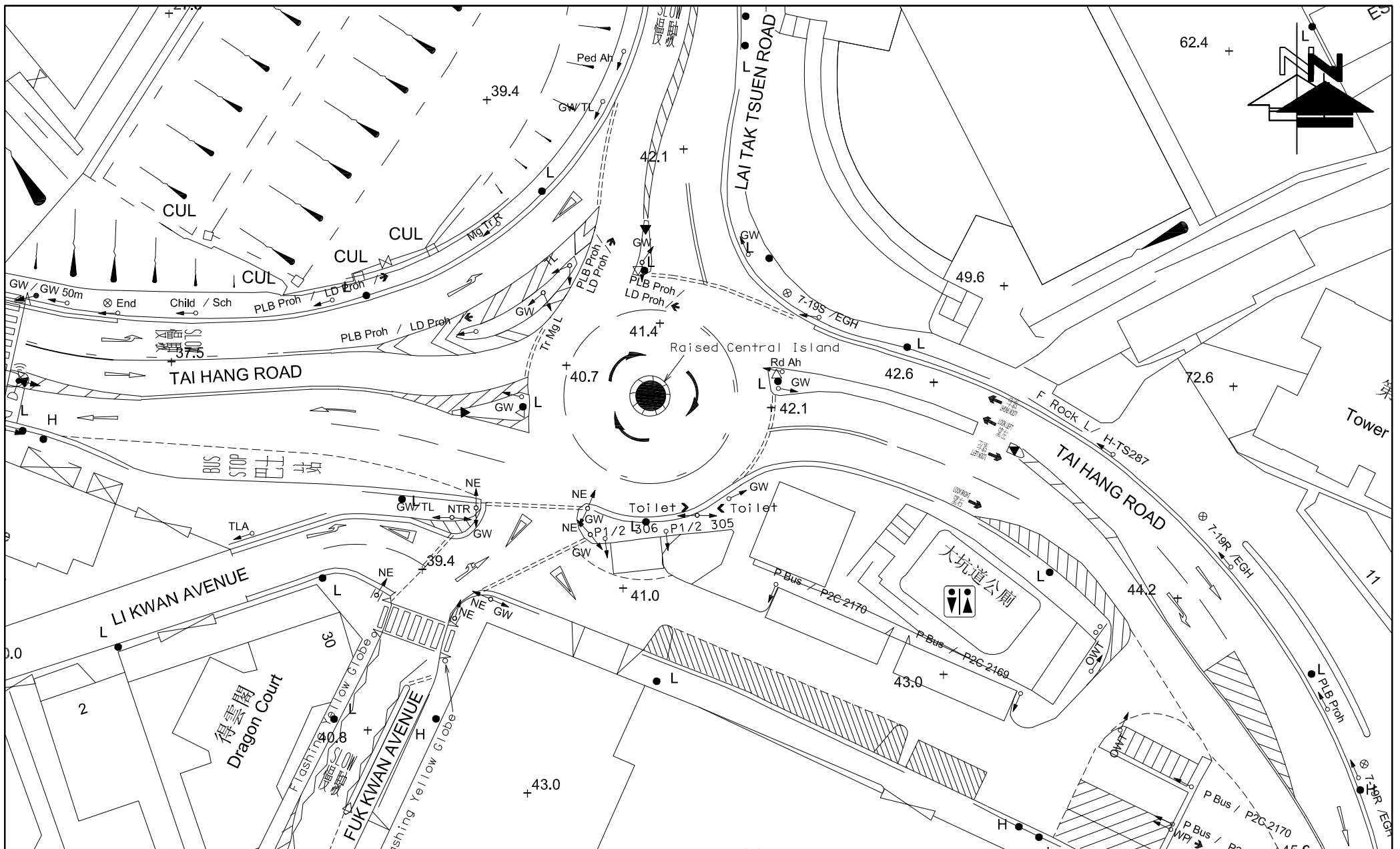



FIGURE NO.:		PROJECT TITLE:		 <b>CTA Consultants Limited</b> <b>志達顧問有限公司</b>
3.7		Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong		
PROJECT NO.:		DRAWING TITLE:		
26021HK		EXISTING JUNCTION LAYOUT OF TAI HANG ROAD / LAI TAK TSUEN ROAD / FUK KWAN AVENUE / LI KWAN AVENUE (J6)		
SCALE:	DATE:			
1 : 500 @A4	20 APR 2026			

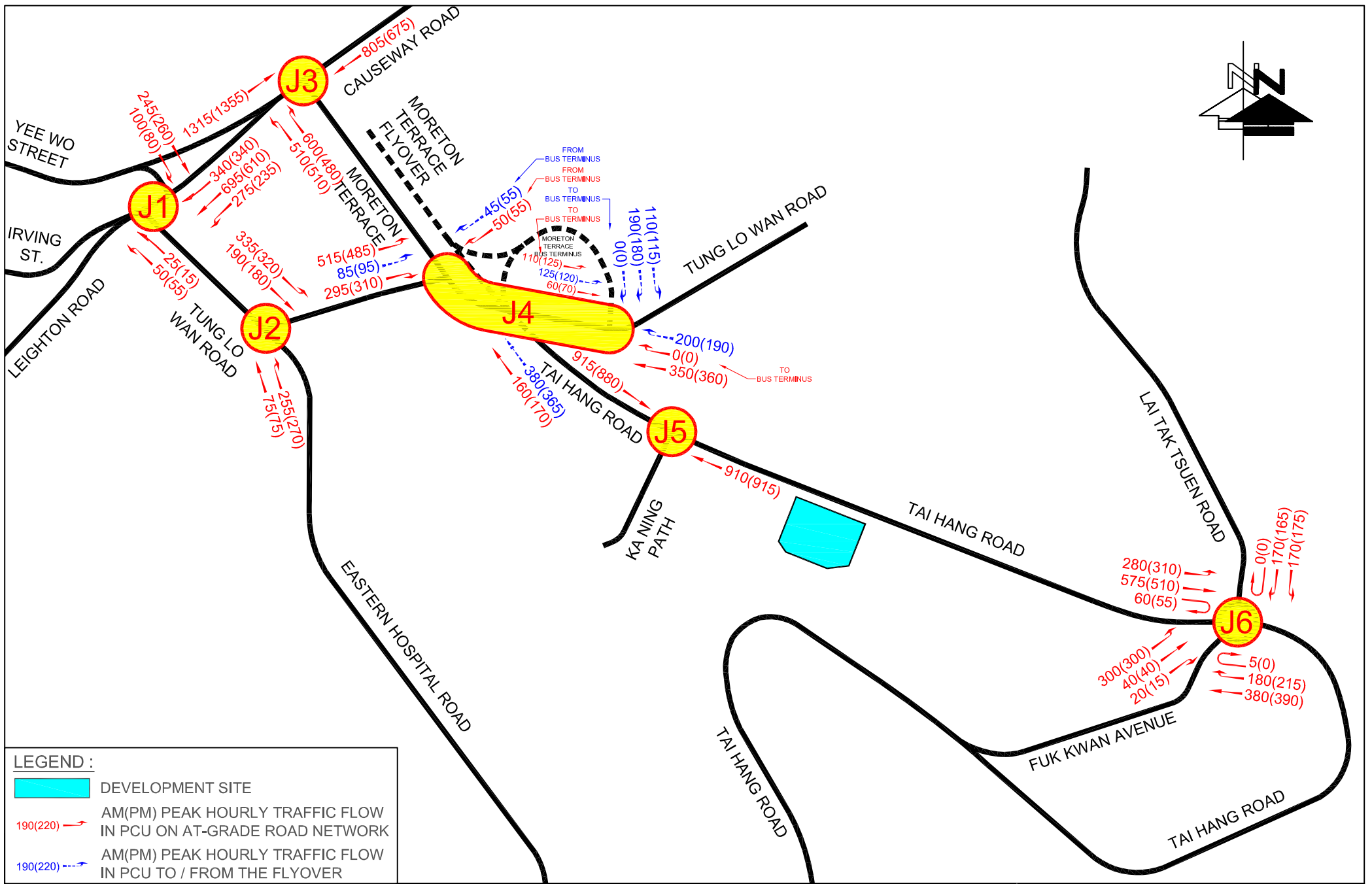


FIGURE NO.:	3.8	PROJECT TITLE:	Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
PROJECT NO.:	26021HK	DRAWING TITLE:	2026 OBSERVED TRAFFIC FLOW
SCALE:	N.T.S. @A4	DATE:	28 APR 2026

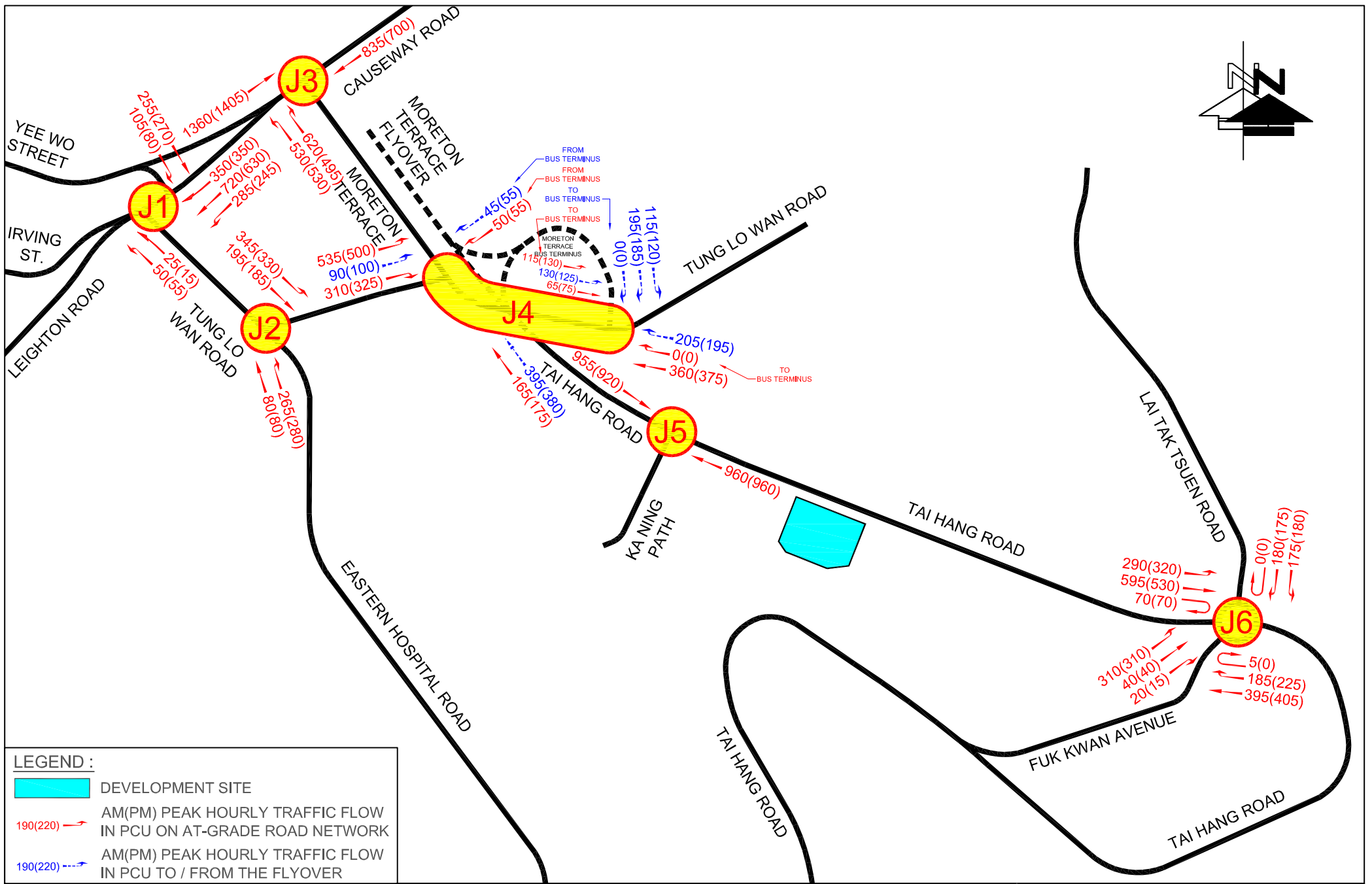


FIGURE NO.:	4.1	PROJECT TITLE:	Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
PROJECT NO.:	26021HK	DRAWING TITLE:	2033 REFERENCE TRAFFIC FLOW (APPROVED SCHEME)
SCALE:	N.T.S. @A4	DATE:	29 APR 2026

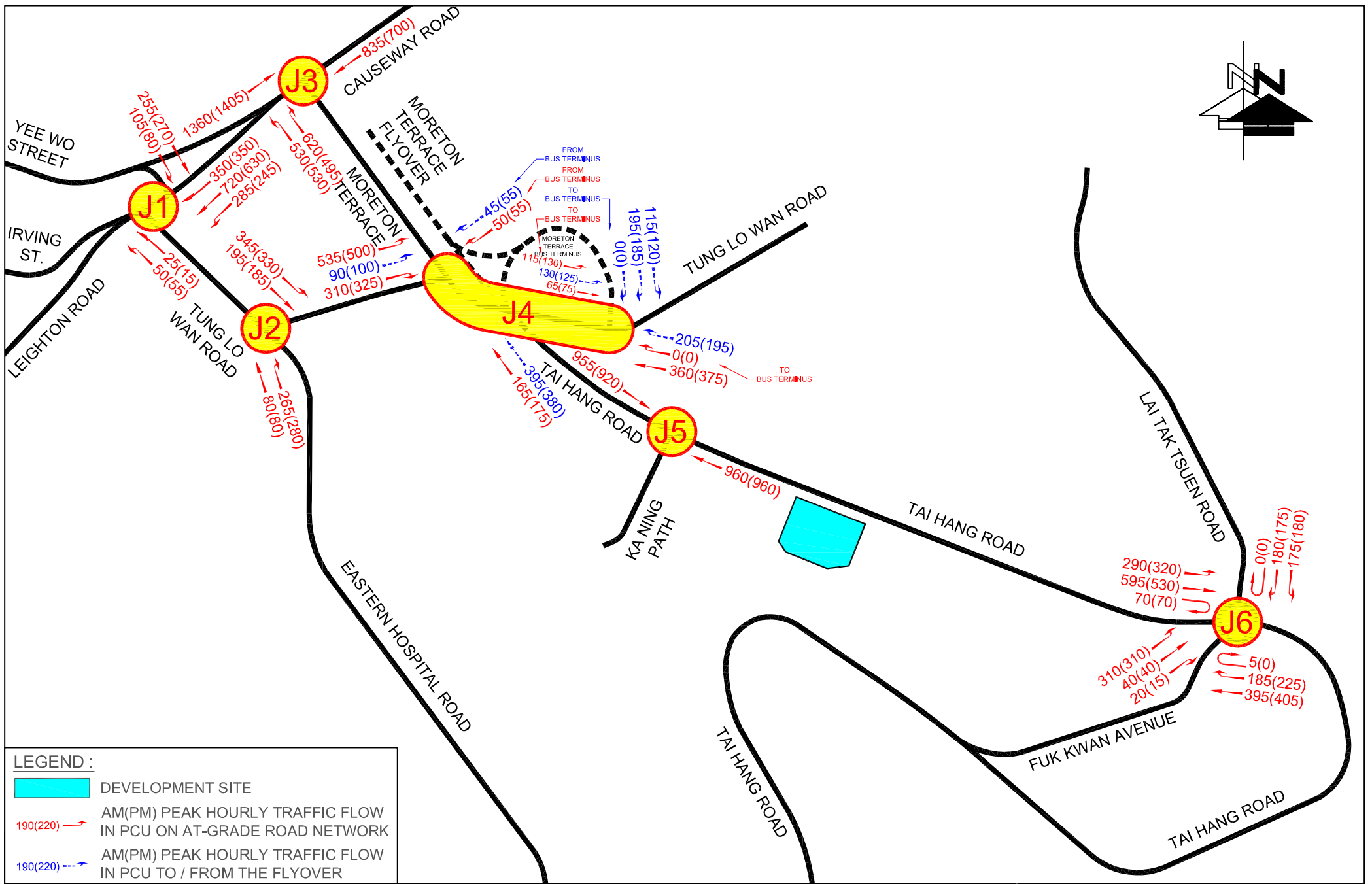
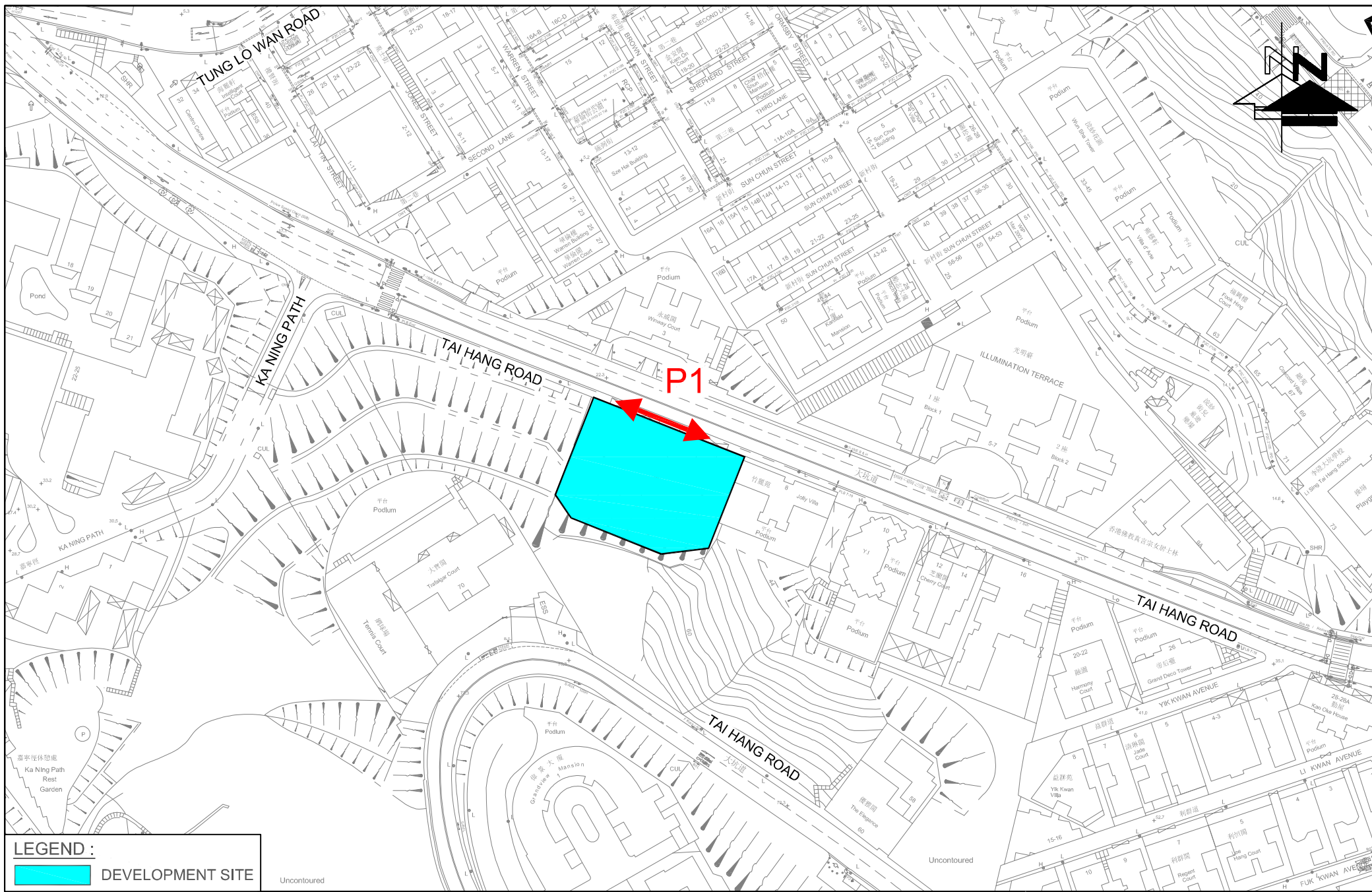


FIGURE NO.: 4.2		PROJECT TITLE: Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong	
PROJECT NO.: 26021HK		DRAWING TITLE: 2033 DESIGN TRAFFIC FLOW (PROPOSED SCHEME)	
SCALE: N.T.S. @A4	DATE: 29 APR 2026		



**LEGEND :**

DEVELOPMENT SITE

Uncontoured

FIGURE NO.:		<b>6.1</b>
PROJECT NO.:		26021HK
SCALE:	DATE:	
1 : 1500 @A4	15 APR 2026	

PROJECT TITLE:	Residential Redevelopment at Nos 4-4C Tai Hang Road, Hong Kong
DRAWING TITLE:	<b>IDENTIFIED CRITICAL SECTION OF FOOTPATH</b>





# Appendix I

## Junction Calculation Sheets

Junction: **(J1) Tong Lo Wan Road / Leighton Road / Causeway Road/ Yee Wo Street**  
 Description: **2026 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Yee Wo Street to Tung Lo Wan Road	EB	↘	3	3	3.1	0.0	7.5	0	100%	100%	2065	2065	1720	1720	1720	1720	245	0.142	0.142	260	0.151	0.151
	EB	↘	3	3	3.1	0.0	12.5	0	100%	100%	2065	2065	1845	1845	1845	1845	100	0.054		80	0.043	
Tong Lo Wan Road	NB	↙	2	2	4.0	22.5	0	1	100%	100%	2015	2015	1890	1890	1890	1890	75	0.040		70	0.037	
Causeway Road	WB	←	1	1	3.3	0.0	0	0	0%	0%	2085	6255	2085	2085	6255	6255	345	0.165	0.184	317	0.152	0.157
		←	1	1	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	345	0.165		317	0.152	
		←	1	1	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	345	0.165		317	0.152	
		↙	4	1	3.3	5.0	0	1	100%	100%	1945	1945	1495	1495	1495	1495	275	0.184		235	0.157	
Pedestrian Crossing			5p	2	Min Green = 8Gm + 8 FGm = 16s																	
			6p	1,3	Min Green = 5Gm + 10 FGm = 15s																	
			7p	2,3	Min Green = 11Gm + 11FGm = 22s																	

Notes: (None)	Traffic Flow (pcu / hr) (To Tung Lo Wan Rd) 245(260) ↘ (To Leighton Rd) 100(80) ↘	AM Peak Check Phase Ey 0.326 L (sec) 26 C (sec) 80 y pract. 0.608 R.C. (%) 86%	PM Peak Check Phase Ey 0.308 L (sec) 26 C (sec) 105 y pract. 0.677 R.C. (%) 120%
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Stage / Phase Diagrams			
1 8T → 6p ←	2 8T → 5p ← 7p ↕	3 8T ↘ 6p ←	
I/G = 7s	I/G = 10 + 5s (Min. Green)	I/G = 6s	
I/G = 7s	I/G = 10 + 5s (Min. Green)	I/G = 6s	

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: (J2) Tung Lo Wan Road / Ka Ning Path / Eastern Hospital Road																							
Description: 2026 Observed Traffic Flow																							
Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tung Lo Wan Road	SB	↓	1	1	3.3	22.5	0	1	100%	100%	1945	4030	1825	1825	3875	3870	247	0.136	0.136	236	0.129	0.129	
			1	1	3.3	26.0	0	0	32%	32%	2085	0	2050	2045	0	0	278	0.135		264	0.129		
Eastern Hospital Road	NB	↑	2	2	3.3	0.0	12.5	1	77%	78%	1945	1945	1780	1780	1780	1780	330	0.185	0.185	345	0.194	0.194	
Pedestrian Crossing			3p	3	Min Green = 7Gm + 7 FGm = 14s																		
			4p	4	Min Green = 8Gm + 10 FGm = 18s																		
Notes: (None)										Traffic Flow (pcu / hr)						AM Peak Check Phase			PM Peak Check Phase				
																Ey 0.321 L (sec) 30 C (sec) 100 y pract. 0.630 R.C. (%) 96%			Ey 0.323 L (sec) 30 C (sec) 105 y pract. 0.643 R.C. (%) 99%				
Stage / Phase Diagrams																							
1			2			3																	
I/G = 4s			I/G = 5s			I/G = 9 + 14s																	
I/G = 4s			I/G = 5s			I/G = 9 + 14s																	

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: **(J3) Causeway Road / Moreton Terrace / Yee Wo Street**  
 Description: **2026 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
					Radius (m)		AM		PM				AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
					Left	Right																	
Causeway Road	WB	→	1	1	4.2	0.0	0	1	0%	0%	1831.5	4006.5	1831.5	1831.5	4006.5	4006.5	601	0.328	0.328	619	0.338	0.338	
		→	1	1	4.2	0.0	0	0	0%	0%	2175	0	2175	2175	0	0	714	0.328		736	0.338		
Moreton Terrace	NB	↙	5	2	3.4	15.0	0	1	100%	100%	1955	6125	1775	1775	5695	5685	346	0.195	0.195	309	0.174	0.174	
		↔	5	2	3.3	18.0	28	0	43% / 57%	59% / 41%	2085	0	1955	1945	0	0	381	0.195		339	0.174		
		↘	5	2	3.3	0.0	25	0	100%	100%	2085	0	1965	1965	0	0	383	0.195		342	0.174		
Yee Wo Street	EB	←	3	1	4.0	0.0	0	1	0%	0%	2015	4170	2015	2015	4170	4170	389	0.193		326	0.162		
		←	3	1	4.0	0.0	0	0	0%	0%	2155	0	2155	2155	0	0	416	0.193		349	0.162		
Pedestrian Crossing			6p	1	Min Green = 8Gm + 10 FGm = 18s																		

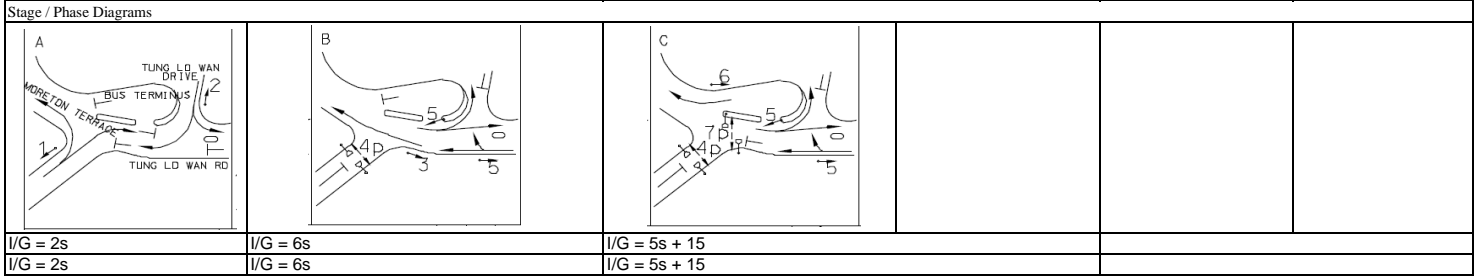
Notes: (None)	Traffic Flow (pcu / hr) 1315(1355) → ↙ ↘ ← 805(675) 510(510) 600(480)	AM Peak Check Phase		PM Peak Check Phase	
		Ey 0.523 L (sec) 10 C (sec) 100 y pract. 0.810 R.C. (%) 55%	Ey 0.512 L (sec) 10 C (sec) 105 y pract. 0.814 R.C. (%) 59%		

Stage / Phase Diagrams					
1	2	3			
1 → 2T → ← 4T ← 6p ←- - -→ 	—     ← → 5				
I/G = 7s	I/G = 5s				
I/G = 7s	I/G = 5s				

Junction: **(J4) Tung Lo Wan Road / Moreton Terrace**  
 Description: **2026 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Radius (m)		AM		PM	AM			PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
					Left	Right																
Tung Lo Wan Road	NB	↕	1	1	3.7	7.5	0	1	100%	100%	1980	4100	1650	1650	3635	3640	406	0.246	0.246	403	0.244	0.245
			1	1	3.7	12.0	50	0	40% / 60%	36% / 64%	2120	0	1985	1990	0	0	489	0.246		487	0.245	
Tung Lo Wan Road (2nd stopline)	WB	←	3	2	3.0	0.0	0	1	0%	0%	1915	3970	1915	1915	3970	3970	260	0.136	0.136	258	0.135	0.135
			3	2	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	280	0.136		277	0.135	
Moreton Terrace Bus Terminus	WB	←	6	3	9.5	0.0	0	1	0%	0%	2565	2565	2565	2565	2565	2565	95	0.037		110	0.043	
Tung Lo Wan Road (2nd stopline)	EB	↗	5	2,3	4.5	10.0	0	1	68%	63%	2065	2065	1875	1885	1875	1885	185	0.099		190	0.101	
Tung Lo Wan Road (1st stopline)	WB	↕	5	2,3	4.0	0.0	7	0	79%	74%	1925	0	1645	1660	0	0	254	0.155		255	0.154	
			5	2,3	3.0	0.0	0	1	0%	0%	1915	3840	1915	1915	3560	3575	296	0.154		295	0.154	
Tung Lo Wan Drive	SB	↔	2	1	3.3	5.0	9.5	1	37% / 63%	39% / 61%	1819	1819	1505	1500	1505	1500	300	0.199		295	0.197	
Pedestrian Crossing			4p	2,3	Min Green = 8Gm + 8 FGM = 16s																	
			7p	3	Min Green = 9Gm + 6 FGM = 15s																	

Notes: (None)	Traffic Flow (pcu / hr)	50(55)	45(55)	0(0)	190(180)	110(115)	AM Peak Check Phase	PM Peak Check Phase
	515(485)	↕	↕	Bus ↕	↕	↕	εy 0.382	εy 0.379
	85(95)	↕	↕	↕	↕	↕	L (sec) 26	L (sec) 26
	295(310)	↕	↕	↕	↕	↕	C (sec) 100	C (sec) 105
					160(170)	0(0)	y pract. 0.666	y pract. 0.677
					↕	↕	R.C. (%) 74%	R.C. (%) 78%
					↕	↕		
					↕	↕		



TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: (J5) Tai Hang Road / Pedestrian Crossing near Ka Ning Path																							
Description: 2026 Observed Traffic Flow																							
Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tai Hang Road	EB	→	1	1	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	442	0.225		425	0.216	
			1	1	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	473	0.225		455	0.216	
Tai Hang Road	WB	←	2	1	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	2015	910	0.452	0.452	915	0.454	0.454
Pedestrian Crossing			3p	2	Min Green = 12Gm + 8 FGm = 20s																		

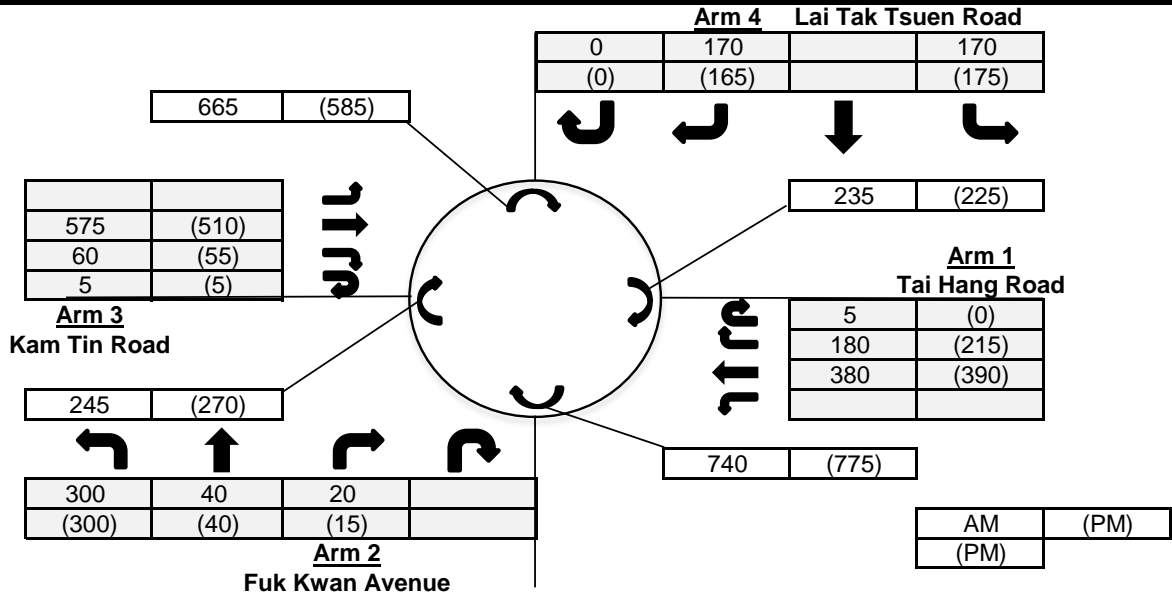
Notes: (None)	Traffic Flow (pcu / hr)		AM Peak Check Phase		PM Peak Check Phase			
	915(880)	→	←	910(915)	ey	0.452	ey	0.454
					L (sec)	26	L (sec)	26
					C (sec)	100	C (sec)	100
					y pract.	0.666	y pract.	0.666
				R.C. (%)	47%	R.C. (%)	47%	

Stage / Phase Diagrams							
1	2	3					
I/G = 3s	I/G = 4+20s						
I/G = 3s	I/G = 4+20s						

# Roundabout Junction Calculation

Junction : (J6) Tai Hang Road / Lai Tak Tsuen Road / Fuk Kwan Avenue / Li Kwar Job No.: 26021HK

Scenario : 2026 Observed Traffic Flow



## Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	2.8	4	3.5	3.5
E	=	Entry width (m)	6.6	5	4	7.5
L	=	Effective length of flare (m)	35	10	14	27
R	=	Entry radius	15	6	24	15
D	=	Inscribed circle diameter (m)	24	24	24	24
A	=	Entry angle (degree)	32	30	56	32
Q	=	Entry flow (pcu/hr)	AM 565	360	640	340
			PM 605	355	570	340
Qc	=	Circulating flow across entry (pcu/hr)	AM 235	740	245	665
			PM 225	775	270	585

## Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.17	0.16	0.06	0.24
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.98	0.89	0.92	0.98
X2	=	$V+((E-V)/(1+2*S))$	5.62	4.76	3.95	6.21
M	=	$Exp((D-60)/10)$	0.03	0.03	0.03	0.03
F	=	$303*X2$	1703	1442	1196	1883
Td	=	$1+(0.5/(1+M))$	1.49	1.49	1.49	1.49
Fc	=	$0.21*Td*(1+0.2*X2)$	0.66	0.61	0.56	0.70
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM 1511	878	973	1384
			PM 1518	859	960	1439
DFC	=	Entry Flow/Capacity = $Q/Qe$	AM 0.37	0.41	0.66	0.25
			PM 0.40	0.41	0.59	0.24

DFC of Critical Approach = AM 0.66  
PM 0.59

Junction: **(J1) Tong Lo Wan Road / Leighton Road / Causeway Road/ Yee Wo Street**  
 Description: **2033 Reference Traffic Flow (Approved S16 Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)			Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right		Left	Right			AM	PM			AM	PM	AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Yee Wo Street to Tung Lo Wan Road	EB	↘	3	3	3.1	0.0	7.5	0	100%	100%	2065	2065	1720	1720	1720	1720	255	0.148	0.148	270	0.157	0.157			
	EB	↘	3	3	3.1	0.0	12.5	0	100%	100%	2065	2065	1845	1845	1845	1845	105	0.057		80	0.043				
Tong Lo Wan Road	NB	↙	2	2	4.0	22.5	0	1	100%	100%	2015	2015	1890	1890	1890	1890	75	0.040		70	0.037				
Causeway Road	WB	←	1	1	3.3	0.0	0	0	0%	0%	2085	6255	2085	2085	6255	6255	357	0.171	0.191	327	0.157	0.164			
		←	1	1	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	357	0.171		327	0.157				
		←	1	1	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	357	0.171		327	0.157				
		↙	4	1	3.3	5.0	0	1	100%	100%	1945	1945	1495	1495	1495	1495	285	0.191		245	0.164				
Pedestrian Crossing			5p	2	Min Green = 8Gm + 8 FGm = 16s																				
			6p	1,3	Min Green = 5Gm + 10 FGm = 15s																				
			7p	2,3	Min Green = 11Gm + 11FGm = 22s																				

Notes: (None)	Traffic Flow (pcu / hr) (To Tung Lo Wan Rd) 255(270) ↘ (To Leighton Rd) 105(80) ↘	AM Peak Check Phase Ey 0.339 L (sec) 26 C (sec) 80 y pract. 0.608 R.C. (%) 79%	PM Peak Check Phase Ey 0.321 L (sec) 26 C (sec) 105 y pract. 0.677 R.C. (%) 111%
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Stage / Phase Diagrams			
1 8T → 6p ←	2 8T → 5p ← 7p ↓	3 8T ↘ 6p ←	
I/G = 7s	I/G = 10 + 5s (Min. Green)	I/G = 6s	
I/G = 7s	I/G = 10 + 5s (Min. Green)	I/G = 6s	

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: **(J2) Tung Lo Wan Road / Ka Ning Path / Eastern Hospital Road**  
 Description: **2033 Reference Traffic Flow (Approved S16 Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
					Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tung Lo Wan Road	SB	↓	1	1	3.3	22.5	0	1	100%	100%	1945	4030	1825	1825	3875	3870	254	0.139	0.139	243	0.133	0.133	
			1	1	3.3	26.0	0	0	32%	32%	2085	0	2050	2045	0	0	286	0.139		272	0.133		
Eastern Hospital Road	NB	↕	2	2	3.3	0.0	12.5	1	77%	78%	1945	1945	1780	1780	1780	1780	345	0.194	0.194	360	0.202	0.202	
Pedestrian Crossing			3p	3	Min Green = 7Gm + 7 FGm = 14s																		
			4p	4	Min Green = 8Gm + 10 FGm = 18s																		

Notes: (None)	Traffic Flow (pcu / hr)	AM Peak Check Phase	PM Peak Check Phase
		Ey 0.333 L (sec) 30 C (sec) 100 y pract. 0.630 R.C. (%) 89%	Ey 0.335 L (sec) 30 C (sec) 105 y pract. 0.643 R.C. (%) 92%

Stage / Phase Diagrams			
1	2	3	
I/G = 4s	I/G = 5s	I/G = 9 + 14s	
I/G = 4s	I/G = 5s	I/G = 9 + 14s	

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: (J3) Causeway Road / Moreton Terrace / Yee Wo Street																							
Description: 2033 Reference Traffic Flow (Approved S16 Application)																							
Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Causeway Road	WB	→	1	1	4.2	0.0	0	1	0%	0%	1831.5	4006.5	1831.5	1831.5	4006.5	4006.5	622	0.339	0.339	642	0.351	0.351	
		→	1	1	4.2	0.0	0	0	0%	0%	2175	0	2175	2175	0	0	738	0.339		763	0.351		
Moreton Terrace	NB	↙	5	2	3.4	15.0	0	1	100%	100%	1955	6125	1775	1775	5695	5685	358	0.202	0.202	320	0.180	0.180	
		↔	5	2	3.3	18.0	28	0	43% / 57%	60% / 40%	2085	0	1955	1945	0	0	395	0.202		351	0.180		
		↘	5	2	3.3	0.0	25	0	100%	100%	2085	0	1965	1965	0	0	397	0.202		354	0.180		
Yee Wo Street	EB	←	3	1	4.0	0.0	0	1	0%	0%	2015	4170	2015	2015	4170	4170	403	0.200		338	0.168		
		←	3	1	4.0	0.0	0	0	0%	0%	2155	0	2155	2155	0	0	432	0.200		362	0.168		
Pedestrian Crossing			6p	1	Min Green = 8Gm + 10 FGm = 18s																		

Notes: (None)	Traffic Flow (pcu / hr)		AM Peak Check Phase		PM Peak Check Phase	
	<p>1360(1405) →</p> <p>↙ ↘ ← 835(700)</p> <p>530(530) 620(495)</p>		<p>εy 0.541</p> <p>L (sec) 10</p> <p>C (sec) 100</p> <p>y pract. 0.810</p> <p>R.C. (%) 50%</p>		<p>εy 0.531</p> <p>L (sec) 10</p> <p>C (sec) 105</p> <p>y pract. 0.814</p> <p>R.C. (%) 53%</p>	

Stage / Phase Diagrams					
1	2	3			
<p>1 →</p> <p>2T →</p> <p>← 4T</p> <p>← 2</p> <p>6p ↔</p> <p>↑</p>	<p>— </p> <p>↔</p> <p>5</p>				
I/G = 7s	I/G = 5s				
I/G = 7s	I/G = 5s				

Junction: **(J4) Tung Lo Wan Road / Moreton Terrace**  
 Description: **2033 Reference Traffic Flow (Approved S16 Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Radius (m)		AM		PM	AM			PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
					Left	Right																
Tung Lo Wan Road	NB	↕	1	1	3.7	7.5	0	1	100%	100%	1980	4100	1650	1650	3635	3645	424	0.257	0.257	419	0.254	0.254
			1	1	3.7	12.0	50	0	39% / 61%	36% / 64%	2120	0	1985	1995	0	0	511	0.257		506	0.254	
Tung Lo Wan Road (2nd stopline)	WB	←	3	2	3.0	0.0	0	1	0%	0%	1915	3970	1915	1915	3970	3970	270	0.141	0.141	268	0.140	0.140
			3	2	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	290	0.141		287	0.140	
Moreton Terrace Bus Terminus	WB	←	6	3	9.5	0.0	0	1	0%	0%	2565	2565	2565	2565	2565	2565	95	0.037		110	0.043	
Tung Lo Wan Road (2nd stopline)	EB	↗	5	2,3	4.5	10.0	0	1	67%	63%	2065	2065	1875	1890	1875	1890	195	0.104		200	0.106	
Tung Lo Wan Road (1st stopline)	WB	↕	5	2,3	4.0	0.0	7	0	78%	74%	1925	0	1650	1665	0	0	261	0.158		265	0.159	
			5	2,3	3.0	0.0	0	1	0%	0%	1915	3840	1915	1915	3565	3580	304	0.159		305	0.159	
Tung Lo Wan Drive	SB	↔	2	1	3.3	5.0	9.5	1	37% / 63%	39% / 61%	1819	1819	1505	1500	1505	1500	310	0.206		305	0.203	
Pedestrian Crossing			4p	2,3	Min Green = 8Gm + 8 FGM = 16s																	
			7p	3	Min Green = 9Gm + 6 FGM = 15s																	

Notes: (None)	Traffic Flow (pcu / hr)	50(55)	45(55)	0(0)	195(185)	115(120)	AM Peak Check Phase	PM Peak Check Phase
	535(500)	↕	↖	Bus ↗	↖	↗	εy 0.398	εy 0.394
	90(100)	↕	↖	130(115)	↖	↗	L (sec) 26	L (sec) 26
	310(325)	↕	↖	65(75)	↖	↗	C (sec) 100	C (sec) 105
				165(175)	↖	↗	y pract. 0.666	y pract. 0.677
				395(380)	↖	↗	R.C. (%) 67%	R.C. (%) 72%
				205(195)	↖	↗		

Stage / Phase Diagrams

I/G = 2s	I/G = 6s	I/G = 5s + 15		
I/G = 2s	I/G = 6s	I/G = 5s + 15		

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: **(J5) Tai Hang Road / Pedestrian Crossing near Ka Ning Path**  
 Description: **2033 Reference Traffic Flow (Approved S16 Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tai Hang Road	EB	→	1	1	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	461	0.235		444	0.226	
			1	1	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	494	0.235		476	0.226	
Tai Hang Road	WB	←	2	1	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	960	0.476	0.476	960	0.476	0.476	
Pedestrian Crossing			3p	2	Min Green = 12Gm + 8 FGm = 20s																		

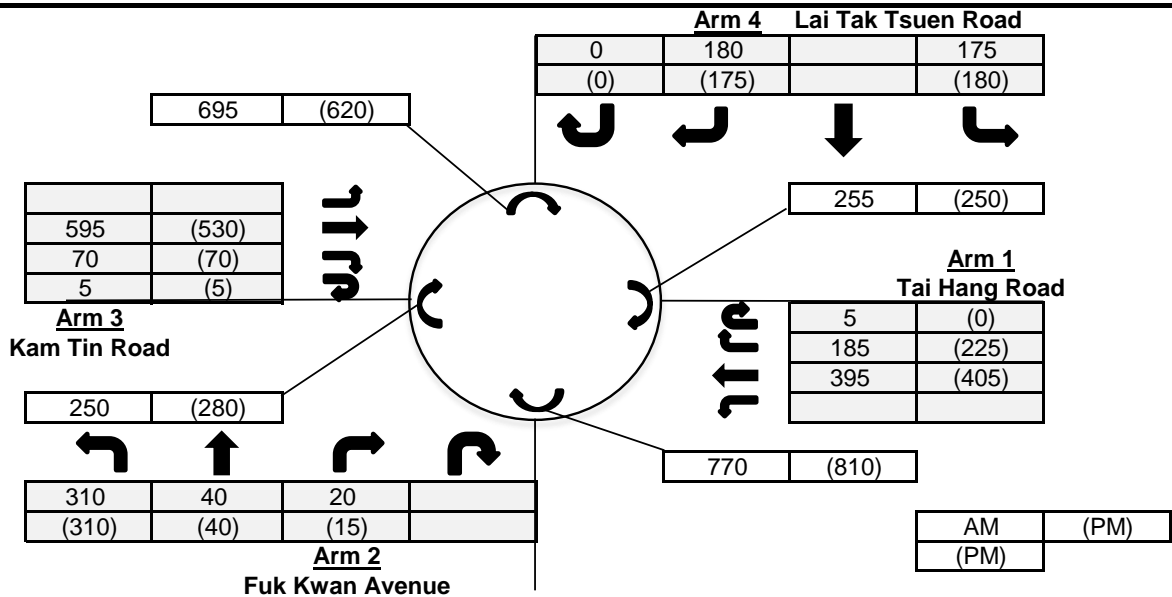
Notes: (None)	Traffic Flow (pcu / hr)		AM Peak Check Phase		PM Peak Check Phase	
	955(920)	→	←	960(960)	ey	0.476
					L (sec)	26
					C (sec)	100
					y pract.	0.666
				R.C. (%)	40%	

Stage / Phase Diagrams					
1	2	3			
I/G = 3s	I/G = 4+20s				
I/G = 3s	I/G = 4+20s				

# Roundabout Junction Calculation

Junction : (J6) Tai Hang Road / Lai Tak Tsuen Road / Fuk Kwan Avenue / Li Kwar Job No.: 26021HK

Scenario : 2033 Reference Traffic Flow (Approved S16 Application)



## Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	2.8	4	3.5	3.5
E	=	Entry width (m)	6.6	5	4	7.5
L	=	Effective length of flare (m)	35	10	14	27
R	=	Entry radius	15	6	24	15
D	=	Inscribed circle diameter (m)	24	24	24	24
A	=	Entry angle (degree)	32	30	56	32
Q	=	Entry flow (pcu/hr)	AM 585	370	670	355
			PM 630	365	605	355
Qc	=	Circulating flow across entry (pcu/hr)	AM 255	770	250	695
			PM 250	810	280	620

## Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.17	0.16	0.06	0.24
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.98	0.89	0.92	0.98
X2	=	$V+((E-V)/(1+2*S))$	5.62	4.76	3.95	6.21
M	=	$Exp((D-60)/10)$	0.03	0.03	0.03	0.03
F	=	$303*X2$	1703	1442	1196	1883
Td	=	$1+(0.5/(1+M))$	1.49	1.49	1.49	1.49
Fc	=	$0.21*Td*(1+0.2*X2)$	0.66	0.61	0.56	0.70
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM 1498	861	970	1364
			PM 1501	840	955	1415
DFC	=	Entry Flow/Capacity = $Q/Qe$	AM 0.39	0.43	0.69	0.26
			PM 0.42	0.43	0.63	0.25

**DFC of Critical Approach** = **AM 0.69**  
**PM 0.63**

Junction: **(J1) Tong Lo Wan Road / Leighton Road / Causeway Road/ Yee Wo Street**  
 Description: **2033 Design Traffic Flow (This Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM			PM	AM			PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Yee Wo Street to Tung Lo Wan Road	EB	↘	3	3	3.1	0.0	7.5	0	100%	100%	2065	2065	1720	1720	1720	1720	255	0.148	0.148	270	0.157	0.157	
	EB	↘	3	3	3.1	0.0	12.5	0	100%	100%	2065	2065	1845	1845	1845	1845	105	0.057		80	0.043		
Tong Lo Wan Road	NB	↙	2	2	4.0	22.5	0	1	100%	100%	2015	2015	1890	1890	1890	1890	75	0.040		70	0.037		
Causeway Road	WB	←	1	1	3.3	0.0	0	0	0%	0%	2085	6255	2085	2085	6255	6255	357	0.171	0.191	327	0.157	0.164	
		←	1	1	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	357	0.171		327	0.157		
		←	1	1	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	357	0.171		327	0.157		
		↙	4	1	3.3	5.0	0	1	100%	100%	1945	1945	1495	1495	1495	1495	285	0.191		245	0.164		
Pedestrian Crossing			5p	2	Min Green = 8Gm + 8 FGm = 16s																		
			6p	1,3	Min Green = 5Gm + 10 FGm = 15s																		
			7p	2,3	Min Green = 11Gm + 11FGm = 22s																		

Notes: (None)	Traffic Flow (pcu / hr) (To Tung Lo Wan Rd) 255(270) ↘ (To Leighton Rd) 105(80) ↘	AM Peak Check Phase Ey 0.339 L (sec) 26 C (sec) 80 y pract. 0.608 R.C. (%) 79%	PM Peak Check Phase Ey 0.321 L (sec) 26 C (sec) 105 y pract. 0.677 R.C. (%) 111%
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Stage / Phase Diagrams			
1 8T → 6p ←	2 8T → 5p ← 7p ↓	3 ↘ ↙ 6p ←	
I/G = 7s	I/G = 10 + 5s (Min. Green)	I/G = 6s	
I/G = 7s	I/G = 10 + 5s (Min. Green)	I/G = 6s	

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: **(J2) Tung Lo Wan Road / Ka Ning Path / Eastern Hospital Road**  
 Description: **2033 Design Traffic Flow (This Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tung Lo Wan Road	SB	↓	1	1	3.3	22.5	0	1	100%	100%	1945	4030	1825	1825	3875	3870	254	0.139	0.139	243	0.133	0.133	
					3.3	26.0	0	0	32%	32%	2085	0	2050	2045	0	0	286	0.139		272	0.133		
Eastern Hospital Road	NB	↕	2	2	3.3	0.0	12.5	1	77%	78%	1945	1945	1780	1780	1780	1780	345	0.194	0.194	360	0.202	0.202	
Pedestrian Crossing			3p	3	Min Green = 7Gm + 7FGm = 14s																		
			4p	4	Min Green = 8Gm + 10FGm = 18s																		

Notes: (None)	Traffic Flow (pcu / hr)	AM Peak Check Phase	PM Peak Check Phase
		Ey 0.333 L (sec) 30 C (sec) 100 y pract. 0.630 R.C. (%) 89%	Ey 0.335 L (sec) 30 C (sec) 105 y pract. 0.643 R.C. (%) 92%

Stage / Phase Diagrams			
1	2	3	
I/G = 4s	I/G = 5s	I/G = 9 + 14s	
I/G = 4s	I/G = 5s	I/G = 9 + 14s	

TRAFFIC SIGNALS CALCULATION

Job No: 26021HK

CTA Consultants Ltd.

Junction: (J3) Causeway Road / Moreton Terrace / Yee Wo Street																							
Description: 2033 Design Traffic Flow (This Application)																							
Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Causeway Road	WB	→	1	1	4.2	0.0	0	1	0%	0%	1831.5	4006.5	1831.5	1831.5	4006.5	4006.5	622	0.339	0.339	642	0.351	0.351	
		→	1	1	4.2	0.0	0	0	0%	0%	2175	0	2175	2175	0	0	738	0.339		763	0.351		
Moreton Terrace	NB	↙	5	2	3.4	15.0	0	1	100%	100%	1955	6125	1775	1775	5695	5685	358	0.202	0.202	320	0.180	0.180	
		↔	5	2	3.3	18.0	28	0	43% / 57%	60% / 40%	2085	0	1955	1945	0	0	395	0.202		351	0.180		
		↘	5	2	3.3	0.0	25	0	100%	100%	2085	0	1965	1965	0	0	397	0.202		354	0.180		
Yee Wo Street	EB	←	3	1	4.0	0.0	0	1	0%	0%	2015	4170	2015	2015	4170	4170	403	0.200		338	0.168		
		←	3	1	4.0	0.0	0	0	0%	0%	2155	0	2155	2155	0	0	432	0.200		362	0.168		
Pedestrian Crossing			6p	1	Min Green = 8Gm + 10 FGm = 18s																		

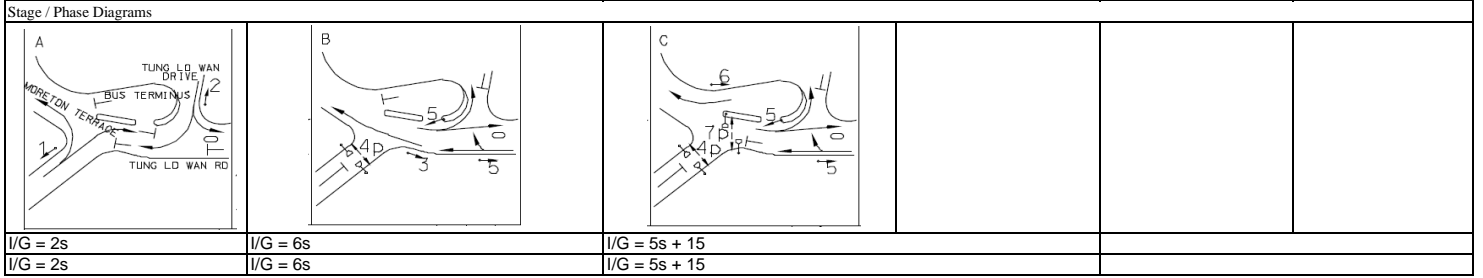
Notes: (None)	Traffic Flow (pcu / hr)		AM Peak Check Phase		PM Peak Check Phase	
	<p>1360(1405) →</p> <p>← 835(700)</p> <p>↙ 530(530) ↘ 620(495)</p>		<p>εy 0.541</p> <p>L (sec) 10</p> <p>C (sec) 100</p> <p>y pract. 0.810</p> <p>R.C. (%) 50%</p>	<p>εy 0.531</p> <p>L (sec) 10</p> <p>C (sec) 105</p> <p>y pract. 0.814</p> <p>R.C. (%) 53%</p>		

Stage / Phase Diagrams					
1	2	3			
<p>1 →</p> <p>2T →</p> <p>← 4T</p> <p>← 6p</p> <p>↔</p>	<p>— </p> <p>↔</p> <p>5</p>				
I/G = 7s	I/G = 5s				
I/G = 7s	I/G = 5s				

Junction: **(J4) Tung Lo Wan Road / Moreton Terrace**  
 Description: **2033 Design Traffic Flow (This Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Radius (m)		AM		PM	AM			PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
					Left	Right																
Tung Lo Wan Road	NB	↕	1	1	3.7	7.5	0	1	100%	100%	1980	4100	1650	1650	3635	3645	424	0.257	0.257	419	0.254	0.254
			1	1	3.7	12.0	50	0	39% / 61%	36% / 64%	2120	0	1985	1995	0	0	511	0.257		506	0.254	
Tung Lo Wan Road (2nd stopline)	WB	←	3	2	3.0	0.0	0	1	0%	0%	1915	3970	1915	1915	3970	3970	270	0.141	0.141	268	0.140	0.140
			3	2	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	290	0.141		287	0.140	
Moreton Terrace Bus Terminus	WB	←	6	3	9.5	0.0	0	1	0%	0%	2565	2565	2565	2565	2565	2565	95	0.037		110	0.043	
Tung Lo Wan Road (2nd stopline)	EB	↗	5	2,3	4.5	10.0	0	1	67%	63%	2065	2065	1875	1890	1875	1890	195	0.104		200	0.106	
Tung Lo Wan Road (1st stopline)	WB	↕	5	2,3	4.0	0.0	7	0	78%	74%	1925	0	1650	1665	0	0	261	0.158		265	0.159	
			5	2,3	3.0	0.0	0	1	0%	0%	1915	3840	1915	1915	3565	3580	304	0.159		305	0.159	
Tung Lo Wan Drive	SB	↔	2	1	3.3	5.0	9.5	1	37% / 63%	39% / 61%	1819	1819	1505	1500	1505	1500	310	0.206		305	0.203	
Pedestrian Crossing			4p	2,3	Min Green = 8Gm + 8 FGM = 16s																	
			7p	3	Min Green = 9Gm + 6 FGM = 15s																	

Notes: (None)	Traffic Flow (pcu / hr)	50(55)	45(55)	0(0)	195(185)	115(120)	AM Peak Check Phase	PM Peak Check Phase
	535(500)	↕	↕	Bus ↕	↕	↕	ey 0.398	ey 0.394
	90(100)	↕	↕	↕	↕	↕	L (sec) 26	L (sec) 26
	310(325)	↕	↕	↕	↕	↕	C (sec) 100	C (sec) 105
					165(175)	0(0)	y pract. 0.666	y pract. 0.677
					395(380)	360(375)	R.C. (%) 67%	R.C. (%) 72%



TRAFFIC SIGNALS CALCULATION

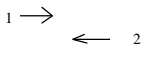
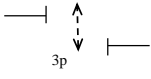
Job No: 26021HK

CTA Consultants Ltd.

Junction: **(J5) Tai Hang Road / Pedestrian Crossing near Ka Ning Path**  
 Description: **2033 Design Traffic Flow (This Application)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tai Hang Road	EB	→	1	1	3.5	0.0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	461	0.235		444	0.226		
			1	1	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	494	0.235		476	0.226		
Tai Hang Road	WB	←	2	1	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	960	0.476	0.476	960	0.476	0.476	
Pedestrian Crossing			3p	2	Min Green = 12Gm + 8 FGm = 20s																		

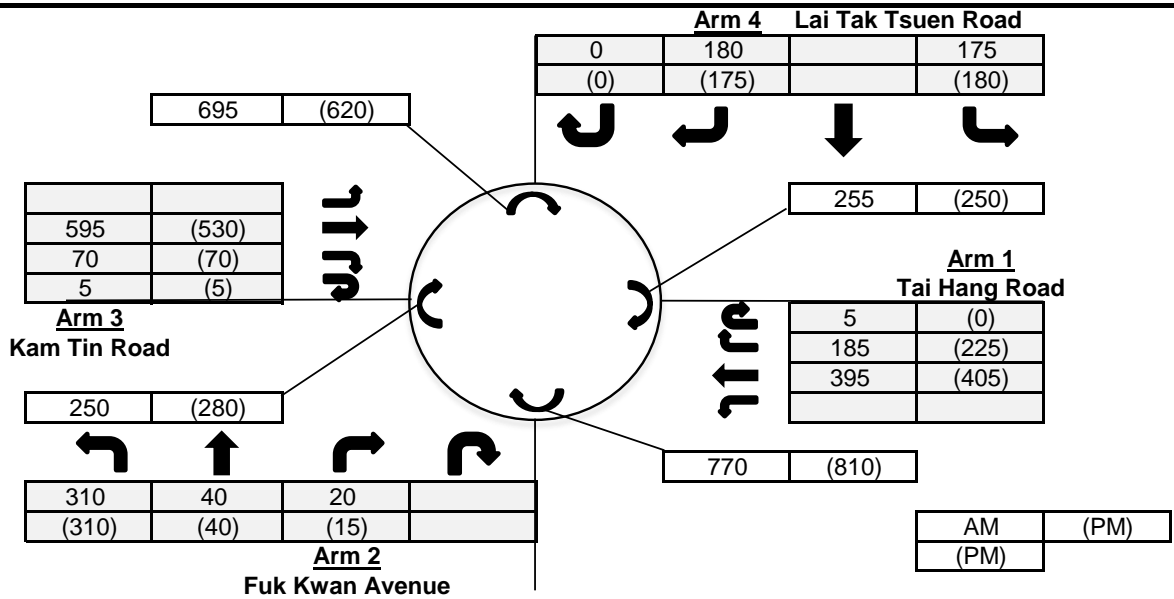
Notes: (None)	Traffic Flow (pcu / hr)		AM Peak Check Phase		PM Peak Check Phase	
	955(920)	→	←	960(960)	ey	0.476
					L (sec)	26
					C (sec)	100
					y pract.	0.666
				R.C. (%)	40%	

Stage / Phase Diagrams					
1	2	3			
					
I/G = 3s	I/G = 4+20s				
I/G = 3s	I/G = 4+20s				

# Roundabout Junction Calculation

Junction : (J6) Tai Hang Road / Lai Tak Tsuen Road / Fuk Kwan Avenue / Li Kwar Job No.: 26021HK

Scenario : 2033 Design Traffic Flow (This Application)



## Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	2.8	4	3.5	3.5
E	=	Entry width (m)	6.6	5	4	7.5
L	=	Effective length of flare (m)	35	10	14	27
R	=	Entry radius	15	6	24	15
D	=	Inscribed circle diameter (m)	24	24	24	24
A	=	Entry angle (degree)	32	30	56	32
Q	=	Entry flow (pcu/hr)	AM 585	370	670	355
			PM 630	365	605	355
Qc	=	Circulating flow across entry (pcu/hr)	AM 255	770	250	695
			PM 250	810	280	620

## Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.17	0.16	0.06	0.24
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.98	0.89	0.92	0.98
X2	=	$V+((E-V)/(1+2*S))$	5.62	4.76	3.95	6.21
M	=	$Exp((D-60)/10)$	0.03	0.03	0.03	0.03
F	=	$303*X2$	1703	1442	1196	1883
Td	=	$1+(0.5/(1+M))$	1.49	1.49	1.49	1.49
Fc	=	$0.21*Td*(1+0.2*X2)$	0.66	0.61	0.56	0.70
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM 1498	861	970	1364
			PM 1501	840	955	1415
DFC	=	Entry Flow/Capacity = $Q/Qe$	AM 0.39	0.43	0.69	0.26
			PM 0.42	0.43	0.63	0.25

**DFC of Critical Approach** = **AM 0.69**  
**PM 0.63**