Appendix 5

Traffic Impact Assessment

Intended Section 12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories

Revised TIA Report

October 2026

CTA Consultants Limited
志達顧問有限公司

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1. INTRODUCTION

1.1 Background

1.1.1 CTA Consultants Limited was commissioned as the traffic consultant to prepare a Traffic Impact Assessment Report for proposed re-zoning from "AGR" to "G/IC" for a proposed RCHE/RCHD at multiple lots in D.D.8 and adjoining government land, Lam Tsuen, Tai Po, New Territories (hereafter called "proposed development").

1.1.2 The proposed development consists of two sites: Site A for RCHD use and Site B for RCHE use.

1.1.3 The location of the proposed development is shown in **Figure 1.1**.

1.2 Study Objectives

1.2.1 The main objectives of this study are as follows:

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

2. THE DEVELOPMENT

2.1 Site Location

2.1.1 The proposed development is located at multiple lots in D.D.8 and adjoining government land, Lam Tsuen, Tai Po, New Territories. Site A is bounded by Tai Po Shui Wo Road to the east, agricultural land to the south, river to the west and to the north as shown in **Figure 1.1**. Site B is bounded by bounded by river to the northwest, agricultural land to the northeast, Tai Po Shui Wo Road to the southwest as shown in **Figure 1.1**.

2.2 Proposed Development

2.2.1 Development parameters of the proposed development are summarized in **Table 2.1**.

Table 2.1 Development Parameters of the Proposed Development

Site Location	Multiple lots in D.D.8 and adjoining government land, Lam Tsuen, Tai Po, New Territories	
	Site A (RCHD)	**Site B (RCHE)**
Site Area	1,202.79m^2	2,983m^2
No. of Storeys	Not more than 9	Not more than 9
No. of Beds	194 beds	204 beds
	Total: 398 beds	

2.2.2 The proposed development is anticipated to be completed by year 2030 tentatively. Therefore, design year 2036 (i.e. 3 years after the planned commencement year of the proposed development) is adopted for assessments.

2.3 Proposed Minor Road Improvement of Tai Po Shui Wo Road and Vehicular Access

2.3.1 Tai Po Shui Wo Road connecting Lam Kam Road and the proposed development is single track access road with width ranged from 3.8m to 6.3m, and with passing bays.

2.3.2 As stipulated in the Transport Planning and Design Manual, the daily 2-way traffic flow of single track access road should not exceed 500 vehicles per day. The existing

Tai Po Shui Wo Road has over 500 vehicle per day. It is anticipated that the increased traffic flow due to the development would increase the conflict between vehicles entering and leaving Tai Po Shui Wo Road causing substantial traffic congestion to the local road network. Tai Po Shui Wo Road is narrow and private lots are located on both sides of the road. With consideration of existing road configuration, trees, terrain and land status, minor road improvement of 7.3m wide carriageway (between Lam Kam Road and the proposed development) with widening at turning area is proposed, drawing on the proposed minor road improvement is shown in **Figure 2.1**. The existing footpath will be maintained.

2.3.3 With the proposed minor road improvement of Tai Po Shui Wo Road, should 11m HGV be required for accessing the proposed development, road is not wide enough for manoeuvring of 11m vehicle as shown in **Figure SP-01**. Tai Po Shui Wo Road is narrow and private lots are located on both sides of the road. Restriction for vehicles longer than 7m is in place for Tai Po Shui Wo Road, therefore it is proposed to provide LGV to cater future operation need. Parking provision would be discussed in the next section. The longest vehicle for the proposed parking provision is light bus, the swept paths for 8m vehicle Tai Po Shui Wo Road to/from the proposed development are shown in **Figure SP-02**.

2.3.4 Location and the sightline assessment of the proposed vehicular access is shown diagrammatically in **Figure 2.2** to **Figure 2.5** respectively. Swept path analysis demonstrates it is feasible to maneuver light bus in/out the proposed vehicular access of Site A and Site B is shown in **Figure SP-03** and **Figure SP-04** respectively.

2.4 Internal Transport Facilities Provision

2.4.1 It is noted that the requirement of provision of internal transport facilities for "Residential Home for Elderly" are not specified in Hong Kong Planning Standards and Guidelines (HKPSG). Therefore, parking provision has made reference to other existing RCHE sites at remote area and summarized in **Table 2.2**.

Table 2.2 Examples of Existing RCHE

RCHE	Location	No. of beds	No. of Parking	Parking rate no. per bed
Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged	57 Sha Chau Lei Chuen, Ping Ha Road, Yuen Long	120	1 car parking space + 1 light bus parking space	0.008
Approved Y/YL-NTM/9	81 San Tam Road, Yuen Long	142	2 car parking spaces + 1 light bus parking space + 1 LGV + 1 Ambulance	0.014
Tung Wah Group of Hospitals Shuen Wan Complex for the Elderly	93 Sam Mun Tsai Road, Shuen Wan, Tai Po	649	24 car parking spaces	0.037
Yan Chai Hospital Tai Po Fu Tip Elderly Home	2/F (Portion), 3/F and 4/F, Social Service Building, Fu Tip Estate, 11 Chung Nga Road, Tai Po, New Territories	100	-(1)	-
Ho Shin Home for the Elderly	G/F & 1/F, Shin King House, Fu Shin Estate, Tai Po, New Territories	90	-(1)	-

Note:
(1) Located within public housing estate with carpark, no parking spaces could be distinguished for RCHE.

2.4.2 It is noted that there is a public carpark at Tai Po Shui Wo Road of about 12 private car parking spaces of approximately 100m to the northwest of the sites. As a conservative approach, with reference to **Table 2.2** of those without public carpark nearby, the maximum parking rate number for private car per bed of other RCHE, Tung Wah Group of Hospitals Shuen Wan Complex for the Elderly, is 0.037. Based on the maximum parking rate number for private car per bed, taking into consideration that a total of 194 beds and 204 beds will be provided for Site A and Site B respectively, the private car parking provision of the proposed development should be 7 nos. (i.e. 0.037 x 194) for Site A and 8 nos. (i.e. 0.037 x 204) for Site B.

2.4.3 Taking into consideration the site constraints of terrains surrounding both sites, it is revealed that the available size of site for development is small. Despite the essential space for fulfilling all necessary requirements of structural, E&M, fire regulations (provision of sufficient fire escape staircases), etc., very limited space is left for

manoeuvring, turnaround, queuing and parking of vehicles inside the site on G/F. Therefore share use of light bus/ambulance/LGV loading/unloading is required for Site A.

2.4.4 The site area for Site B is much more than Site A, therefore more private car parking spaces can be provided.

2.4.5 The overall parking provision is summarized in **Table 2.3**, which would be sufficient for the daily operation needs of the proposed development, including the parking need of their staff and visitors.

2.4.6 The ground floor layout plan of the proposed development for Site A and Site B showing the internal transport provision is shown in **Figure 2.2** and **Figure 2.3** respectively**. Figure SP-03, Figure SP-05 to Figure SP-06** demonstrated vehicles can be manoeuvred within the Site A, and **Figure SP-04, Figure SP-07 to Figure SP-08** demonstrated vehicles can be manoeuvred within the Site B**.**

Table 2.3 Proposed Parking Provision

Site A

Parking Spaces	Dimensions	Proposed
Motorcycle	2.4m(L) x 1m(W)	1 no.
Private Car	5m(L) x 2.5m(W)	6 nos.
Private Car for Accessible	5m(L) x 3.5m(W)	1 no.
Loading/Unloading	**Dimensions**	**Proposed**
Light bus/ Ambulance/LGV(1)(2)	9m(L) x 3m(W)	1 no.

Site B

Parking Spaces	Dimensions	Proposed
Motorcycle	2.4m(L) x 1m(W)	1 no.
Private Car	5m(L) x 2.5m(W)	8 nos.
Private Car for Accessible	5m(L) x 3.5m(W)	1 no.

Loading/Unloading	Dimensions	Proposed
Light bus/LGV(1)	8m(L) x 3.5m(W)	1 no.
Ambulance	9m(L) x 3m(W)	1 no.

Note:
(1) Refer to **Section 2.3**.
(2) Refer to **Para. 2.4.3**.

2.4.7 For Site A, 3 private car parking spaces at each site would be for staff and 4 private car parking spaces for visitors or persons with disabilities, booking in advance is required for staff, visitors or persons with disabilities.

2.4.8 For Site B, 4 private car parking spaces at each site would be for staff and 5 private car parking spaces for visitors or persons with disabilities, booking in advance is required for staff, visitors or persons with disabilities.

2.4.9 It is noted that there is a public carpark of about 12 private car parking spaces of approximately 100m to the northwest of the sites. Nonetheless, visitors are encouraged to go to the proposed development via public transport.

2.5 Public Transport Services in the Vicinity

2.5.1 Various road-based public transport services are provided in vicinity of the proposed development. Details of the current services of franchised buses and GMB routes are listed in **Table 2.4** and shown in **Figure 2.6**. It is revealed that the site is well-served by public transport services in the vicinity.

Table 2.4 Road-Based Public Transport Services in the Vicinity

Service	Route	Origin – Destination	Frequency (Mins)
Franchised Bus	64K	Yuen Long - Tai Po Market Station	6-12
	64P(1)(2)	Tai Po Market Station -> Kadoorie Farm	18:30; 19:45
	65K(1)(2)	Ng Tung Chai -> Tai Po Central	06:55; 07:05; 07:15; 07:30; 07:45; 08:00; 08:15; 08:30; 08:45
	T74(1)(2)	Ng Tung Chai - Kwun Tong	From Ng Tung Chai: 07:10; From Kwun Tong: 17:55
GMB	25K	Lam Tsuen - Tai Po Market Station	5-12

Notes:
(1) Peak hour service only.
(2) Weekday service only.

2.6 Parking Situation in the Vicinity

2.6.1 As mentioned in **Section 2.4**, there is a public carpark at Tai Po Shui Wo Road, approximately 100m to the northwest of the sites. It has about 12 private car parking spaces.

2.6.2 Parking demand survey of the carpark mentioned above and illegal parking have been carried out from 8am to 8pm on a typical weekday dated 8 September 2026. The results of parking demand survey are summarized in **Table 2.5.**

Table 2.5 Parking Demand of Hourly Parking Spaces in the vicinity of Proposed Development

Time	Number of Hourly Parking Spaces at Tai Po Shui Wo Road Public Carpark	
	Occupied	Vacant
0800-0900	3	9
0900-1000	2	10
1000-1100	2	10
1100-1200	2	10
1200-1300	0	12
1300-1400	1	11
1400-1500	0	12
1500-1600	0	12
1600-1700	0	12
1700-1800	0	12
1800-1900	5	7
1900-2000	6	6

2.6.3 As for illegal parking in the vicinity, a maximum 3 nos. of vehicles was found and parking at passing bay of Tai Yeung Che Road northeast bound for most of the surveyed period.

2.6.4 Based on the occupied parking spaces at **Table 2.5** and the illegal condition mentioned above, the parking demand due to any car parking shortage provisions of the proposed development is supported by the surplus car parking spaces in the nearby car park.

3. THE EXISTING TRAFFIC CONDITIONS

3.1 Critical Junctions

3.1.1 As shown in **Figure 3.1**, 4 junctions were identified to be critical for assessment of traffic impact due to the proposed development. They are listed in **Table 3.1** and their existing junction layout arrangements are shown in **Figures 3.2** to **3.5** respectively.

Table 3.1 Identified Critical Junctions

Ref.	Junction	Method of Control	Figure No.
A	Hong Lok Yuen Road / Tai Wo Service Road West	Signal	**3.2**
B	Lam Kam Road Interchange	Roundabout	**3.3 (Rev A)**
C	Lam Kam Road / Tai Po Shui Wo Road	Priority	**3.4**
D	Kam Tin Road / Lam Kam Road / Route Twisk	Roundabout	**3.5**

3.1.2 In order to establish the existing traffic condition in the above-mentioned critical junctions, traffic survey in form of manual classified count was conducted. The traffic survey was carried out during the morning and evening peak periods (7:30am to 9:30 am and 5pm to 7pm) on a typical weekday on 15 May 2026. Analysis of the observed traffic data indicates that the AM and PM peak hour flows occurred from 8am to 9am and 5:15pm to 6:15pm respectively. The observed traffic flows are presented in **Figure 3.6**.

3.1.3 Existing operational performance of the identified critical junctions and road links were assessed. The results are summarized in **Table 3.2**, **Table 3.3** and the junction calculation sheets are attached in **Appendix A**.

Table 3.2 Junction Performance of Identified Critical Junctions in Year 2026

Junction	Junction Location	Method of Control	Year 2026 Existing RC/RFC(1)	
			AM Peak	PM Peak
A	Hong Lok Yuen Road / Tai Wo Service Road West	Signal	91%	78%
B	Lam Kam Road Interchange	Roundabout	0.48	0.52
C	Lam Kam Road / Tai Po Shui Wo Road	Priority	0.35	0.30
D	Kam Tin Road / Lam Kam Road / Route Twisk	Roundabout	0.49	0.54

Note:
(1) RC = Reserve Capacity for Signalized Junction
RFC = Ratio of Flow to Capacity for Priority Junction

3.1.4 The assessment results in **Table 3.2** indicate that all critical junctions are at present operating within their capacities during peak hours.

Table 3.3 Traffic Flows and Volume to Capacity (V/C) Ratio Assessment of Identified Road Links in Year 2026

Road Link	No. of Lanes	Capacity (pcu/hr)	Year 2026 Existing			
			AM Peak		PM Peak	
			Flow (pcu/hr)	V/C	Flow (pcu/hr)	V/C
Lam Kam Road (two-way)	2	2,040(1)	1,100	0.54	1,110	0.54
Tai Po Shui Wo Road (two-way)	1	120(2)	50	0.42	60	0.50

Notes:
(1) Capacity based on Table 2.4.1.1 of Section 2.4, Chapter 2, Volume 2, T.P.D.M.
(2) Capacity based on Section 3.11, Chapter 3, Volume 2, T.P.D.M.
(3) PCU factor of 1.2 has been derived from the result of traffic count survey Lam Kam Road is 2-lane district distributor of ~7.3m wide, therefore capacity per direction = 1700 x 1.2 = 2,040 pcu/hr. Tai Po Shui Wo Road is single track access road, therefore capacity = 100 x 1.2 = 120 pcu/hr.

3.1.5 The assessment results in **Table 3.3** indicate that all critical road links have adequate road link capacity during peak hours.

4. THE FUTURE TRAFFIC CONDITIONS

4.1 Design Year

4.1.1 The proposed development is anticipated to be completed by year 2030 tentatively. Therefore, design year 2036 (i.e. 3 years after the planned commencement year of the proposed development) is adopted for assessments.

4.2 Traffic Forecasts

4.2.1 The traffic growth can be estimated by applying growth factor, based on the following information source:

I. Historical traffic growth in Annual Traffic Census (ATC) published by the Transport Department (TD).

II. 2021-Based Territorial Population and Employment Data Matrices (TPEDM) published by the Planning Department.

Annual Traffic Census

4.2.2 Numerous traffic count stations are located in the vicinity of the proposed development and the traffic counts of the concerned station reported in the Annual Traffic Census (ATC) between 2021 and 2024 are summarized in **Table 4.1**.

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

ATC Stn	Road Name	Annual Average Daily Traffic (AADT)				Avg. Annual Growth Rate
		2021	2022	2023	2024	
5917	Lam Kam Road (From Kadoorie Farm and Botanic Garden to Lam Kam Road Interchange)	21060	21,100	21,600*	21,650*	0.93%

Note:
(1) * AADT estimated by growth factor.

Planning Data

4.2.3 Reference has also been made to the 2021-Based Territorial Population Employment Data Matrices (TPEDM) planning data published by the Planning Department for projection of population and employment within the study district from years 2021 to 2030. The average annual growth rates in terms of population and employment from 2021 to 2030 are tabulated in **Table 4.2**.

Table 4.2 TPEDM Planning Data from 2021 to 2030

Zone	Population			Avg. Annual Growth Rate	Employment			Avg. Annual Growth Rate
	2021	2026	2030		2021	2026	2030	
Tai Po	316,450	348,900	343,250	0.82%	96,600	94,800	89,800	-0.73%

Adopted Growth Rate

4.2.4 A.A.D.T. of ATC indicates that the traffic flows in the local road network has an average annual growth rate of +0.93% from 2021 to 2024.

4.2.5 Whilst, the planning data indicates that the population and employment data of the study area are expected to grow with an average annual growth rate of +0.82% and -0.73% respectively from 2021 to 2030.

4.2.6 As a conservative approach, annual growth rate of **+1%** p.a. is adopted.

4.3 Traffic Generations of Adjacent New Developments

4.3.1 To fully reflect the growth traffic, peak hour trip generation of the future vicinity developments have been taken into consideration. The major planned development is detailed in **Figure 4.1** and **Figure 4.2**, and the estimated trip rate with reference to TPDM and trips of the adjacent planned developments are shown in **Table 4.3** and **Table 4.4** respectively.

Table 4.3 Estimated Trip Rates of Planned Adjacent Developments

Location	Use	Assumed GFA & Flat no.	Units	Trip Rates			
				AM Peak		PM Peak	
				GEN	ATT	GEN	ATT
Government land at D.D. 112, Kam Sheung Road Shek Kong, New Territories	Private Housing	850 flats	pcu/hr/flat	0.1021(1)	0.0709(1)	0.0415(1)	0.0464(1)
Kam Tin South Housing Development - Site 1	Public Housing	4,100 flats (max)	pcu/hr/flat	0.0622	0.0426	0.0297	0.0401
	Commercial / Retail	4,000m^2	pcu/hr/ 100 sqm GFA	0.2296	0.2434	0.31	0.3563
	1 kindergarten	-	-	14(1)	1(1)	14(1)	1(1)
Kam Tin South Housing Development - Site 4a	Public Housing	3,800 flats (max.)	pcu/hr/flat	0.0622	0.0426	0.0297	0.0401
	Commercial / Retail	2,900m^2	pcu/hr/ 100 sqm GFA	0.2296	0.2434	0.31	0.3563
	1 kindergarten	-	-	14(1)	1(1)	14(1)	1(1)
LSPS/003 at Various lots in Demarcation District 7 and 19 and the adjoining Government land, Tai Po, New Territories	Private housing	3,636 flats	pcu/hr/flat	0.0718	0.0425	0.0286	0.037
	Public Housing/ Starter Homes	9,190 flats	pcu/hr/flat	0.0622	0.0426	0.0297	0.0401
	1 Primary School	-	-	14(1)	24(1)	8(1)	5(1)
LSPS/004 at Various lots in Demarcation District 19 and the adjoining Government land, Tai Po, New Territories	Private housing	1,234 flats	pcu/hr/flat	0.0718	0.0425	0.0286	0.037
	Public Housing/ Starter Homes	4,055 flats	pcu/hr/flat	0.0622	0.0426	0.0297	0.0401

Notes:
(1) Based on the approved TIA.
(2) Based on in-house database.

Table 4.4 Estimated Trip Generations and Attractions of Planned Adjacent Developments

Location	Development	Assumed GFA & Flat no.	Trips (pcu/hr)			
			AM Peak		PM Peak	
			GEN	ATT	GEN	ATT
Government land at D.D. 112, Kam Sheung Road Shek Kong, New Territories	Private Housing	850 flats	87(1)	60(1)	35(1)	39(1)
Kam Tin South Housing Development - KSRS	Private Housing	2,692	331(1)	236(1)	220(1)	271(1)
	Commercial / Retail GFA	40,000m^2				
	Kindergarten	-				
Kam Tin South Housing Development - PHMC	Private Housing	6,060 flats	559(1)	373(1)	227(1)	304(1)
	Commercial / Retail GFA	3,000m^2				
	2 schools	-				
Kam Tin South Housing Development - Site 1	Public Housing	4,100 flats (max.)	280	186	149	181
	Commercial / Retail	4,000m^2				
	1 kindergarten	-				
Kam Tin South Housing Development - Site 4a	Public Housing	3,800 flats (max.)	258	171	136	165
	Commercial / Retail	2,900m^2				
	1 kindergarten	-				
Kam Tin South Housing Development - Site 6	PRH/SSF	1,700 flats	113(1)	102(1)	51(1)	69(1)
	1 kindergarten & 1 school	-				
LSPS/003 at Various lots in Demarcation District 7 and 19 and the adjoining Government land, Tai Po, New Territories	Private housing	3,636 flats	262	155	104	135
	Public Housing	9,190 flats	572	392	273	369

Location	Development	Assumed GFA & Flat no.	Trips (pcu/hr)			
			AM Peak		PM Peak	
			GEN	ATT	GEN	ATT
	1 Primary School	-	14(2)	24(2)	8(2)	5(2)
LSPS/004 at Various lots in Demarcation District 19 and the adjoining Government land, Tai Po, New Territories	Private housing	1,234 flats	89	53	36	46
	Public Housing/ Starter Homes	4,055 flats	253	173	121	163

Notes:
(1) Based on the approved TIA.
(2) Based on in-house database.

4.3.2 It is noted that LSPS/003 and LSPS/004 will provide about 5,000 and 13,000 flats respectively, and will have significant traffic impact to the road network. The completion year of these planned adjacent developments have not been disclosed to the public. Although their technical assessment reports were not available in the public domain, it is believed that the planned road improvement schemes could cater the traffic generation and attraction of the proposed development. Therefore LSPS/003 and LSPS/004 were not considered in the assessment of this TIA.

4.4 Reference Traffic Flows

4.4.1 2033 reference traffic flows are then derived by the following and presented diagrammatically in **Figure 4.3**.

2033 Reference Traffic Flows (Without Proposed Development) = **2026 Observed Traffic Flows** x **Adopted Growth Factor (i.e. +1% for 7 years)** + **Adjacent Development Traffic Flows**

4.5 Traffic Generations and Attractions of Proposed Development

4.5.1 To estimate the trip generations of the proposed development, reference has been made to the trip generation rates of sites of similar nature at remote area. The adopted trip generation rates are summarized in **Table 4.5**.

Table 4.5 Adopted Generation and Attraction Trip Rates of Proposed Development

Reference Sites	Approx. No. of Beds	Unit	AM Peak		PM Peak	
			GEN	ATT	GEN	ATT
Tung Wah Group of Hospitals Shuen Wan Complex for the Elderly, 93 Sam Mun Tsai Road, Shuen Wan, Tai Po, N.T.	649	pcu/hr	7	10	13	9
		pcu/hr/bed	0.011	0.039	0.051	0.035
Pok Oi Hospital Yeung Chun Pui Care and Attention Home, Lot No. 2273 & Ext. in DD 125, Ping Ha Road, Ping Shan, Yuen Long, N.T.	143	pcu/hr	2	2	3	2
		pcu/hr/bed	0.014	0.014	0.021	0.014
Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged, 57 Sha Chau Lei Chuen, Ping Ha Road, Yuen Long, N. T.	120	pcu/hr	2	0	0	0
		pcu/hr/bed	0.017	0.000	0.000	0.000
Hong Kong Bodhi Siksa Society Limited Care and Attention Home for the Aged, No. 38 Lo Wai Road, Tsuen Wan, N.T.	150	pcu/hr	6	6	3	3
		pcu/hr/bed	0.040	0.040	0.020	0.020
Adopted Rate	**-**	**pcu/hr/bed**	**0.040**	**0.040**	**0.051**	**0.035**

4.5.2 Based on **Table 2.1** and **Table 4.5**, the estimated traffic generation and attraction due to the proposed development are summarized in **Table 4.6**.

Table 4.6 Estimated Traffic Generation and Attraction of Proposed Development

Proposed Development	No. of beds	Trips (pcu/hr)			
		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
Site A (RCHD)	194	8	8	10	7
Site B (RCHE)	204	9	9	11	8
Total	**398**	**17 (say 20)**	**17 (say 20)**	**21 (say 25)**	**15 (say 15)**

4.5.3 It is anticipated that the proposed development would generate and attract 20 pcu/hr during AM peak hour each, and generate and attract 25 pcu/hr and 15 pcu/hr during PM hour respectively.

4.6 Design Traffic Flows

4.6.1 The future traffic generations of the proposed development were then assigned onto the road network and superimposed onto the 2033 reference traffic flows (without proposed development) to derive the 2033 design traffic forecasts (with proposed development).

2033 Design Traffic Flows (With Proposed Development) = 2033 Reference Traffic Flows (Without Proposed Development) + Proposed Development Traffic Flows

4.6.2 Year 2033 development traffic flows and design traffic flows (with proposed development) in **Figure 4.4** to **Figure 4.5** respectively.

5. TRAFFIC IMPACT ASSESSMENT

5.1 Operational Assessment

5.1.1 To assess the potential traffic impact due to the proposed development, capacity analysis of the identified critical junction and road links for both reference (without proposed development) and design scenarios (with proposed development) in year 2033 were carried out. The results are summarized in **Table 5.1**, **Table 5.2** and the junction calculation sheets are attached in **Appendix A**.

Table 5.1 Junction Performance of Identified Critical Junctions in Year 2033 (With and Without Proposed Development)

Ref.	Junction	Method of Control	Year 2033 RC/RFC (1)			
			Reference Scenario (Without Proposed Development)		Design Scenario (With Proposed Development)	
			AM Peak	PM Peak	AM Peak	PM Peak
A	Hong Lok Yuen Road / Tai Wo Service Road West	Signal	80%	66%	80%	66%
B	Lam Kam Road Interchange	Roundabout	0.56	0.57	0.57	0.58
C	Lam Kam Road / Tai Po Shui Wo Road	Priority	0.40	0.35	0.41	0.36
D	Kam Tin Road / Lam Kam Road / Route Twisk	Roundabout	0.62	0.62	0.62	0.62

Notes:
(1) RC = Reserve Capacity for Signalized Junction
RFC = Ratio of Flow to Capacity for Priority Junction

5.1.2 The assessment results in **Table 5.1** revealed that all critical junctions would still operate within their capacities in both reference scenario (without proposed development) and design scenario (with proposed development) in 2033 during peak hours.

5.1.3 It is anticipated that the proposed development would generate and attract 20 pcu/hr during AM peak hour each, and generate and attract 25 pcu/hr and 15 pcu/hr during PM hour respectively.

5.1.4 The traffic generated by the proposed development is small and would induce insignificant impact on the surrounding road network during peak hours.

Table 5.2 Traffic Flows and Volume to Capacity (V/C) Ratio Assessment of Identified Road Links in 2033 (With and Without Proposed Development)

Road Link	No. of Lanes	Capacity (pcu/hr)	Year 2033 Reference Scenario (Without Proposed Development)				Year 2033 Design Scenario (With Proposed Development)			
			AM Peak		PM Peak		AM Peak		PM Peak	
			Flow (pcu/hr)	V/C	Flow (pcu/hr)	V/C	Flow (pcu/hr)	V/C	Flow (pcu/hr)	V/C
Lam Kam Road (two-way)	2	2,040(1)	1,295	0.63	1,265	0.62	1,325	0.65	1,295	0.63
Tai Po Shui Wo Road (two-way)	1	120(2)	50	0.42	65	0.54	80	0.67	95	0.79

Notes:
(1) Capacity based on Table 2.4.1.1 of Section 2.4, Chapter 2, Volume 2, T.P.D.M.
(2) Capacity based on Section 3.11, Chapter 3, Volume 2, T.P.D.M.
(3) PCU factor of 1.2 has been derived from the result of traffic count survey. Lam Kam Road is 2-lane district distributor of ~7.3m wide, therefore capacity per direction = 1700 x 1.2 = 2,040 pcu/hr. Tai Po Shui Wo Road is single track access road, therefore capacity = 100 x 1.2 = 120 pcu/hr.

5.1.5 The assessment results in **Table 5.2** indicate that all critical road links will have adequate road link capacity in 2033 during peak hours.

6. PUBLIC TRANSPORT ASSESSMENT

6.1 Pedestrian Generations and Attractions of Proposed Redevelopment

6.1.1 To estimate the pedestrian generation and attraction of the proposed development, reference has been made to the pedestrian generation rates of Tung Wah Group of Hospitals Shuen Wan Complex for the Elderly, 93 Sam Mun Tsai Road, Shuen Wan, Tai Po, N.T., which has similar nature and at remote area. The adopted pedestrian generation rates are summarized in **Table 6.1**.

Table 6.1 Adopted Pedestrian Generation and Attraction Rate

AM Peak		PM Peak	
GEN (ped/hr/bed)	ATT (ped/hr/bed)	GEN (ped/hr/bed)	ATT (ped/hr/bed)
0.0046	0.094	0.0616	0.0123

6.1.2 Based on the trip rate in **Table 6.1** and the development parameters listed in **Table 2.1**, the estimated pedestrian generation and attraction of the proposed development are summarized in **Table 6.3**.

Table 6.2 Estimated Pedestrian Generation and Attraction of Proposed Development

Site	No. of beds	AM Peak		PM Peak	
		GEN (ped/hr)	ATT (ped/hr)	GEN (ped/hr)	ATT (ped/hr)
Site A	194 places	1	19	12	3
Site B	204 places	1	20	13	3
Total	**398 places**	**2**	**39**	**25**	**6**

6.1.3 The proposed development is located at remote area, it is assumed that the estimated pedestrian generation and attraction due to the proposed development will also take public transport.

6.1.4 Since bus and PLB of the surveyed bus stops for public transport assessment have similar destination groups, passengers tend to board the public transport mode whichever arrive first, therefore bus and PLB are assessed as one category.

6.2 Survey on Existing Public Transport Service in the Vicinity

6.2.1 Existing bus stops to be assessed on impacts due to the proposed development is shown in **Figure 2.5**, which is expected to serve the users of the proposed development.

6.2.2 A preliminary and localized public transport survey was carried out. The survey was carried out during the morning peak period and evening peak periods (7:30am to 9:30am and 5:00pm to 7:00pm) on a typical weekday on 4 September 2026 (Friday).

6.2.3 The bus stops information and finding are presented **Table 6.3** and **Table 6.4**. The surveyed bus frequencies as in **Table 6.3** have been checked and are within the normal schedule range during peak periods listed in bus company's website.

Table 6.3 Bus/PLB Stops Information

Bus/PLB Stop 1: Chai Kek NB			
Mode	**Route No.**	**Origin**	**Destination**
Bus	64K	Yuen Long (West)	Tai Po Market Station
	65K	Ng Tung Chai (Pak Ngau Shek)	Tai Po (Central)
	T74	Ng Tung Chai (Pak Ngau Shek)	Kwun Tong Ferry
PLB	25K	Lam Tsuen (Pak Ngau Shek)	Tai Po Market Station
Bus/PLB Stop 2: Chai Kek SB			
Mode	**Route No.**	**Origin**	**Destination**
Bus	64K	Tai Po Market Station	Yuen Long (West)
	64P	Tai Po Market Station	Kadoorie Farm
	T74	Kwun Tong Ferry	Ng Tung Chai (Pak Ngau Shek)
PLB	25K	Tai Po Market Station	Lam Tsuen (Pak Ngau Shek)

Table 6.4 Observed Occupancy of Existing Bus Stops during AM and PM Peak Hours

AM Peak Hour									
Bus Destination Location Group	**Mode**	**Route No.**	**Observed Vehicular Trips/hr [A]**	**Total Approx. passengers on board arriving bus stop/hr [B]**	**Boarding**			**Total No. of Alighting Passengers/ hr (by route) [D]**	**Total Surplus Capacity/ hr (1)(2)**
					Total No. of Boarding Passengers/ hr (by route)	**Total No. of Boarding Passengers/ hr (by Bus Destination Location Group) [C]**	**% [C]÷56**		
Bus/PLB Stop 1: Chai Kek NB									
Tai Po	Bus	64K	6	162	9	43	76.8%	0	1,380
		65K	5	36	0			0	
	PLB	25K	14	36	34			0	
Sub-total		-	-	-	*43*	*43*	*76.8%*	-	-
Kwun Tong	Bus	T74	1	6	1	1	1.8%	0	113
Sub-total		-	-	-	*1*	*1*	*78.6%*	-	-
Bus/PLB Stop 2: Chai Kek SB									
Lam Tsuen Local	PLB	*25K*	*13*	*32*	*0*	0	0.0%	*3*	179
Sub-total		-	-	-	*0*	*0*	*0.0%*	-	-
Yuen Long	Bus	64K	6	384	12	12	21.4%	1	325
Sub-total		-	-	-	*12*	*12*	*21.4%*	-	-
Total	**-**	**-**	**-**	**-**	**56**	**56**	**100%**	**-**	**-**

PM Peak Hour									
Bus Destination Location Group	**Mode**	**Route No.**	**Observed Vehicular Trips/hr [A]**	**Total Approx. passengers on board arriving bus stop/hr [B]**	**Boarding**			**Total No. of Alighting Passengers/ hr (by route) [D]**	**Total Surplus Capacity/ hr (1)(2)**
					Total No. of Boarding Passengers/ hr (by route)	**Total No. of Boarding Passengers/ hr (by Bus Destination Location Group) [C]**	**% [C]÷11**		
Bus/PLB Stop 1: Chai Kek NB									
Tai Po	Bus	64K	7	240	1	11	100.0%	0	855
	PLB	25K	17	6	10			0	
Sub-total		-	-	-	*11*	*11*	*100.0%*	-	-
Bus/PLB Stop 2: Chai Kek SB									
Lam Tsuen Local	Bus	64P	2	0	0	0	0.0%	0	859
	PLB	*25K*	*14*	*27*	*0*			*14*	
Sub-total		-	-	-	*0*	*0*	*0.0%*	-	-
Yuen Long	Bus	64K	5	204	0	0	0.0%	12	408
Sub-total		-	-	-	*0*	*0*	*0.0%*	-	-
Total	**-**	**-**	**-**	**-**	**11**	**11**	**100%**	**-**	**-**

Note:
(1) Assumed 120-seat for franchised bus. Bus total capacity/hr = [A]x120-[B]-[C]+[D].
(2) Assumed 16-seat for all GMB service. GMB total capacity/hr = [A]x16-[B]-[C]+[D].

6.2.4 Assessments in **Table 6.4** indicate that there are surplus capacities for the bus stop during AM and PM peak hours in existing. Based on **Table 6.2**, the estimated pedestrian generation of the proposed development is 2 ped/hr during AM peak hour and 25 ped/hr during PM peak hour. Therefore it is anticipated that there will be surplus capacities for the bus/PLB stops during AM and PM peak hours in 2033 with the proposed development.

7. PEDESTRIAN ASSESSMENT

7.1 Survey on Pedestrian Flows

7.1.1 Sections for assessment at the pedestrian facilities (footpath and crossing facilities) along the pedestrian routing to major public transport facilities is shown in **Figure 7.1**.

7.1.2 In order to establish the existing pedestrian condition in the above-mentioned critical section, pedestrian surveys were carried out during AM and PM peak periods (7:30am to 9:30am and 5:00pm to 7:00pm) on a typical weekday, 4 September 2026 (Friday).

7.1.3 The concept of Minimum Width of Footways and Level-of-service (LOS) in accordance with T.P.D.M. Volume 2 Chapter 3.4.11 and Volume 6 Chapter 10 have been applied for assessing the concerned walkways. The Minimum Width of Footways refers to the desirable minimum effective widths of footways according to pedestrian volume and type of land use. LOS directly relates to the pedestrian comfort and ease with which pedestrians queued and proceed at the walkway.

7.1.4 The related assessment of pedestrian is based on Level-of-Service (LOS) approach, which is stipulated in T.P.D.M. (Volume 6, Chapter 10, Section 10.4.2), defines the service level of walkway in terms of several parameters such as pedestrian flow rate, pedestrian space, walking speed, etc. The standard with relevant descriptions for footpath are summarized in **Table 7.1**. In general, LOS C is desirable for most design at streets with dominant 'living' pedestrian activities under T.P.D.M. Volume 6, Chapter 10.

Table 7.1 Descriptions of Level-of-Service (LOS) for Footpath

LOS	Flow Rate (ped/min/meter)	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 exists, 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.

7.1.5 The observed pedestrian flows is presented in **Figure 7.2**.

7.1.6 The level-of-service (LOS) for existing operational performances of the identified critical sections for footpaths are listed in **Table 7.2** respectively.

Table 7.2 Operational Performance of Critical Footpath in Year 2026

Critical Section	Total Footpath Width (m)(1)	Effective Width (m)(2)	Observed Scenario (Year 2026)					
			AM Peak			PM Peak		
			Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) (3)	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) (3)	LOS
P1	2	1	5	0.3	A	5	0.3	A
P2	1.5	0.5	0	0.0	A	5	0.7	A
P3	1.5	0.5	5	0.7	A	10	1.3	A

Notes:
(1) Effective Width = Total Footpath Width – Death Width (0.5m from railings or walls).
(2) Two-way Pedestrian Flow Rate (ped/min/m) = Peak Pedestrian Flow / 15 min / Effective Width.
(3) LOS details extracted from the HCM are tabulated in TPDM Volume 6 Chapter 10 Clause 10.4.2.3.

7.1.7 The results of assessment shown in **Table 7.2** indicate that the critical sections are operating with ample reserved capacity during peak 15-min.

7.2 Future Pedestrian Condition

7.2.1 Reference has been made to the growth rate of +1% from **Section 4.2** for the background pedestrian growth from 2026 to 2033.

7.2.2 The 2033 reference pedestrian flows are presented in **Figure 7.3**.

7.2.3 The level-of-service (LOS) for reference scenario (without proposed development) operational performances of the identified critical sections for footpaths are listed in **Table 7.3**.

Table 7.3 Operational Performance of Critical Footpath in Year 2033 (Without Proposed Development)

Critical Section	Total Footpath Width (m)(1)	Effective Width (m)(2)	Reference Scenario (2033)					
			AM Peak			PM Peak		
			Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) (3)	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) (3)	LOS
P1	2	1	5	0.1	A	5	0.1	A
P2	1.5	0.5	0	0.0	A	10	0.3	A
P3	1.5	0.5	5	0.2	A	10	0.3	A

Notes:
(1) Effective Width = Total Footpath Width – Death Width (0.5m from railings or walls).
(2) Two-way Pedestrian Flow Rate (ped/min/m) = Peak Pedestrian Flow / 15 min / Effective Width.
(3) LOS details extracted from the HCM are tabulated in TPDM Volume 6 Chapter 10 Clause 10.4.2.3.

7.3 Pedestrian Generations and Attractions of Proposed Redevelopment

7.3.1 The pedestrian flows from the proposed development from **Table 6.2** was then superimposed onto the 2033 reference pedestrian flows to derive the 2033 design pedestrian flows.

7.3.2 The 2033 design pedestrian flows are presented in **Figure 7.4**.

7.3.3 The level-of-service (LOS) for design scenario (with proposed development) operational performances of the identified critical sections footpaths are listed in **Table 7.4**.

Table 7.4 Operational Performance of Critical Footpath in Year 2033 (With Proposed Development)

Critical Section	Total Footpath Width (m)(1)	Effective Width (m)(2)	Design Scenario (2033)					
			AM Peak			PM Peak		
			Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) (3)	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) (3)	LOS
P1	2	1	15	0.3	A	15	0.3	A
P2	1.5	0.5	0	0.0	A	10	0.3	A
P3	1.5	0.5	15	0.5	A	20	0.7	A

Notes:
(1) Effective Width = Total Footpath Width – Death Width (0.5m from railings or walls).
(2) Two-way Pedestrian Flow Rate (ped/min/m) = Peak Pedestrian Flow / 15 min / Effective Width.
(3) LOS details extracted from the HCM are tabulated in TPDM Volume 6 Chapter 10 Clause 10.4.2.3.

7.3.4 It is revealed from the assessment results in **Table 7.2**, **Table 7.3** and **Table 7.4** that critical sections of pedestrian facilities along the pedestrian routing to public transport facilities would be able to attain the acceptable LOS with additional pedestrian flows arising from the proposed development during peak hours in the design year 2033.

8. SUMMARY AND CONCLUSION

8.1 Summary

8.1.1 CTA Consultants Limited (CTA) is commissioned as the traffic consultant to prepare the Traffic Impact Assessment Report and provide technical justifications in supporting the proposed development from traffic engineering point of view.

8.1.2 To appraise the existing traffic condition, manual-classified counting surveys were conducted at critical junctions in 2026. Current operational performance of the critical junctions has been assessed. The results reveal all critical junctions are at present operating within their capacities during peak hours.

8.1.3 The assessment results revealed that all critical junctions would still operate within their capacities in both reference scenario (without proposed development) and design scenario (with proposed development) in 2033 during peak hours.

8.1.4 It is anticipated that the proposed development would generate and attract 20 pcu/hr during AM peak hour each, and generate and attract 25 pcu/hr and 15 pcu/hr during PM hour respectively.

8.1.5 The traffic generated by the proposed development is small and would induce insignificant impact on the surrounding road network.

8.1.6 Assessments indicate that there are surplus capacities for the bus stop during AM and PM peak hours in 2033 and it is anticipated there will be surplus capacities with the proposed development

8.1.7 It is revealed that critical sections of pedestrian facilities along the pedestrian routing to public transport facilities would be able to attain the acceptable LOS with additional pedestrian flows arising from the proposed development during peak hours in the design year 2033.

8.1.8 Assessments indicate that there are surplus capacities for the bus stop during AM and PM peak hours in existing. The estimated pedestrian generation of the proposed development is 2 ped/hr during AM peak hour and 25 ped/hr during PM peak hour.

Therefore it is anticipated that there will be surplus capacities for the bus/PLB stops during AM and PM peak hours in 2033 with the proposed development.

8.2 Conclusion

8.2.1 In conclusion, this Traffic Impact Assessment Report has demonstrated that the related traffic trips related to the proposed development can be absorbed by the nearby road network and no significant traffic impact will be induced.

8.2.2 Therefore, the proposed development is reckoned feasible from traffic engineering point of view.

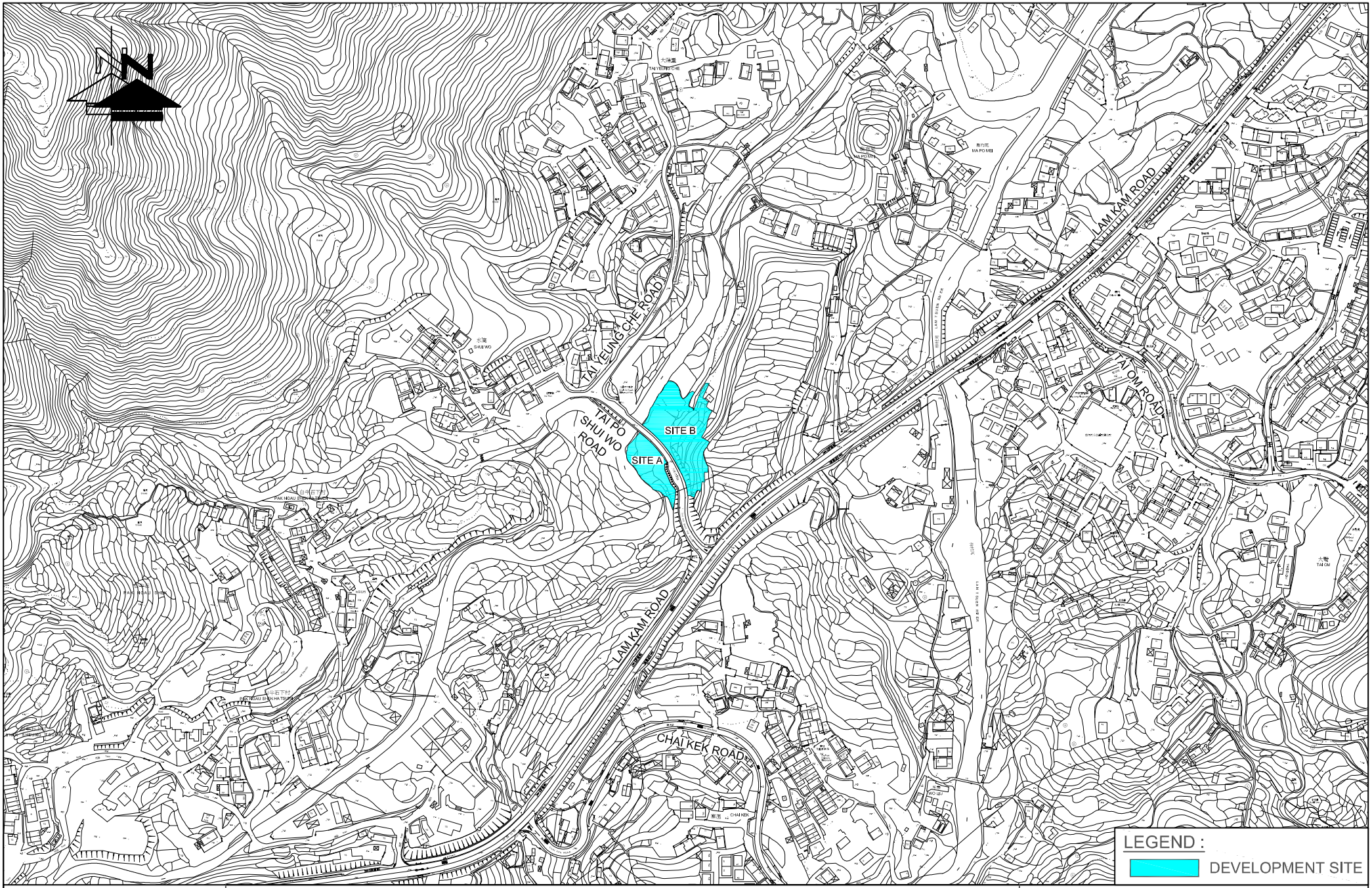


FIGURE NO.: 1.1	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SITE LOCATION PLAN	
SCALE: 1 : 4250 @A4 / DATE: 18 JUN 2026		

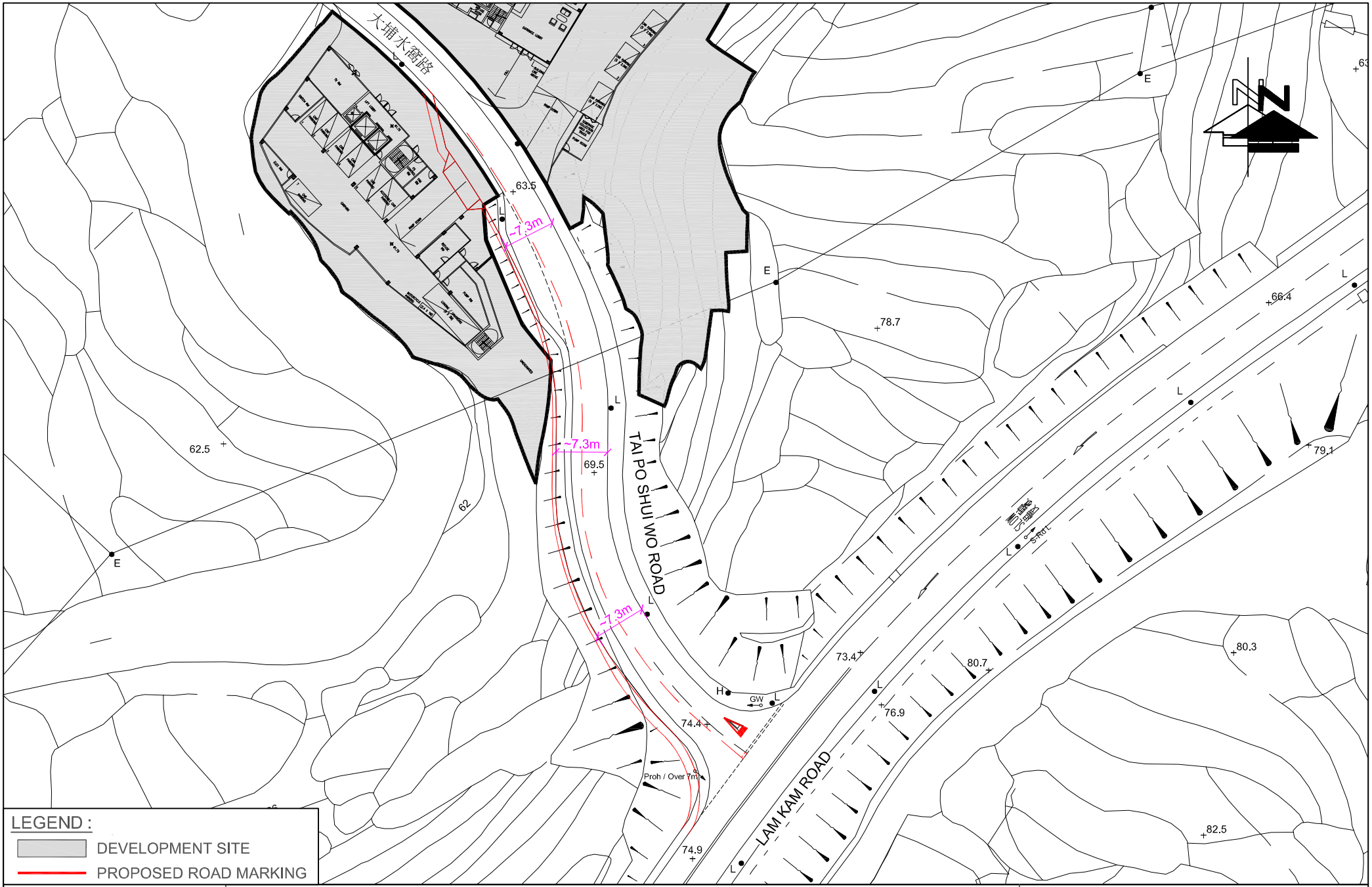


FIGURE NO.: 2.1	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: PROPOSED ROAD WIDENING 7.3m AT TAI PO SHUI WO ROAD	
SCALE: 1 : 700 @A4 / DATE: 09 OCT 2026		

FIGURE NO.: 2.2	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: LAYOUT PLAN OF PROPOSED DEVELOPMENT FOR SITE A	
SCALE: 1 : 600 @A4 / DATE: 09 OCT 2026		

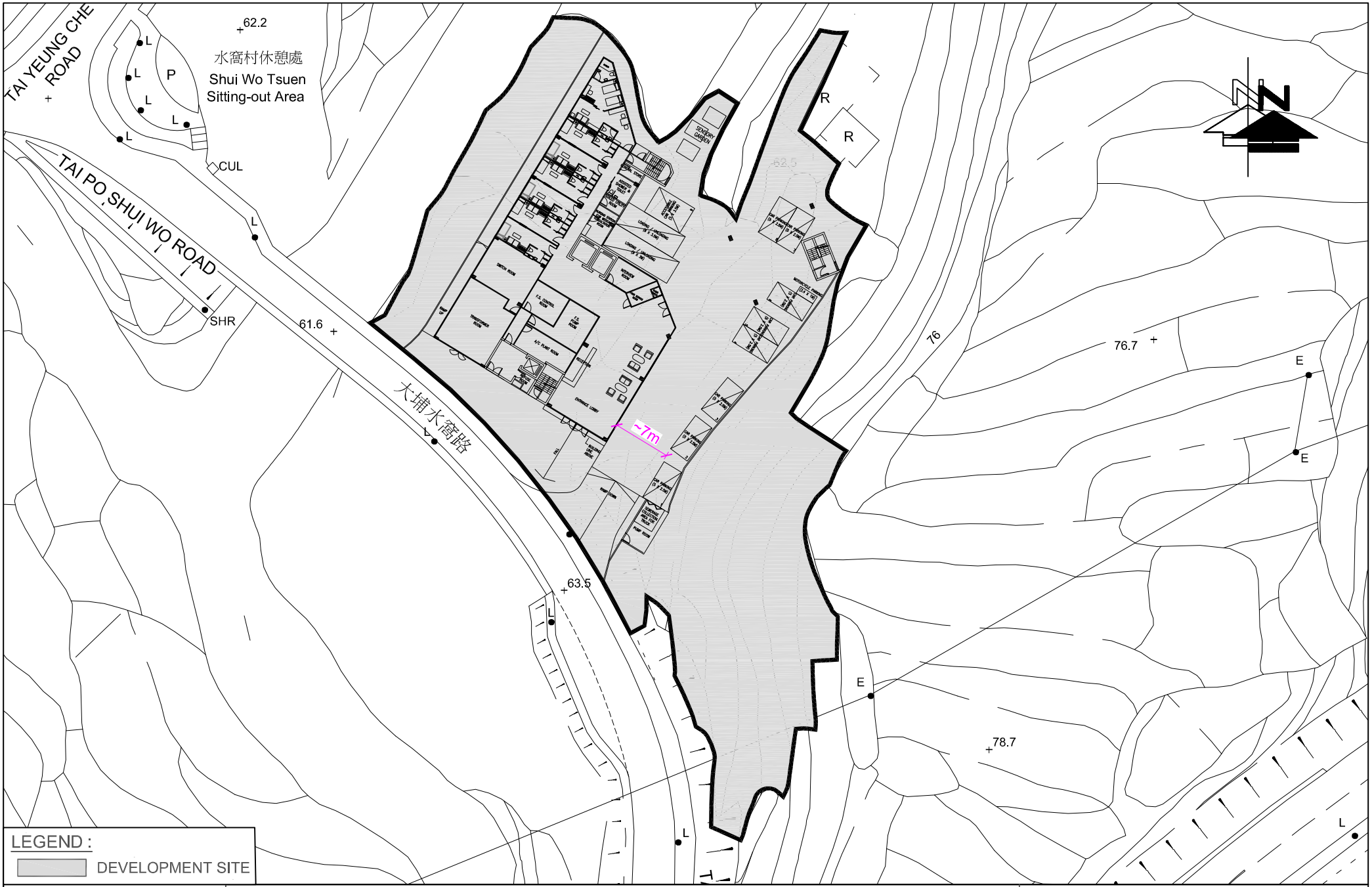


FIGURE NO.: 2.3	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: LAYOUT PLAN OF PROPOSED DEVELOPMENT FOR SITE B	
SCALE: 1 : 600 @A4 / DATE: 09 OCT 2026		

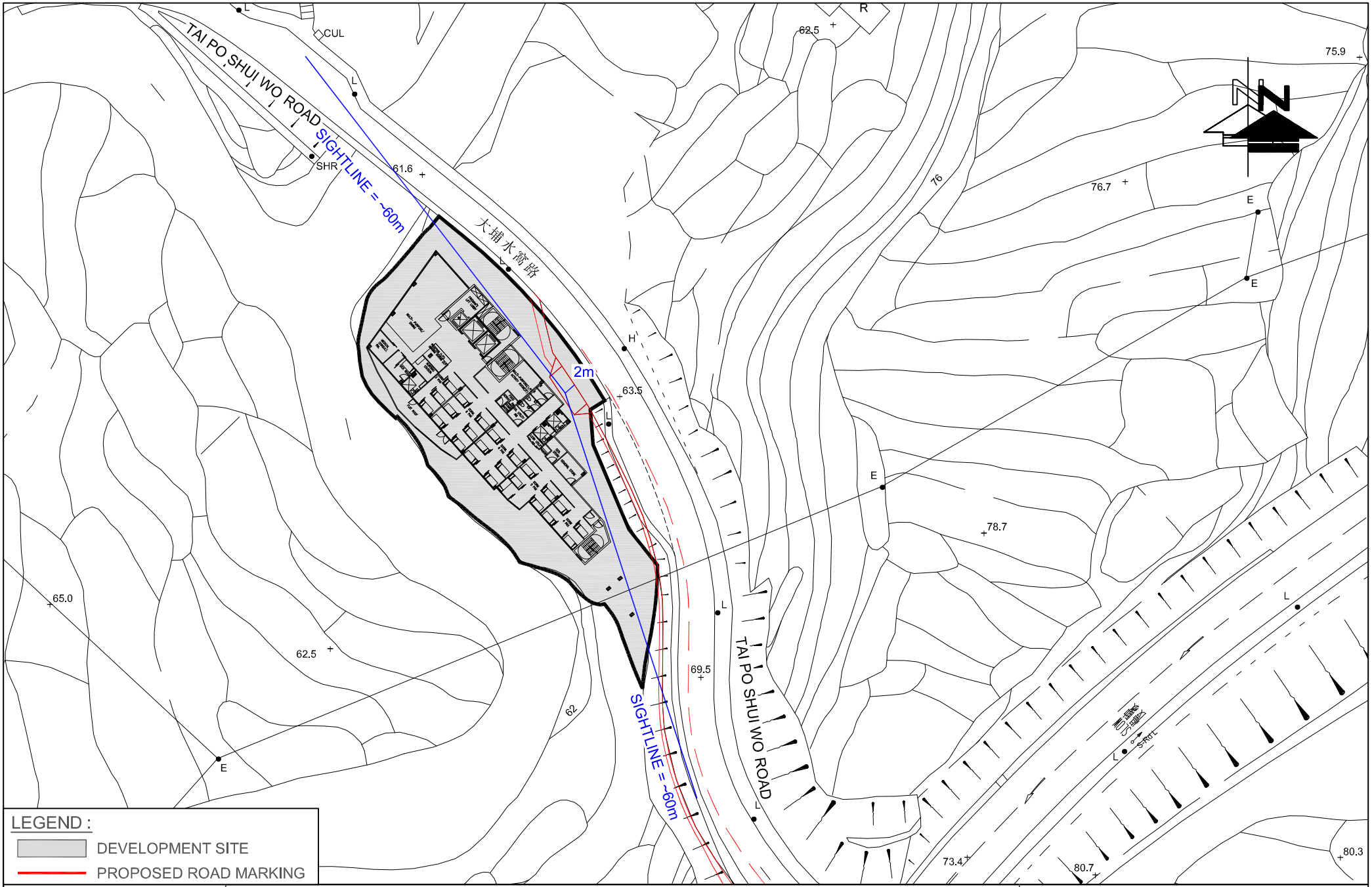


FIGURE NO.: 2.4	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SIGHTLINE ASSESSMENT AT PROPOSED VEHICULAR ACCESS FOR SITE A	
SCALE: 1 : 700 @A4 / DATE: 09 OCT 2026		

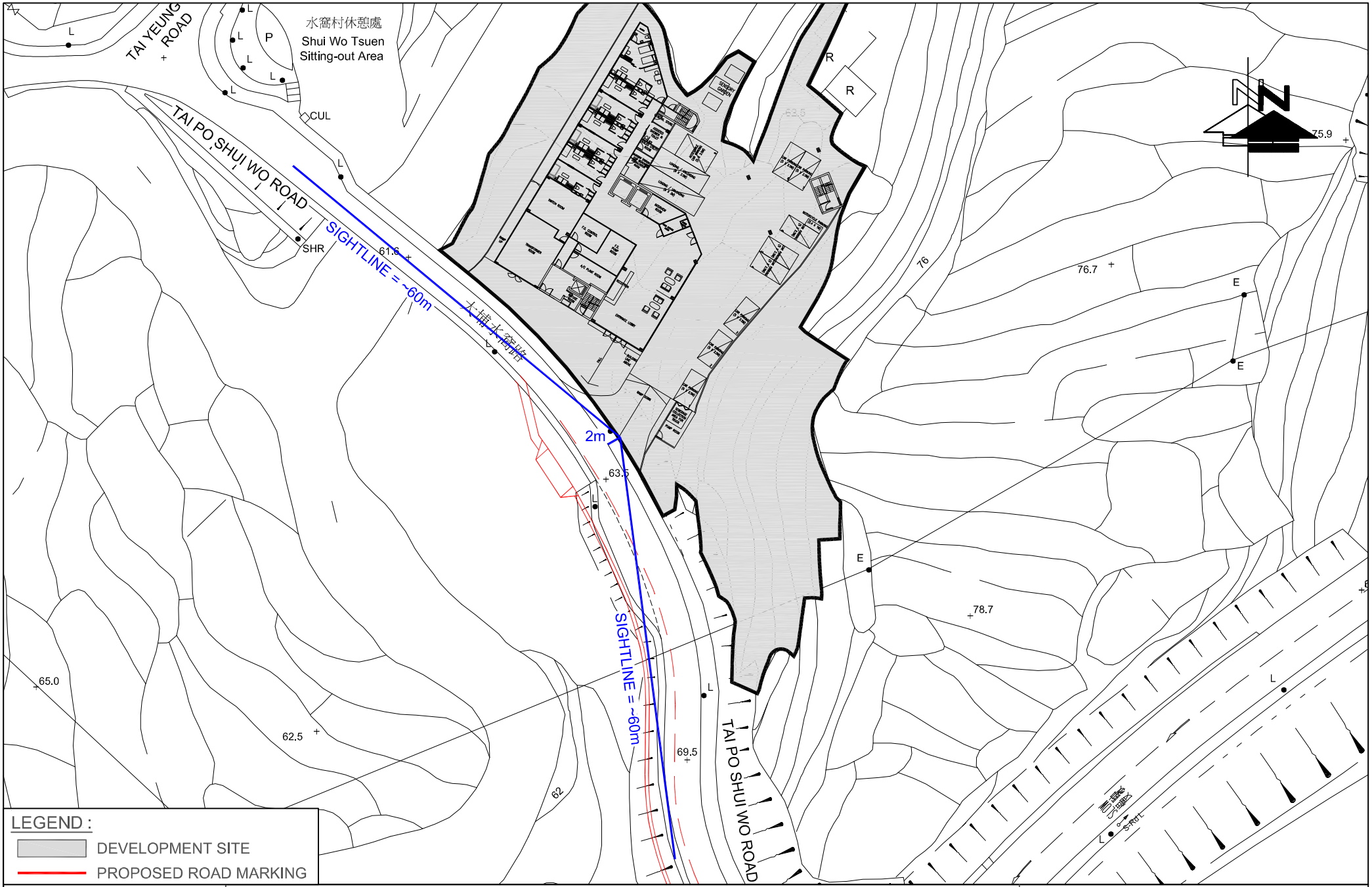


FIGURE NO.: 2.5	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SIGHTLINE ASSESSMENT AT PROPOSED VEHICULAR ACCESS FOR SITE B	
SCALE: 1 : 700 @A4 / DATE: 09 OCT 2026		

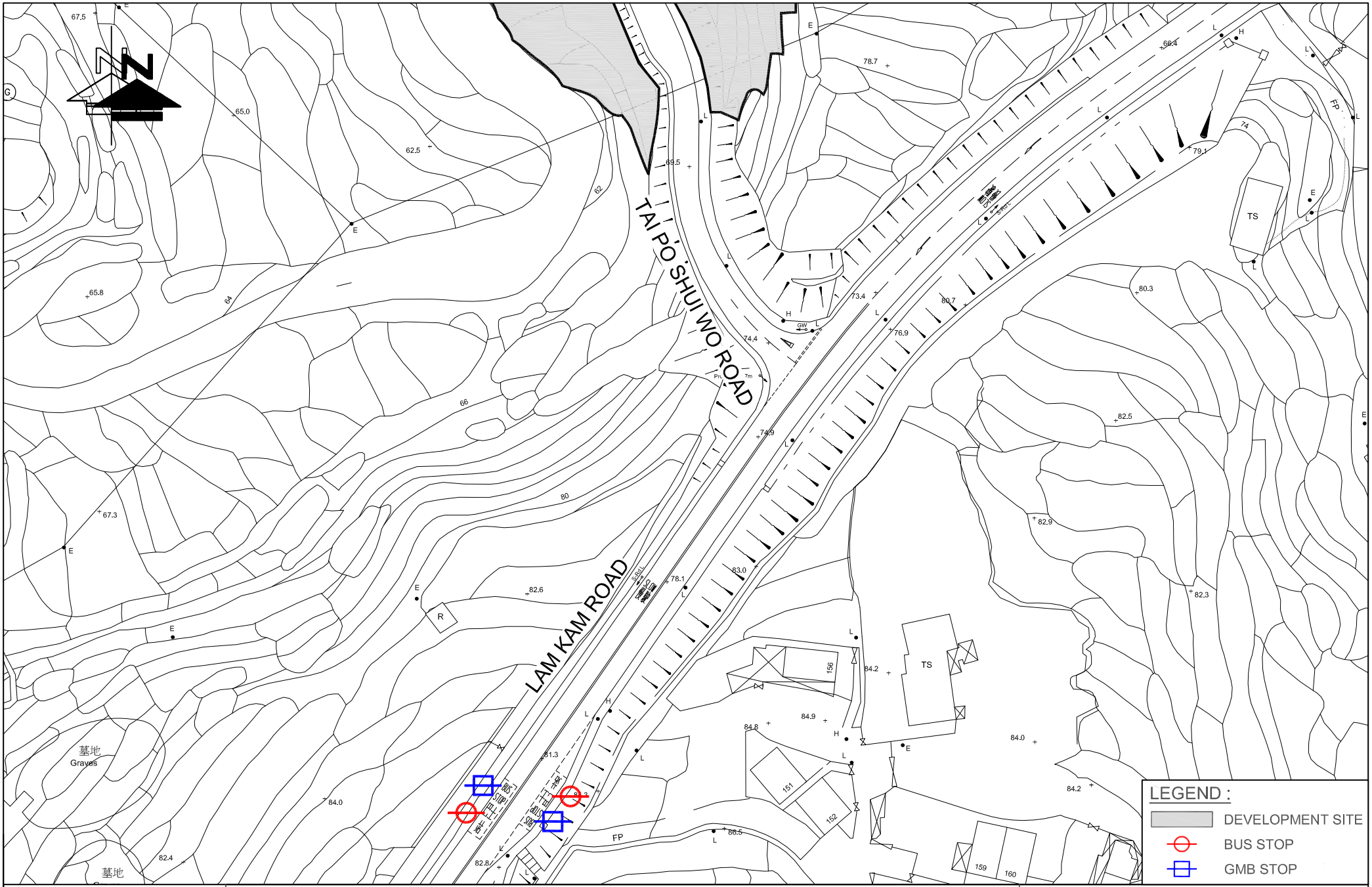


FIGURE NO.: 2.6	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: EXISTING PUBLIC TRANSPORT FACILITIES	
SCALE: 1 : 1000 @A4 / DATE: 15 JUN 2026		

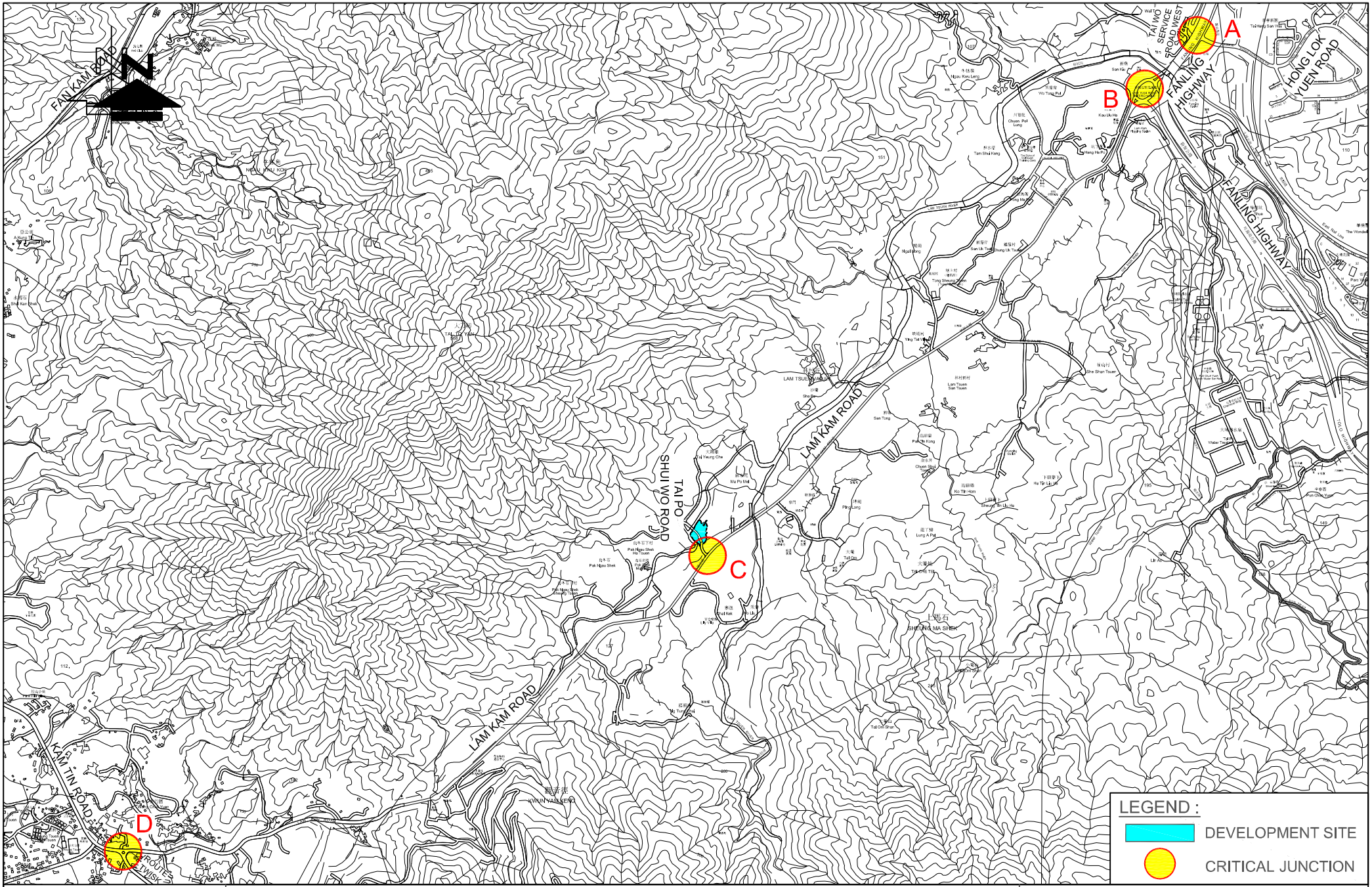


FIGURE NO.: 3.1	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: IDENTIFIED CRITICAL JUNCTIONS	
SCALE: 1 : 21000 @A4 / DATE: 08 JUN 2026		

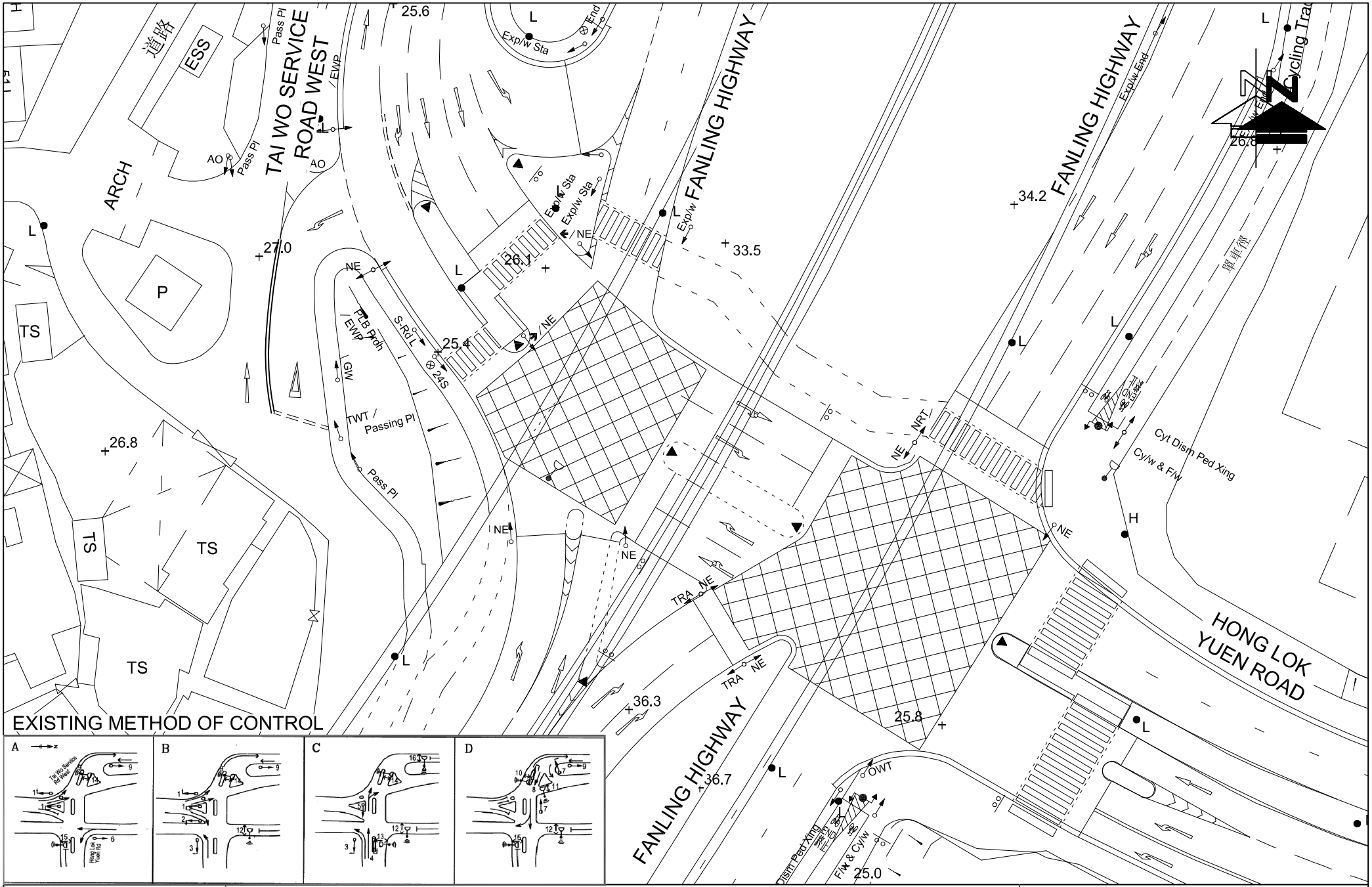


FIGURE NO.: 3.2	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF HONG LOK YUEN ROAD / TAI WO SERVICE ROAD WEST (A)	
SCALE: 1 : 500 @A4 / DATE: 08 JUN 2026		

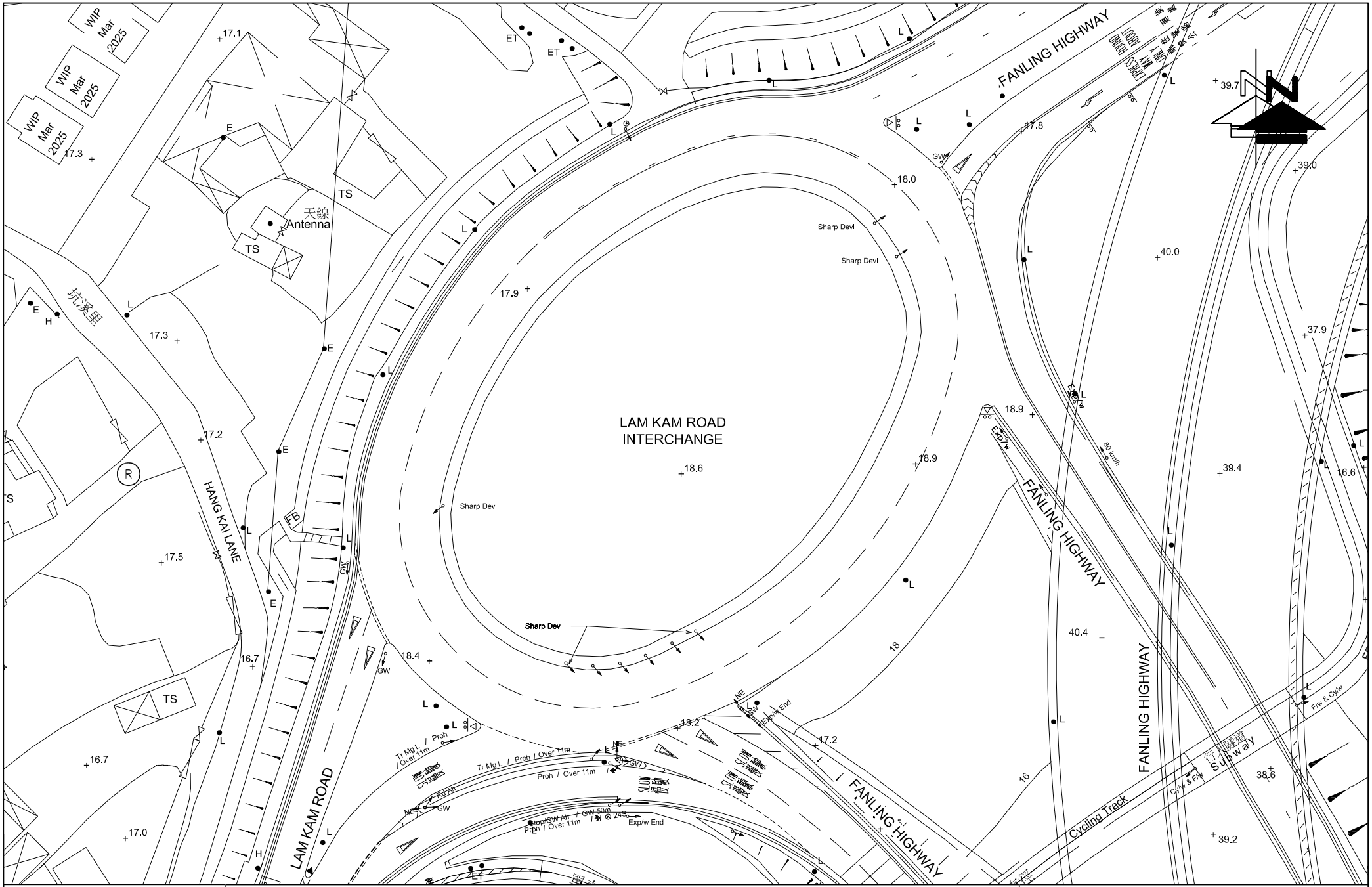


FIGURE NO.: 3.3(REV A)	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF LAM KAM ROAD INTERCHANGE (B)	
SCALE: 1 : 750 @A4 / DATE: 03 SEP 2026		

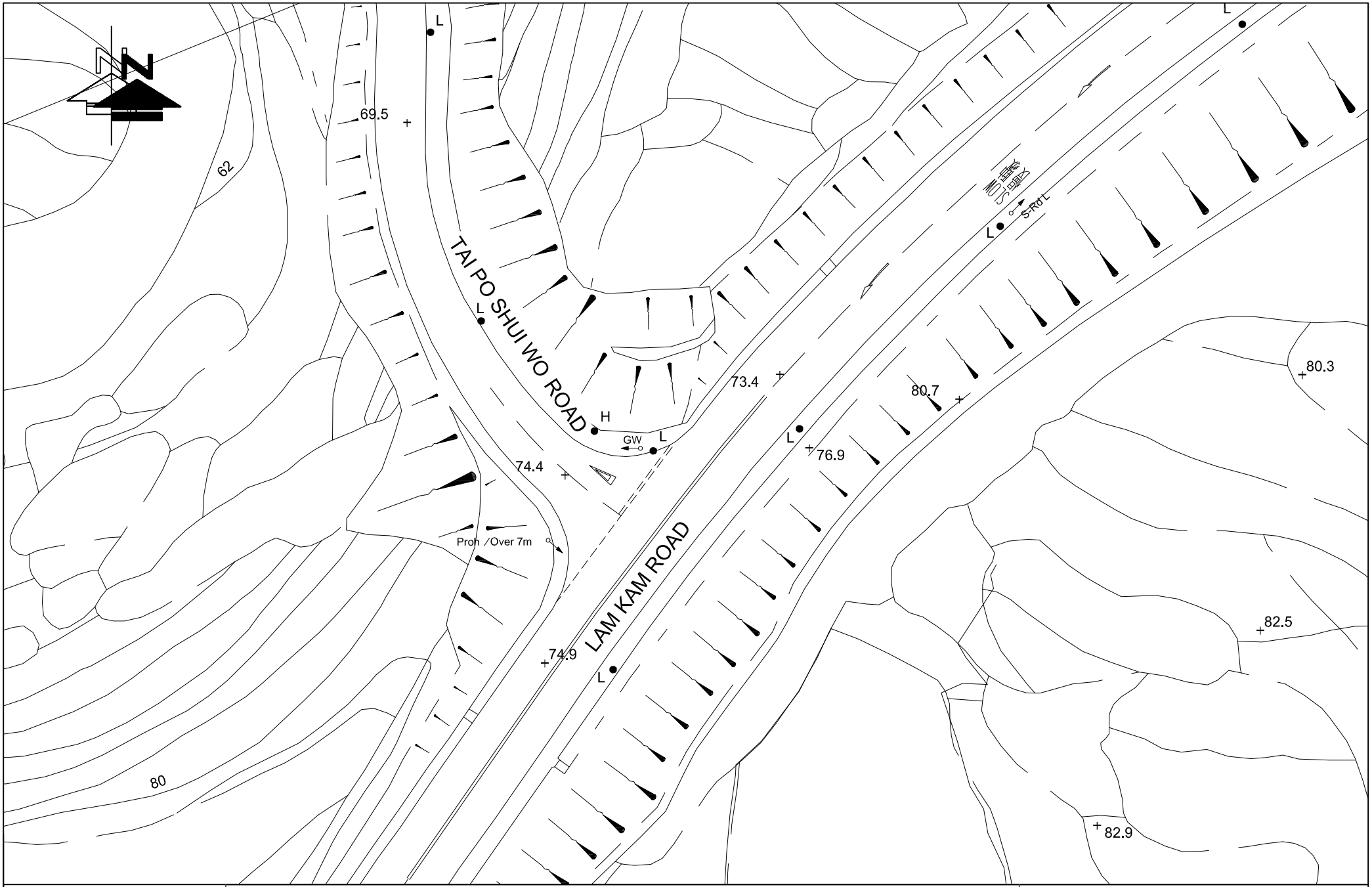


FIGURE NO.: 3.4	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF LAM KAM ROAD / TAI PO SHUI WO ROAD (C)	
SCALE: 1 : 500 @A4 / DATE: 08 JUN 2026		

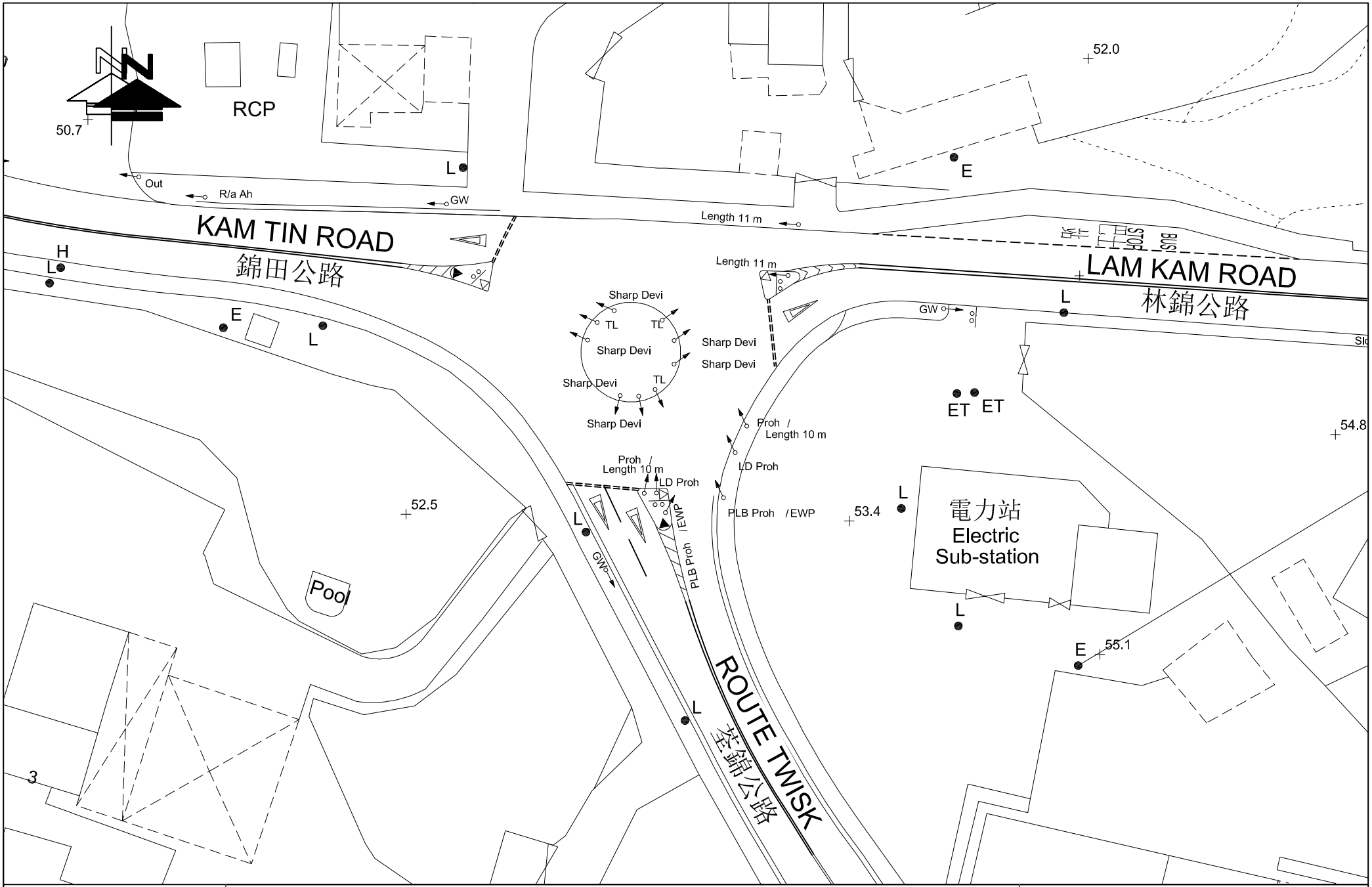


FIGURE NO.: 3.5	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF KAM TIN ROAD / LAM KAM ROAD / ROUTE TWISK (D)	
SCALE: 1 : 500 @A4 / DATE: 08 JUN 2026		

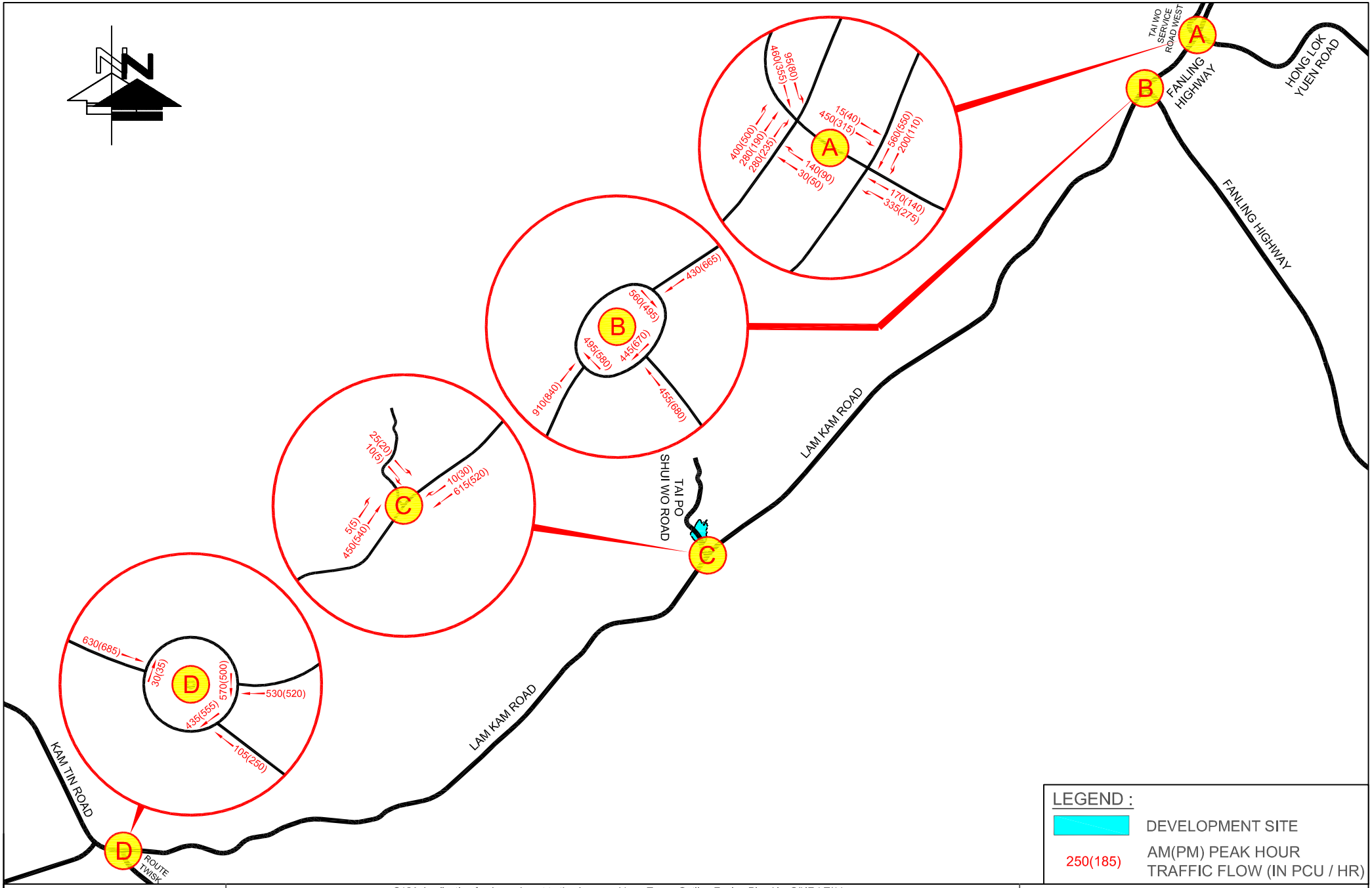


FIGURE NO.: 3.6	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: 2026 OBSERVED TRAFFIC FLOWS	
SCALE: N.T.S. @A4 / DATE: 23 JUN 2026		

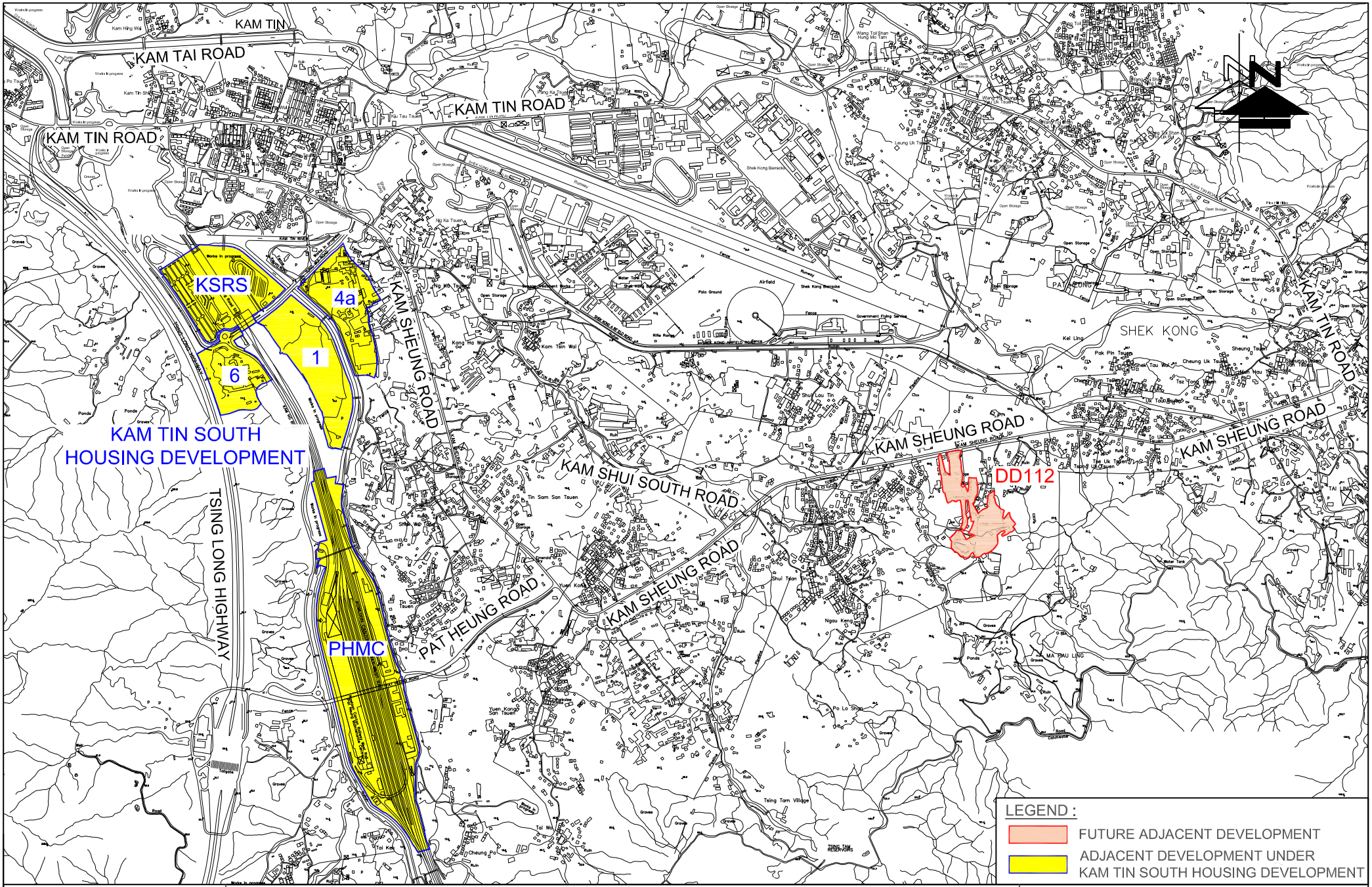


FIGURE NO.: 4.1	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories
PROJECT NO.: 26038HK	DRAWING TITLE: PLANNED MAJOR DEVELOPMENTS IN THE VICINITY (PART 1)
SCALE: 1 : 18000 @A4 / DATE: 18 JUN 2026	CTA Consultants Limited 志達顧問有限公司

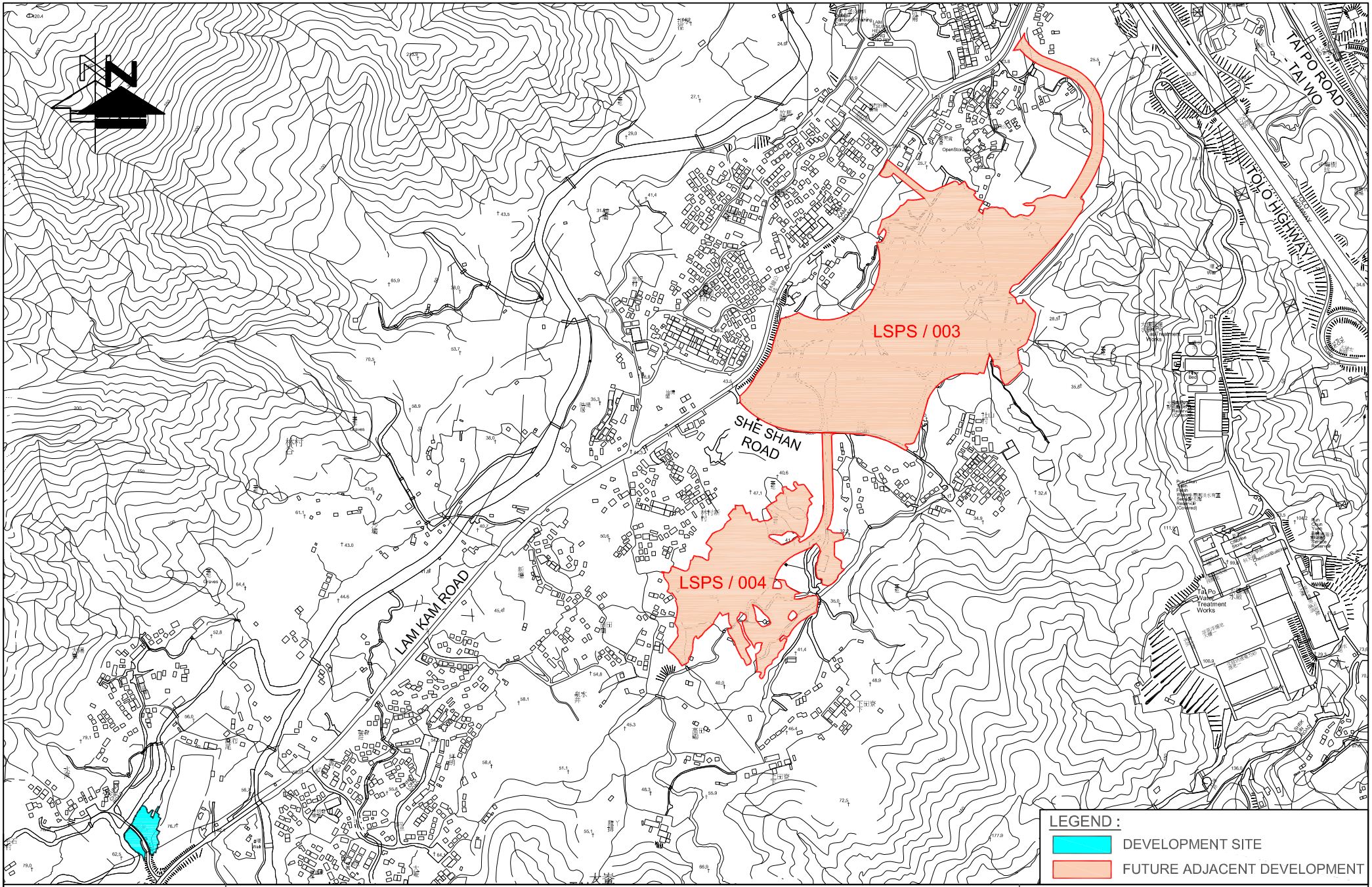


FIGURE NO.: 4.2	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: PLANNED MAJOR DEVELOPMENTS IN THE VICINITY (PART 2)	
SCALE: 1 : 10000 @A4 / DATE: 02 AUG 2026		

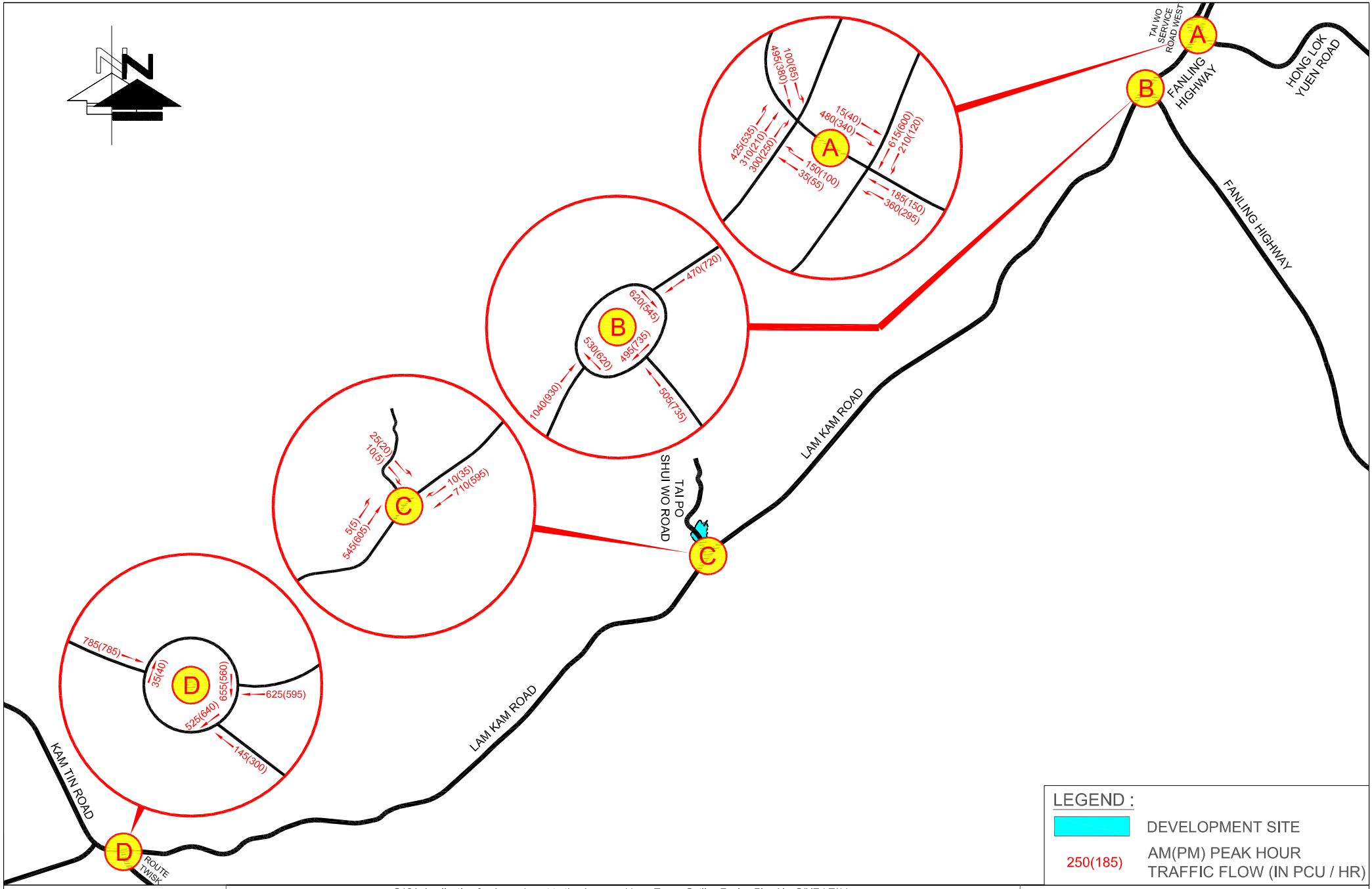


FIGURE NO.: 4.3	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: 2033 REFERENCE TRAFFIC FLOWS	
SCALE: N.T.S. @A4 / DATE: 16 SEP 2026		

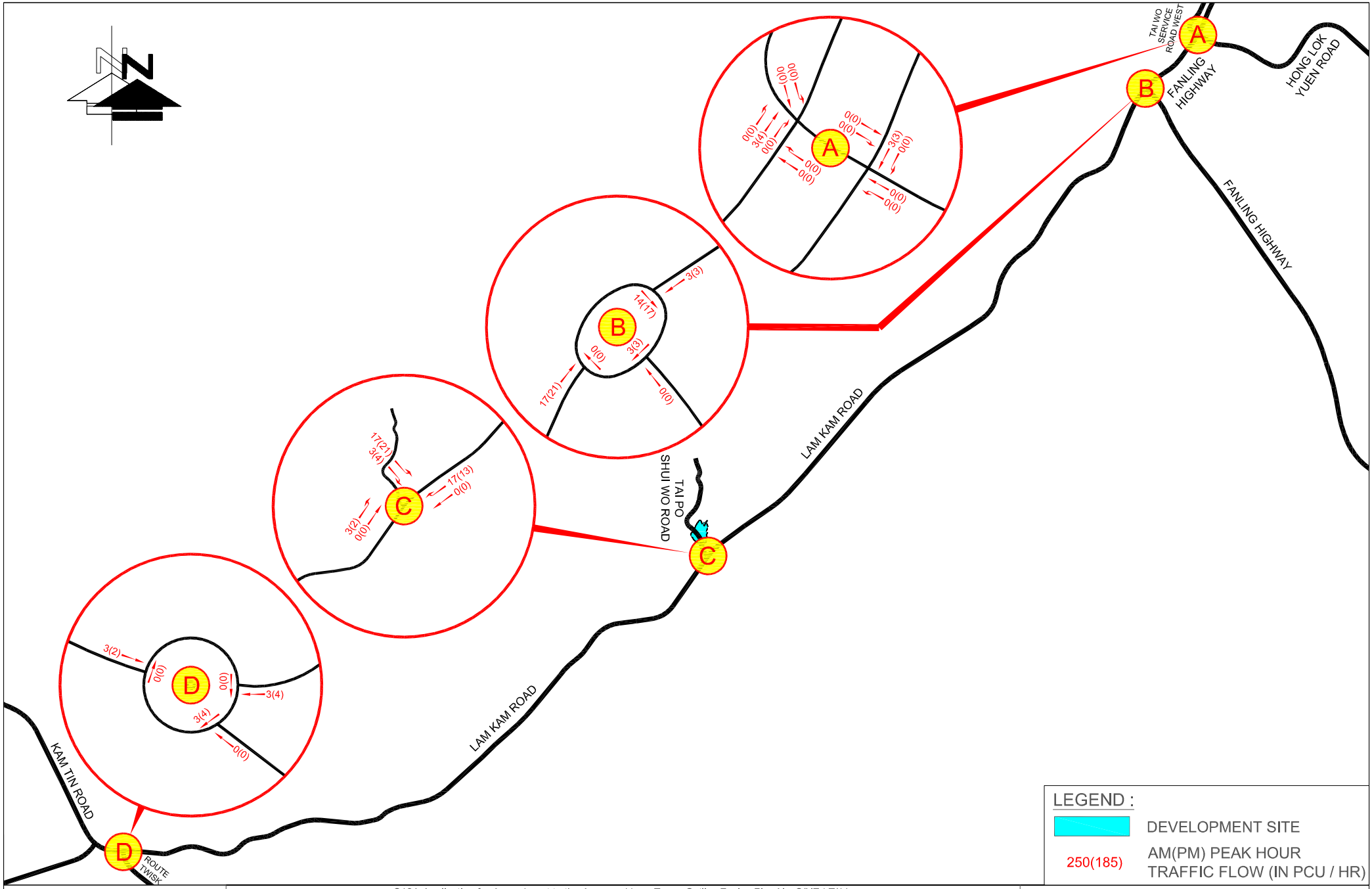


FIGURE NO.: 4.4	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: DEVELOPMENT TRAFFIC FLOWS	
SCALE: N.T.S. @A4 / DATE: 16 SEP 2026		

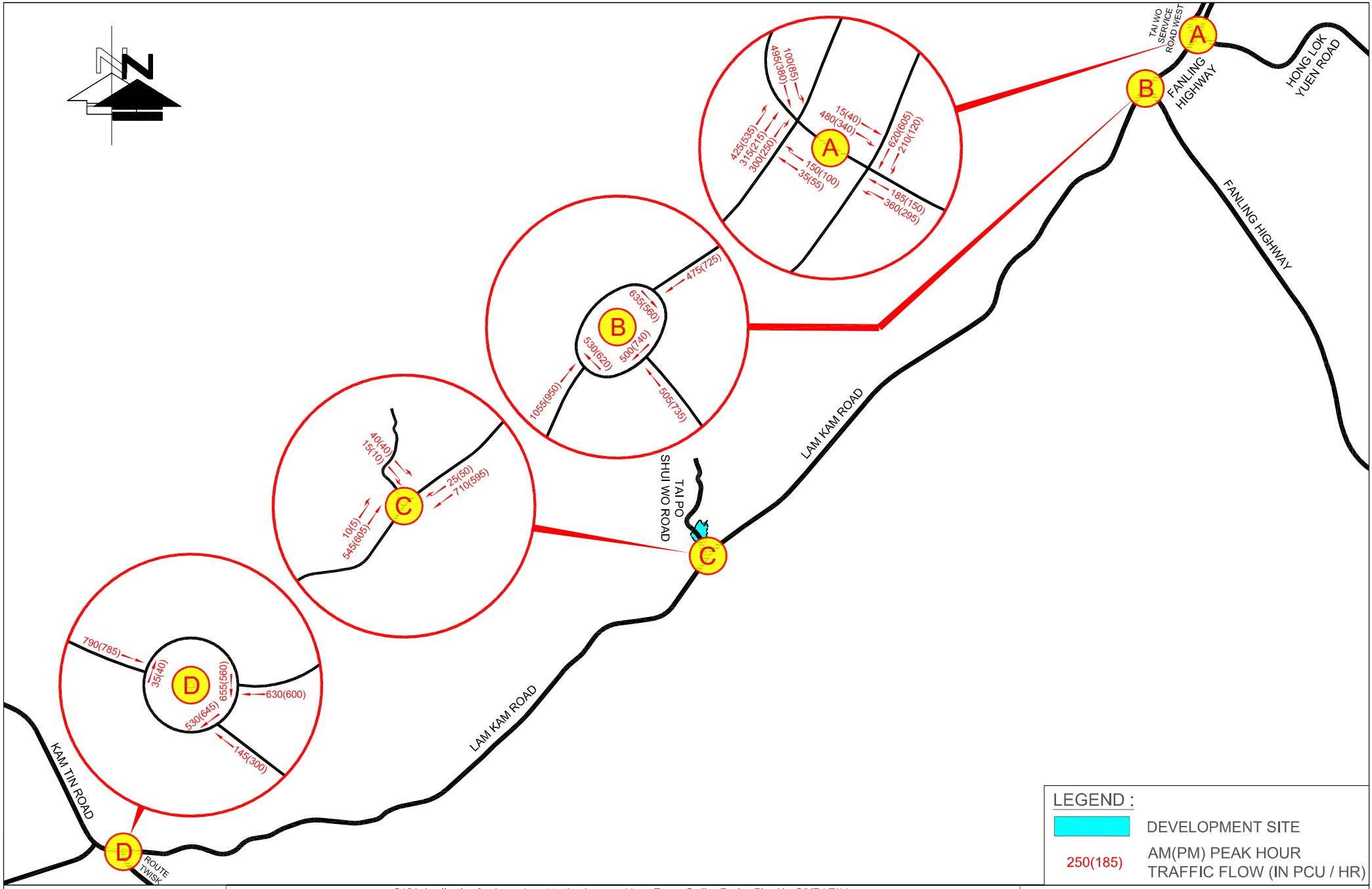


FIGURE NO.: 4.5	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: 2033 DESIGN TRAFFIC FLOWS	
SCALE: N.T.S. @A4 / DATE: 16 SEP 2026		

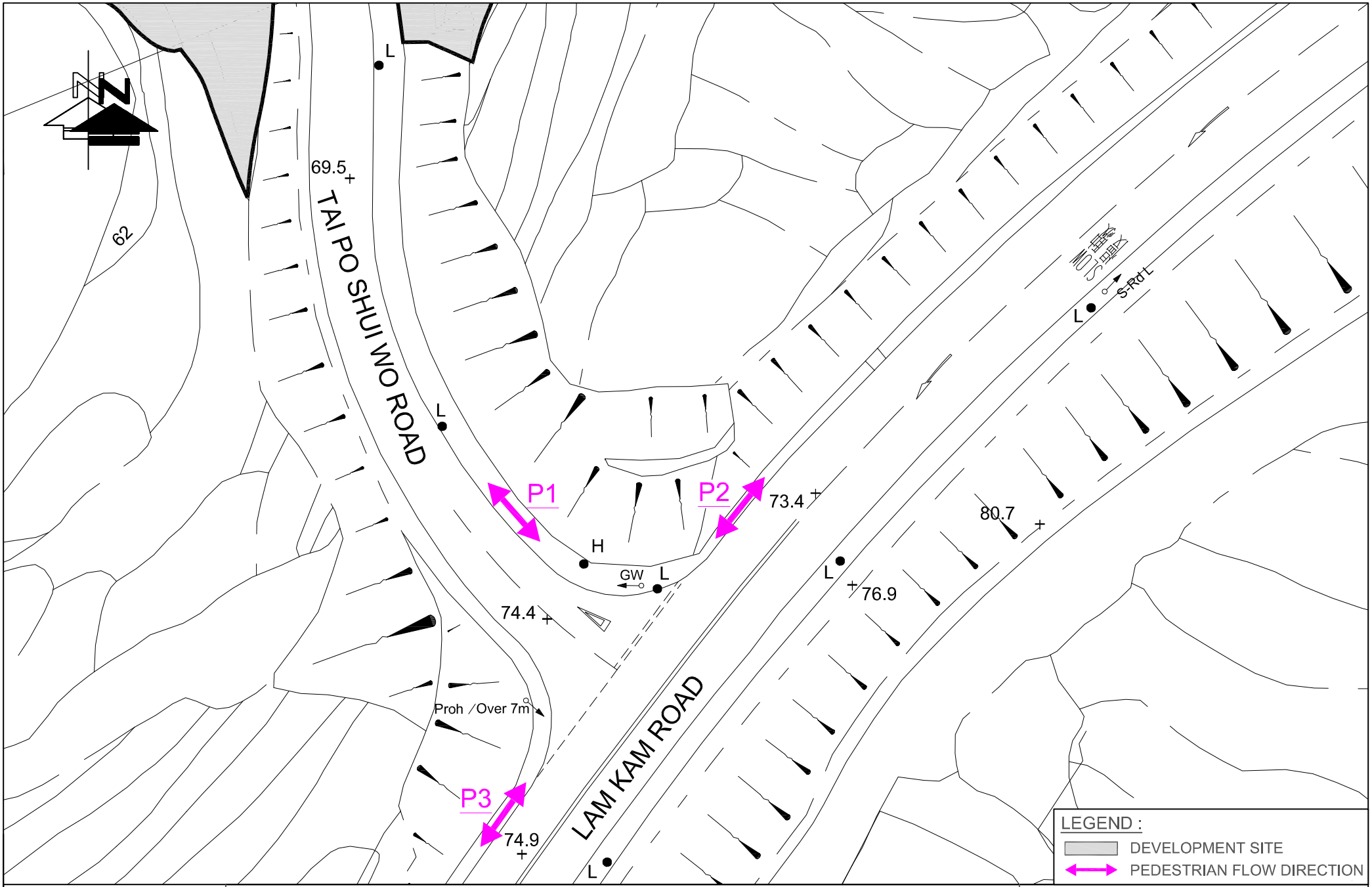


FIGURE NO.: 7.1	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: INDEX PLAN OF PEDESTRIAN ASSESSMENT	
SCALE: 1 : 400 @A4 / DATE: 09 SEP 2026		

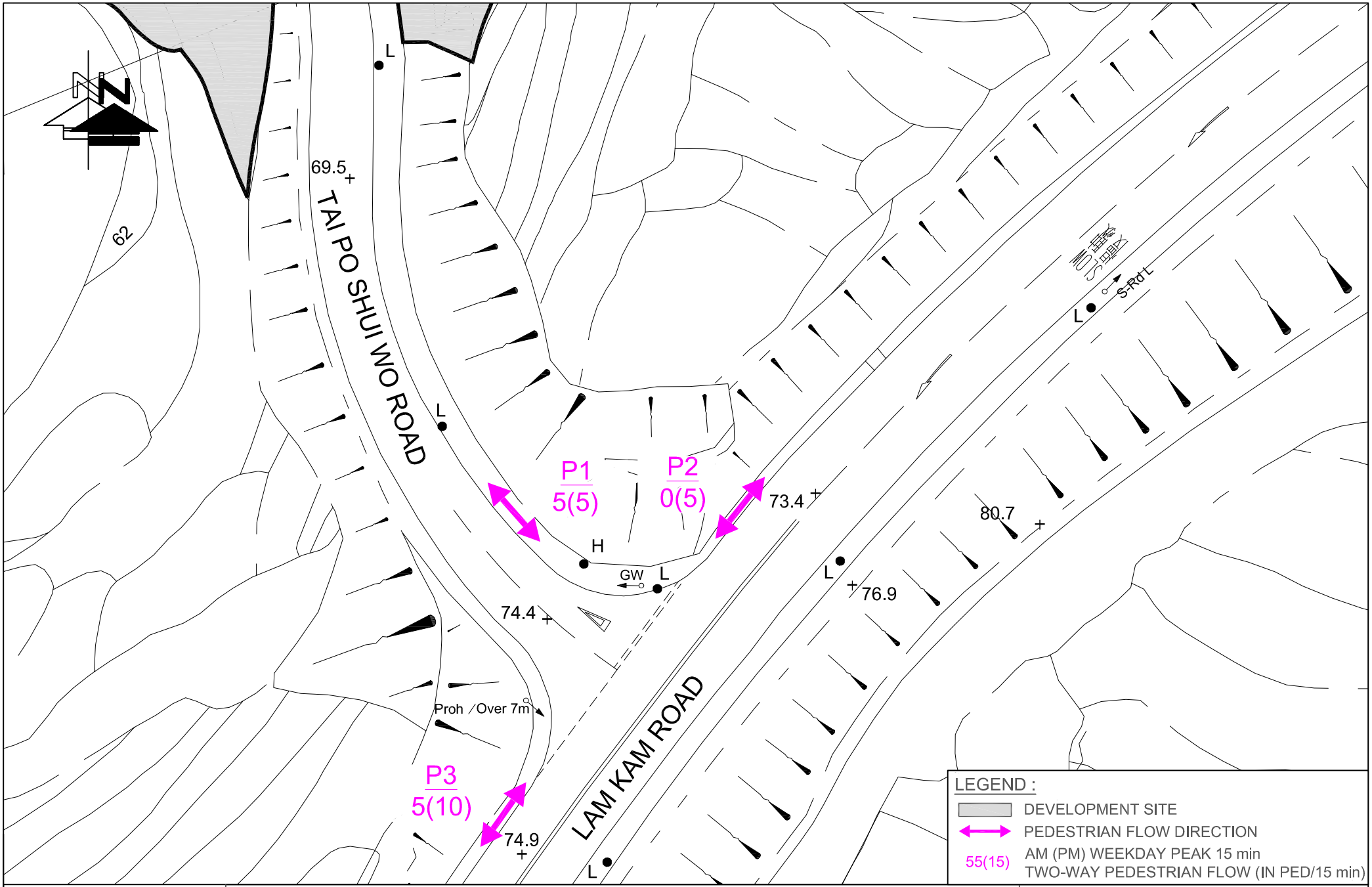


FIGURE NO.: 7.2	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: 2026 OBSERVED PEDESTRIAN FLOWS	
SCALE: 1 : 400 @A4 / DATE: 09 SEP 2026		

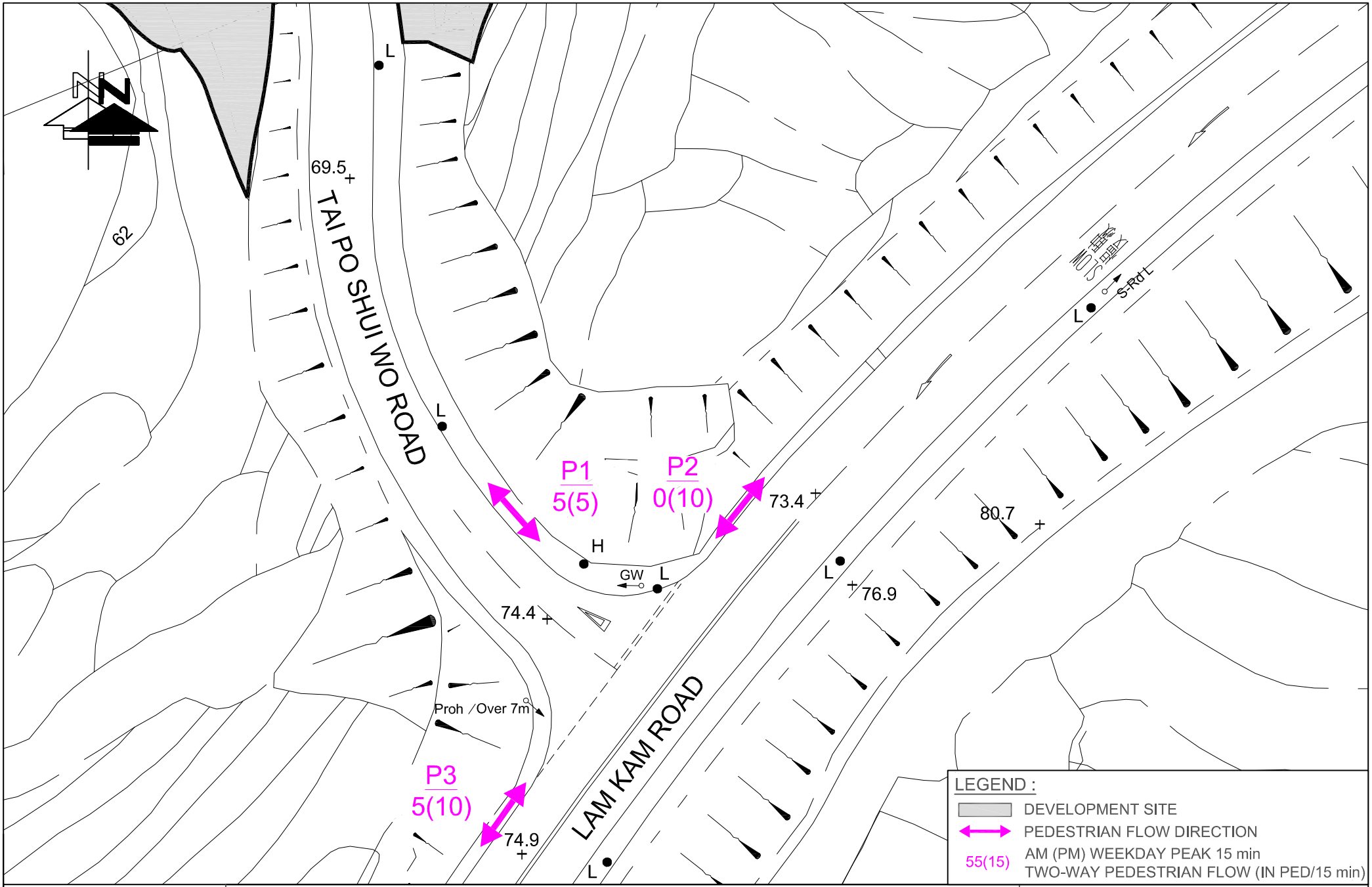


FIGURE NO.: 7.3	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: 2033 REFERENCE PEDESTRIAN FLOWS	
SCALE: 1 : 400 @A4 / DATE: 09 SEP 2026		

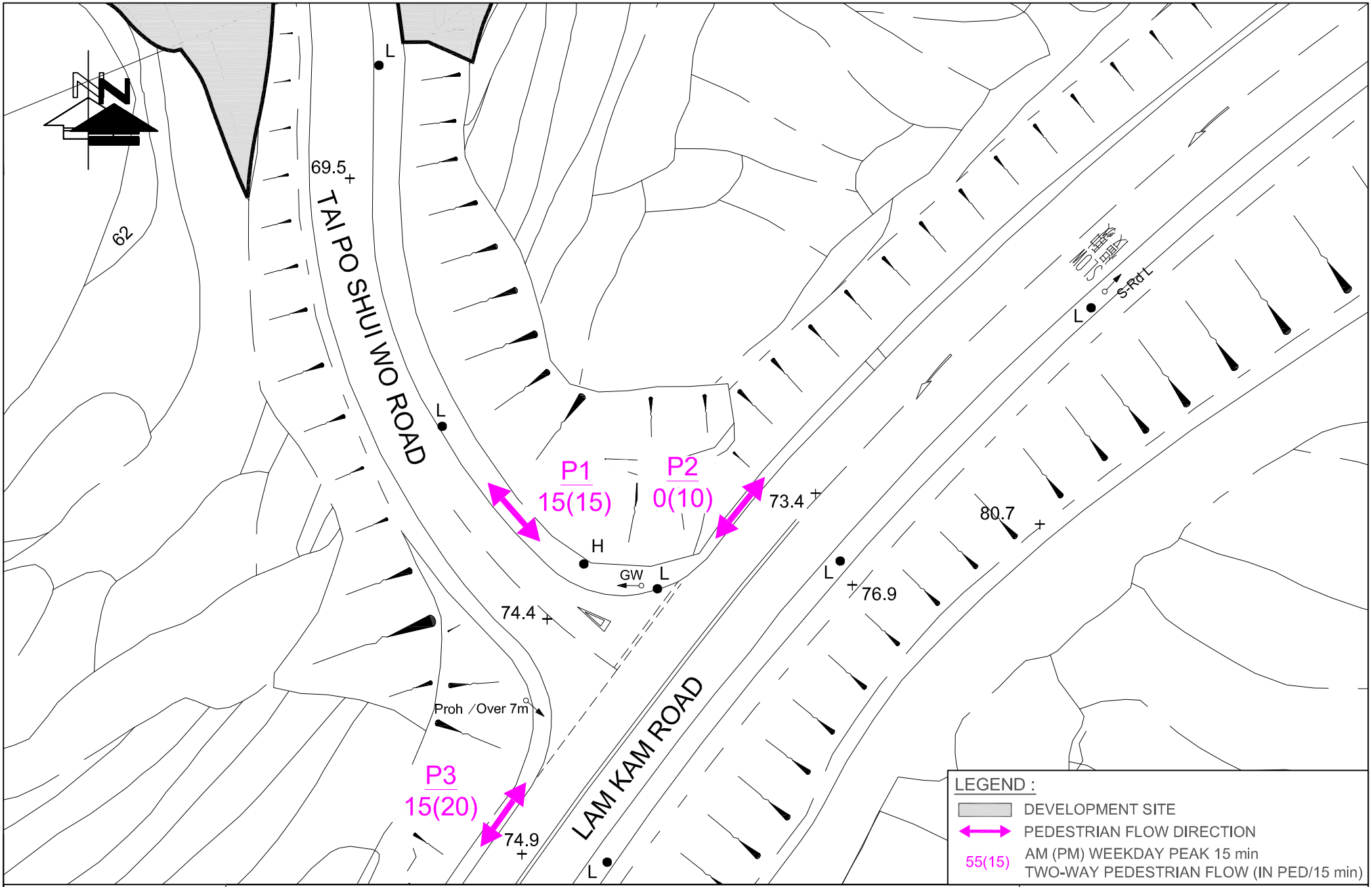


FIGURE NO.: 7.4	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: 2033 DESIGN PEDESTRIAN FLOWS	
SCALE: 1 : 400 @A4 / DATE: 02 OCT 2026		

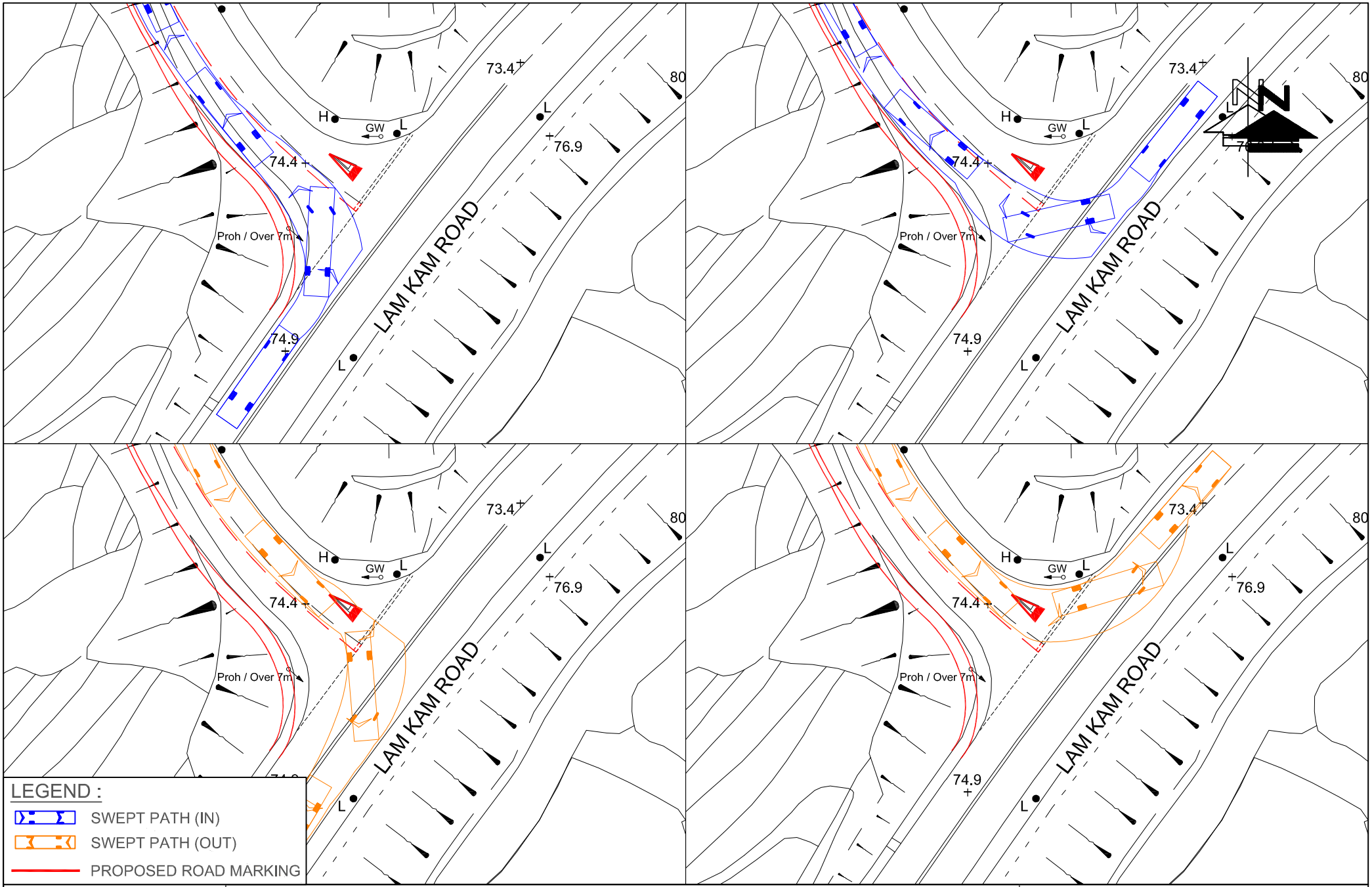


FIGURE NO.: SP-01	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF 11m VEHICLE ALONG TAI PO SHUI WO ROAD WITH PROPOSED MINOR ROAD IMPROVEMENT OF TAI PO SHUI WO ROAD	
SCALE: 1 : 500 @A4 / DATE: 09 OCT 2026		

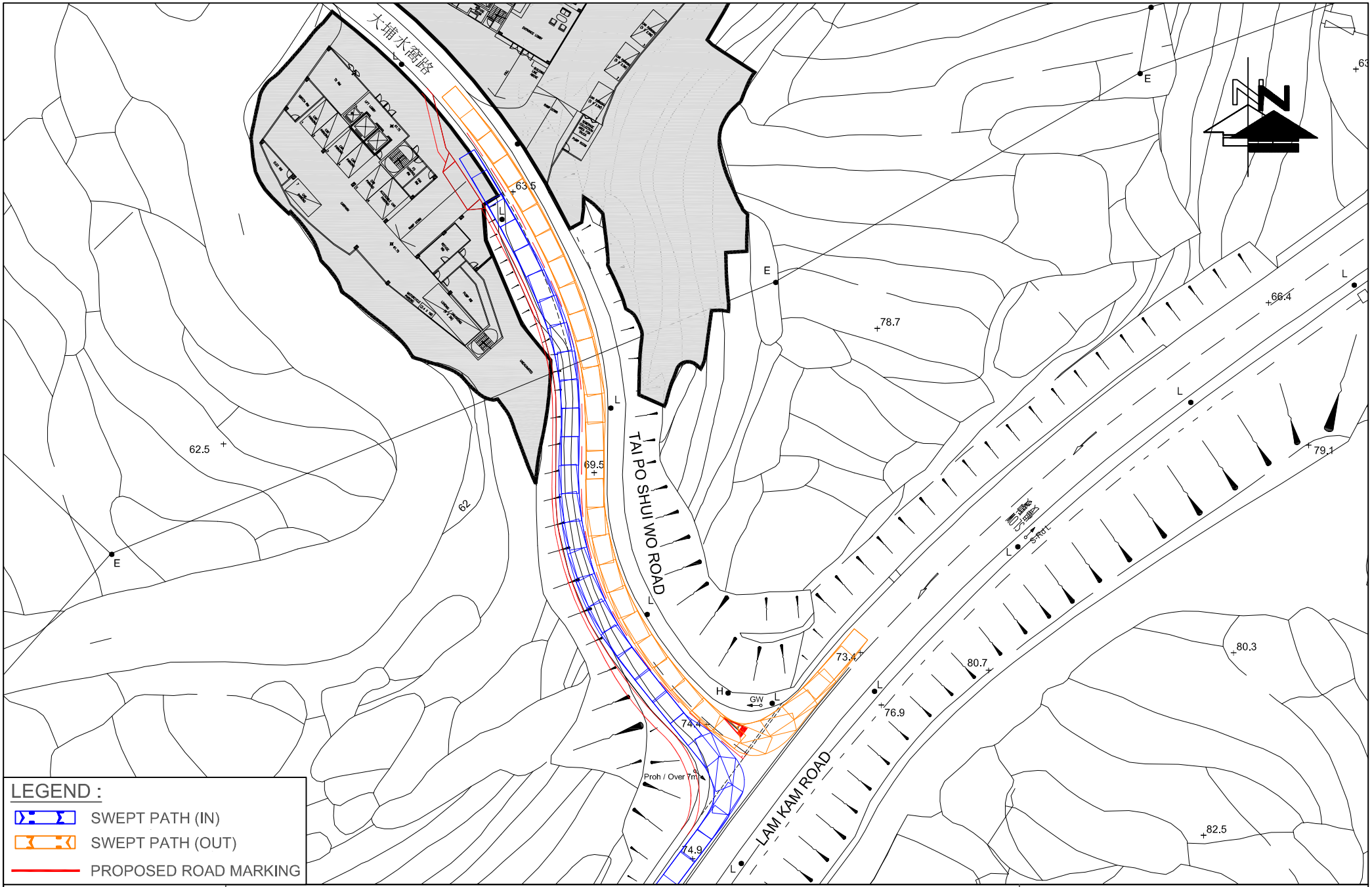


FIGURE NO.: SP-02	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF LIGHT BUS ALONG TAI PO SHUI WO ROAD WITH PROPOSED MINOR ROAD IMPROVEMENT OF TAI PO SHUI WO ROAD	
SCALE: 1 : 700 @A4 / DATE: 09 OCT 2026		

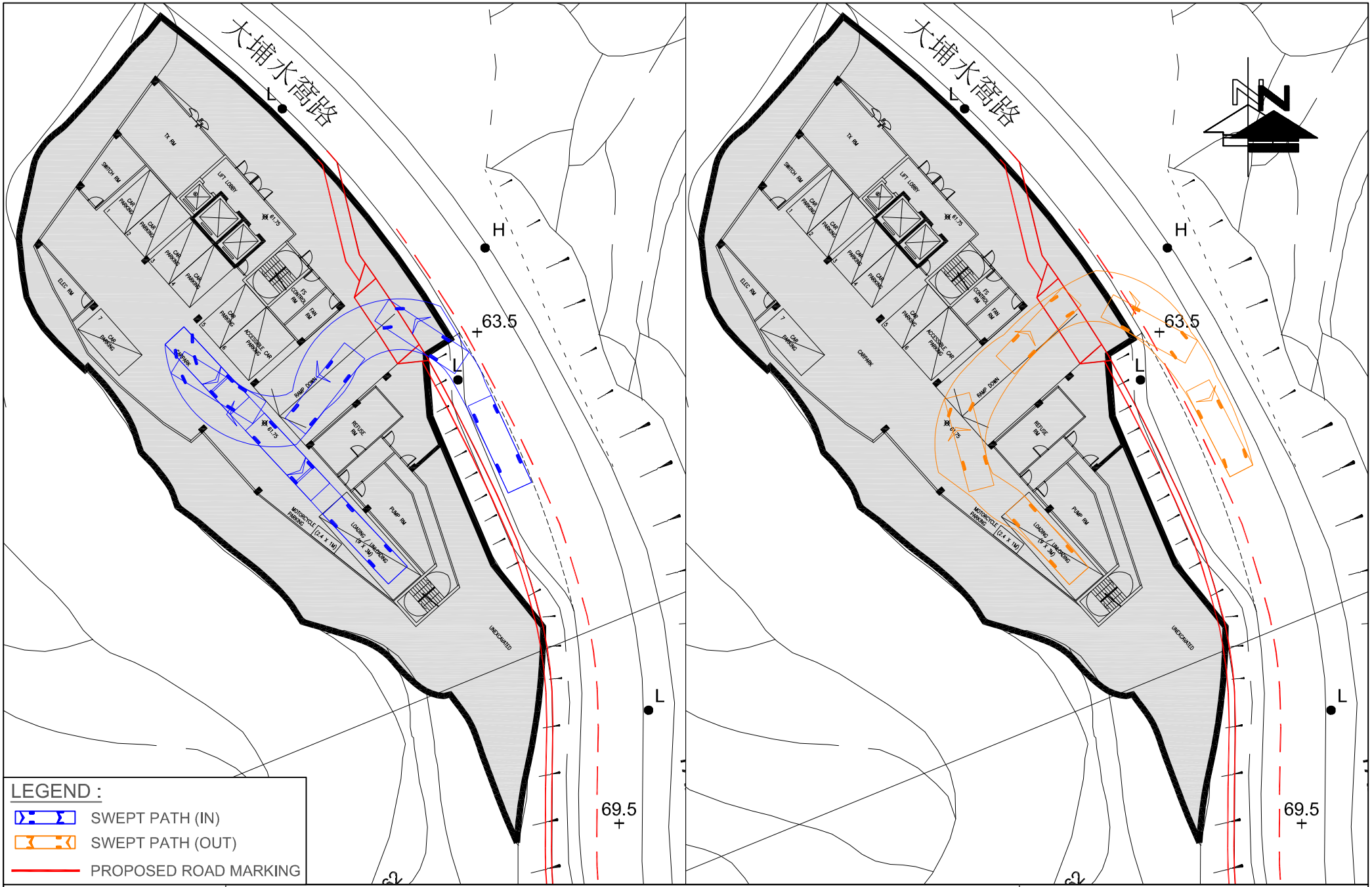


FIGURE NO.: SP-03	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF LIGHT BUS IN / OUT THE PROPOSED VEHICULAR ACCESS OF SITE A	
SCALE: 1 : 400 @A4 / DATE: 09 OCT 2026		

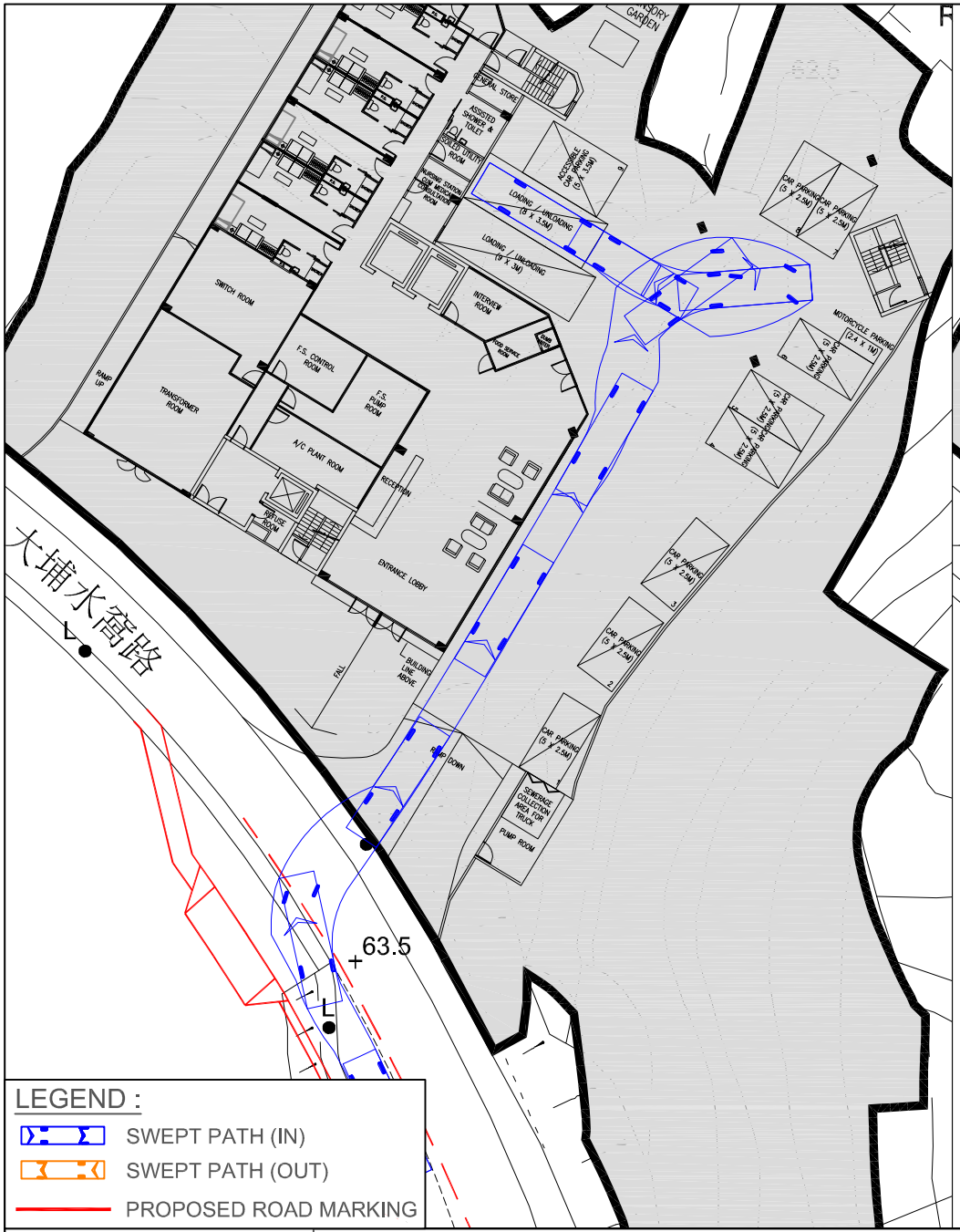


FIGURE NO.: SP-04	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF LIGHT BUS IN / OUT THE PROPOSED VEHICULAR ACCESS OF SITE B	
SCALE: 1 : 400 @A4 / DATE: 09 OCT 2026		

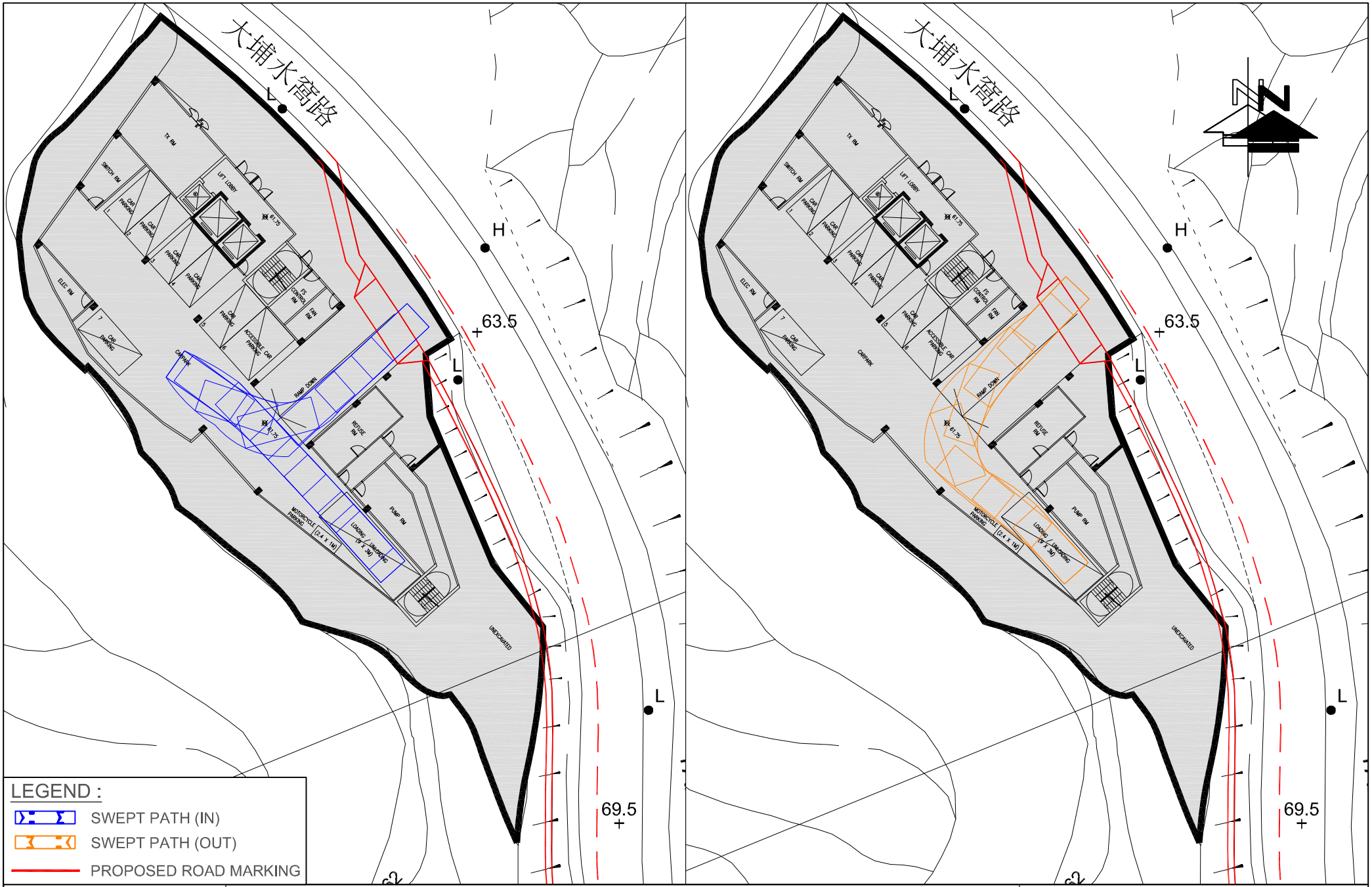


FIGURE NO.: SP-05	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF AMBULANCE WITHIN SITE A	
SCALE: 1 : 400 @A4 / DATE: 09 OCT 2026		

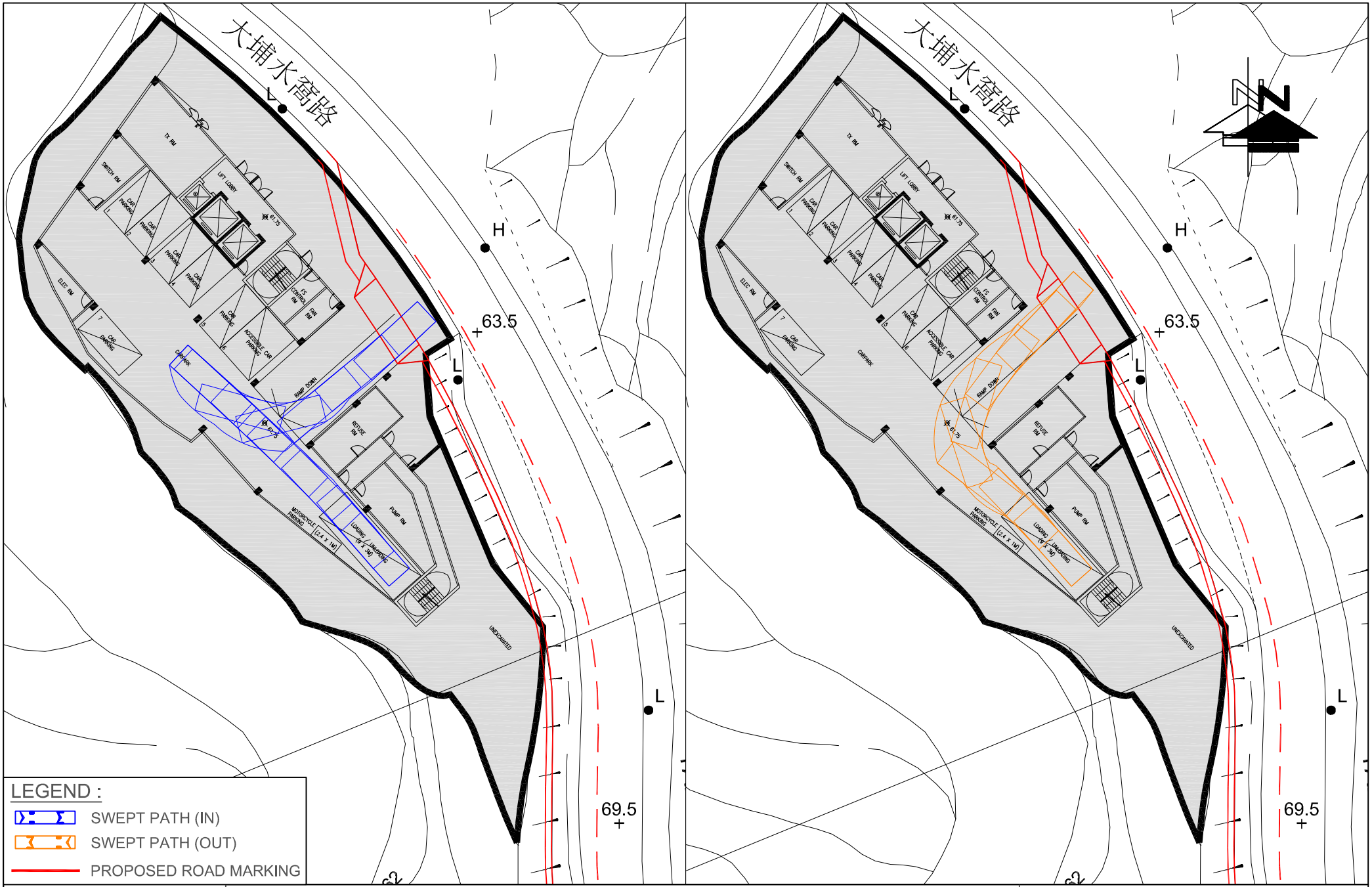


FIGURE NO.: SP-06	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF LGV WITHIN SITE A	
SCALE: 1 : 400 @A4 / DATE: 09 OCT 2026		

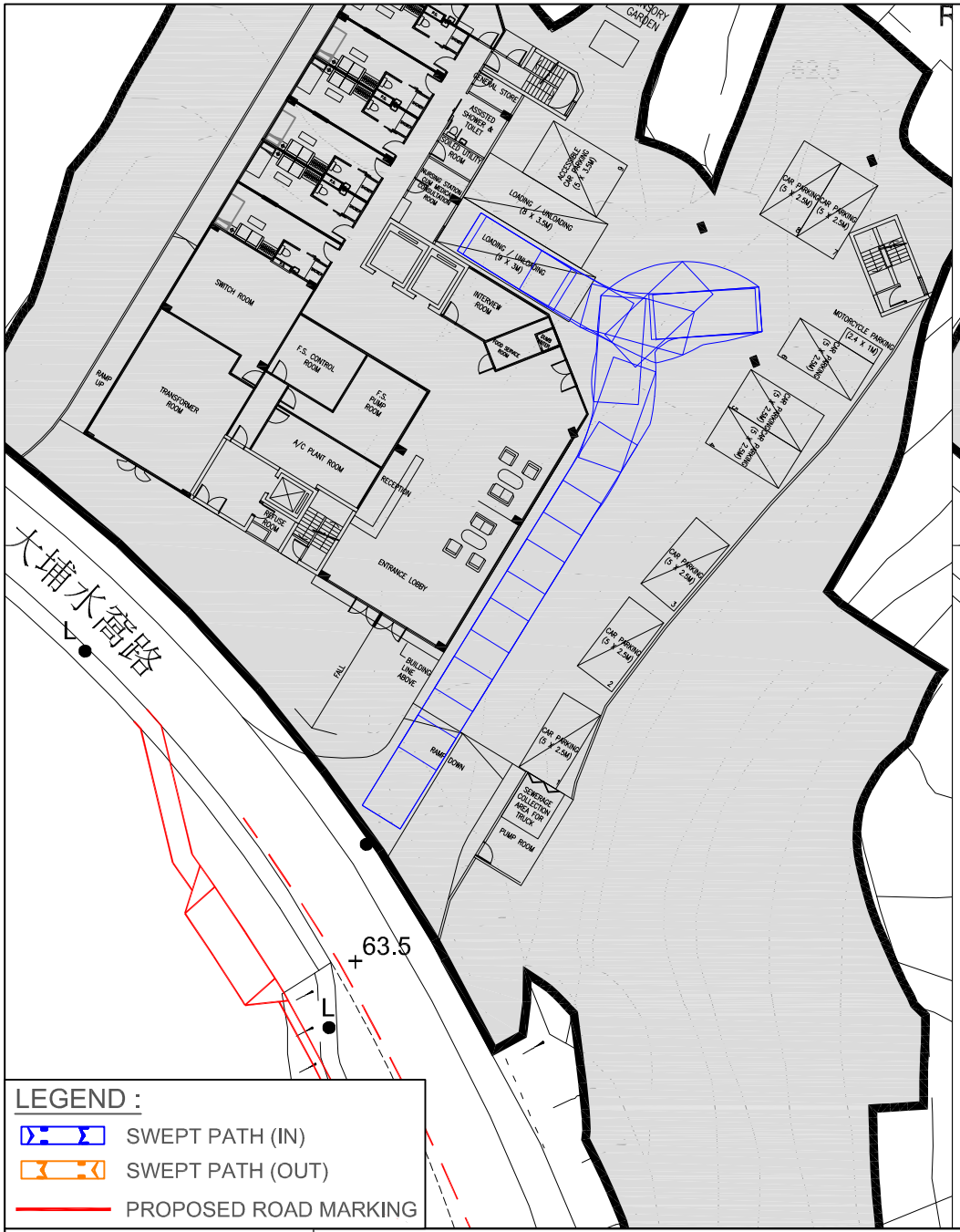
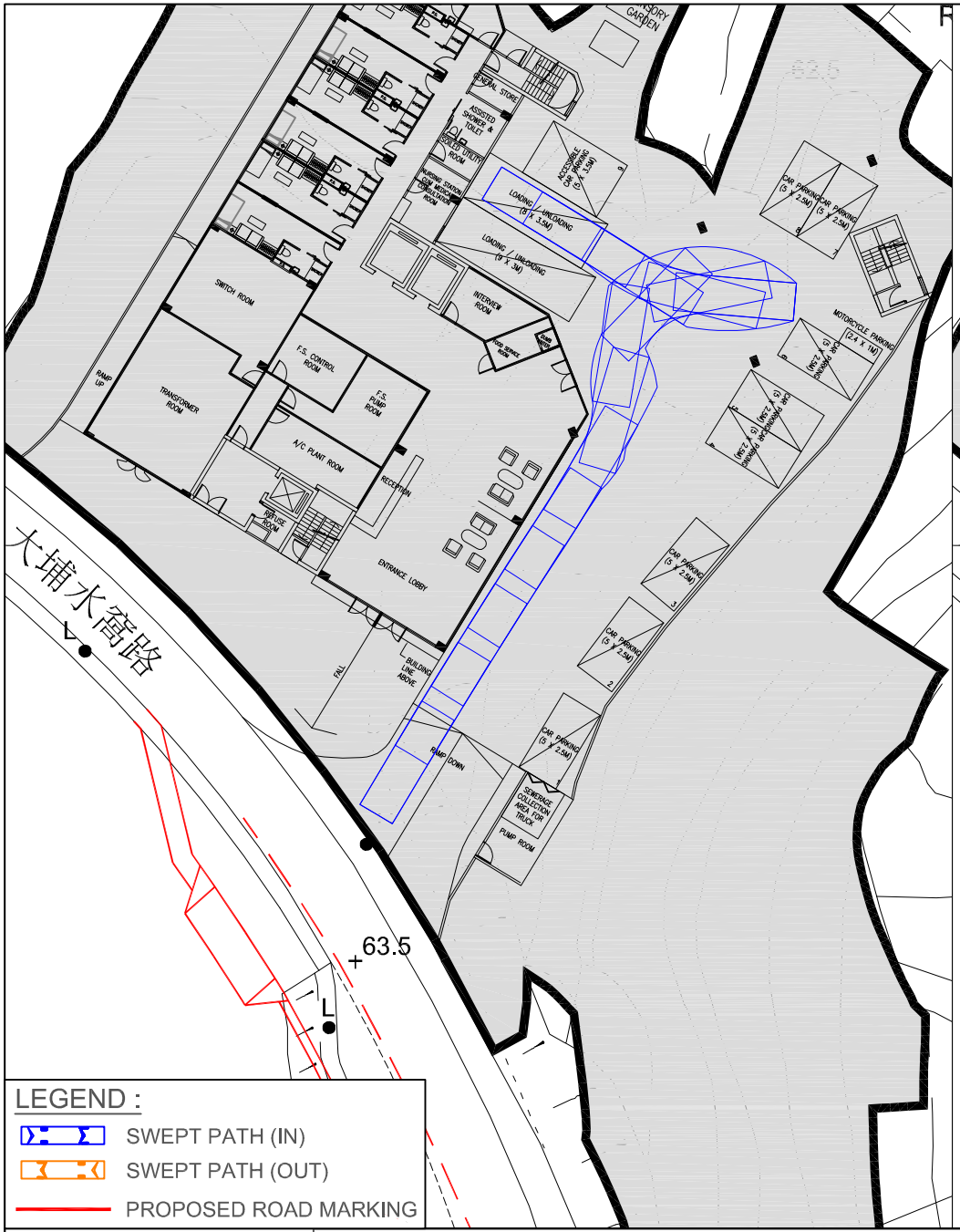


FIGURE NO.: SP-07	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF AMBULANCE WITHIN SITE B	
SCALE: 1 : 400 @A4 / DATE: 09 OCT 2026		



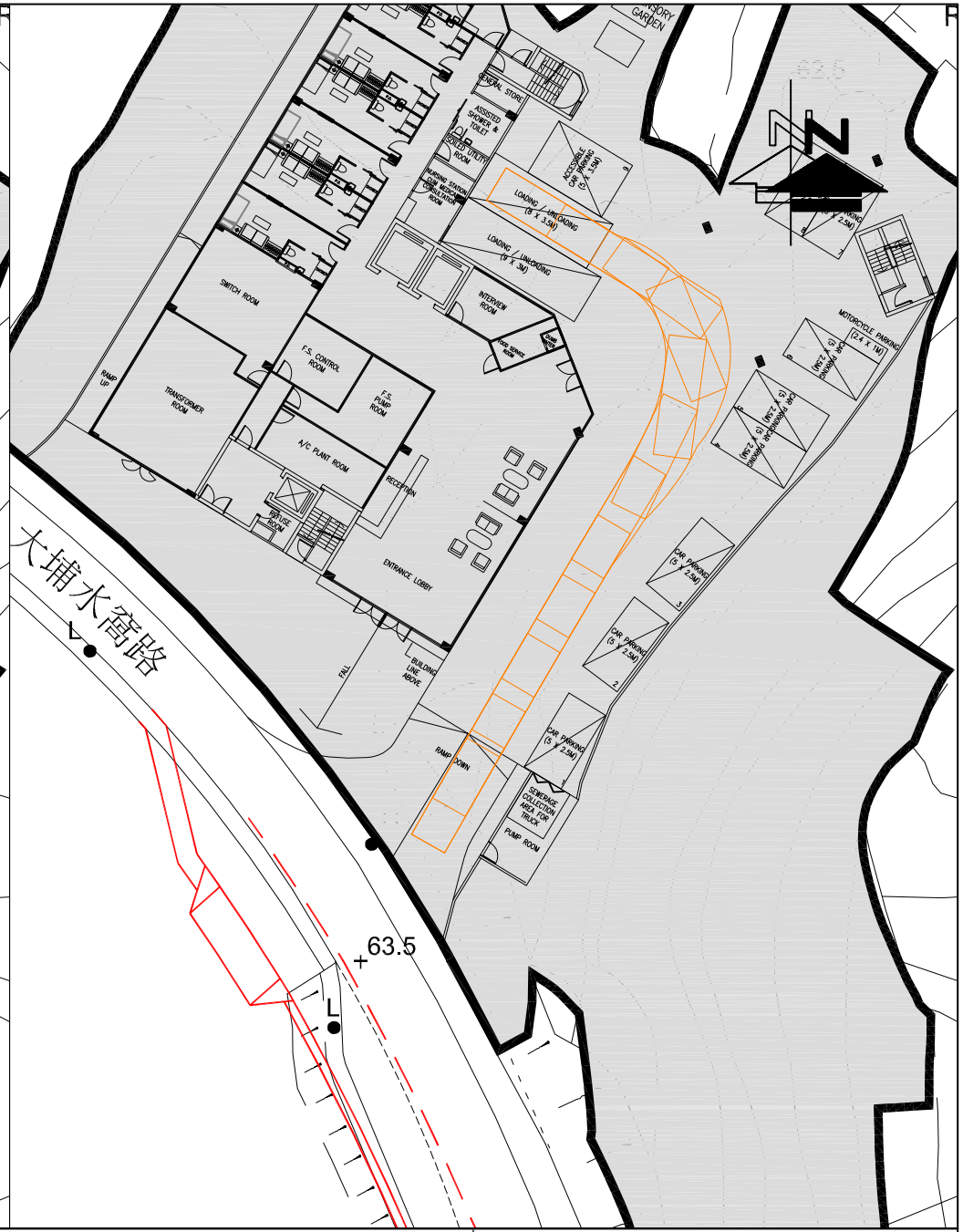


FIGURE NO.: SP-08	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF LGV WITHIN SITE B	
SCALE: 1 : 400 @A4 / DATE: 09 OCT 2026		

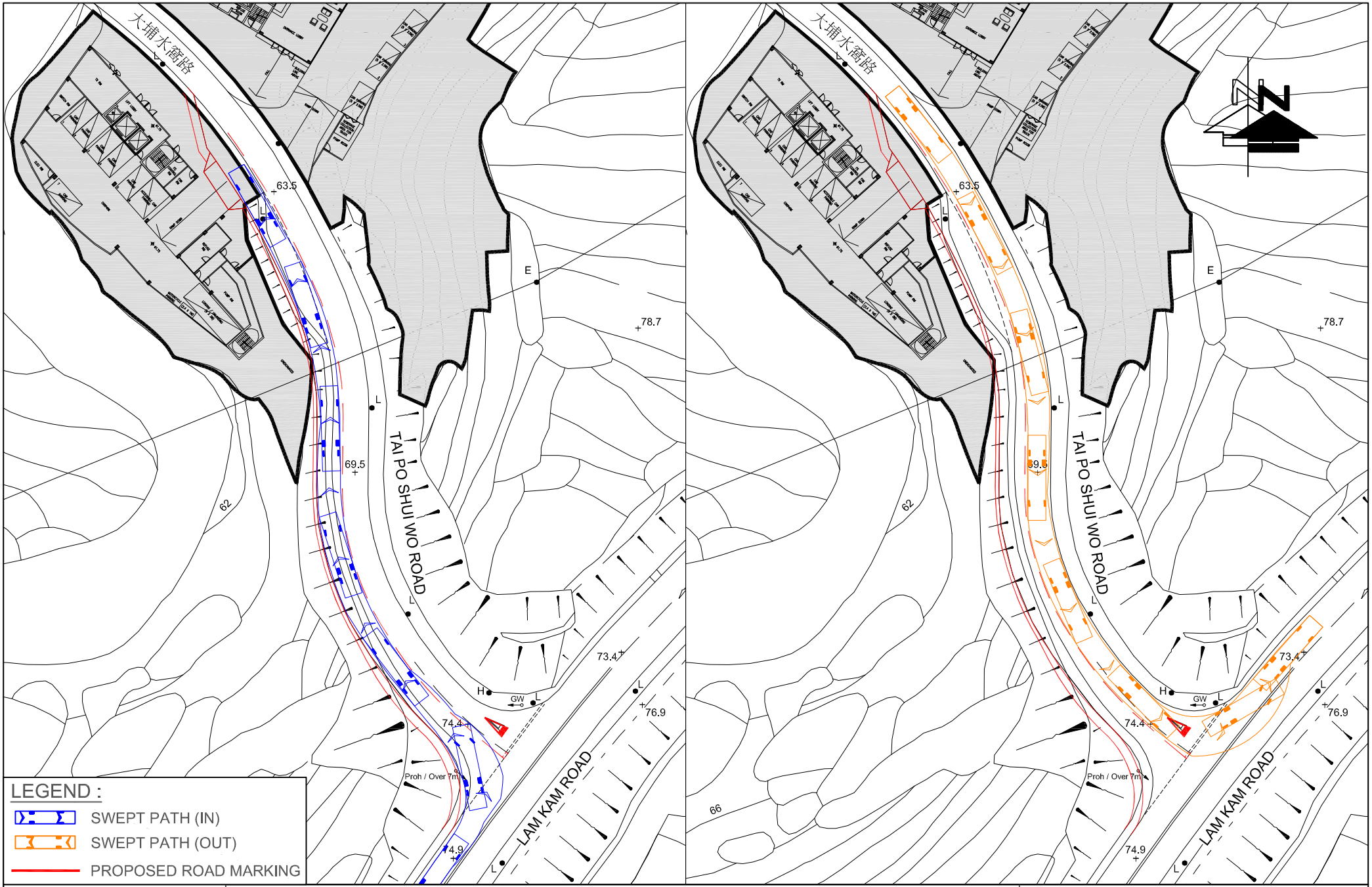


FIGURE NO.: SP-09	PROJECT TITLE: S12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "Government, Institution or Community (1)" ("G/IC(1)") for Proposed RCHE/RCHDs, Multiple Lots In D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories
PROJECT NO.: 26038HK	DRAWING TITLE: SWEPT PATH ANALYSIS OF FIRE ENGINE ALONG TAI PO SHUI WO ROAD WITH PROPOSED MINOR ROAD IMPROVEMENT OF TAI PO SHUI WO ROAD
SCALE: 1 : 700 @A4 / DATE: 09 OCT 2026	CTA Consultants Limited 志達顧問有限公司

APPENDIX A

Junction Calculation Sheets

TRAFFIC SIGNALS CALCULATION Job No: 26038HK **CTA Consultants Ltd.**

Junction: **Hong Lok Yuen Rd / Tai Wo Servie Rd West (A)**

Description: **2026 Observed Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Revised Saturation A.M.	Revised Saturation P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fanling Highway (SB)	S		6	A	3.6	25	0	1	86%	54%	1880	1915	233	0.124		205	0.107	
	S		6	A	3.6	0	0	0	0%	0%	2115	2115	262	0.124		226	0.107	
	S		6	A	3.8	0	0	0	0%	0%	2135	2135	265	0.124		229	0.107	
Tai Wo Service Road West	E		7	D	9.1	26	0	1	100%	100%	2385	2385	95	0.040		80	0.034	
	E		8	D	4.0	0	0	0	0%	0%	2155	2155	230	0.107		178	0.082	
	E		8	D	4.0	0	0	0	0%	0%	2155	2155	230	0.107		178	0.082	
	E			Free														
Tai Wo Service Road West	E		7	D	4.0	0	40	1	93%	77%	1945	1960	226	0.116	0.116	173	0.088	0.088
	E		7	D	4.0	0	30	0	100%	100%	2050	2050	239	0.116		182	0.089	
Lam Kam Road (NB)	N		1	A,B	3.5	50	0	1	100%	100%	1910	1910	400	0.209	0.209	500	0.262	0.262
	N		1	A,B	4.0	0	0	0	0%	0%	2155	2155	280	0.130		190	0.088	
	N		2	B	4.0	0	78	0	100%	100%	2115	2115	142	0.067		119	0.056	
	N		2	B	3.6	0	64	0	100%	100%	2065	2065	138	0.067		116	0.056	
Hong Lok Yuen Road	W		4	C	3.3	0	0	0	0%	0%	2085	2085	170	0.082		140	0.067	
	W		3	B,C	3.3	32	0	0	100%	100%	1990	1990	169	0.085		138	0.070	
	W		3	B,C	3.3	25	0	0	100%	100%	1965	1965	166	0.085		137	0.070	
Hong Lok Yuen Road	W		5	C	4.0	0	48	0	100%	100%	2090	2090	87	0.042		72	0.034	
	W		5	C	4.0	0	60	1	64%	27%	1985	2000	83	0.042		68	0.034	

Pedestrian Crossing			
	10p	D	Min. Crossing Time = 5GM + 7FGM = 12s
	11p	D	Min. Crossing Time = 5GM + 7FGM = 12s
	12p	B,C,D	Min. Crossing Time = 5GM + 12FGM = 17s
	13p	C	Min. Crossing Time = 5GM + 11FGM = 16s
	14p	A,B,C	Min. Crossing Time = 5GM + 9FGM = 14s
	15p	A,D	Min. Crossing Time = 5GM + 10FGM = 15s
	16p	C	Min. Crossing Time = 5GM + 6FGM = 11s

Notes:

Traffic Flow (pcu / hr) AM (PM)

560(550) 200(110)

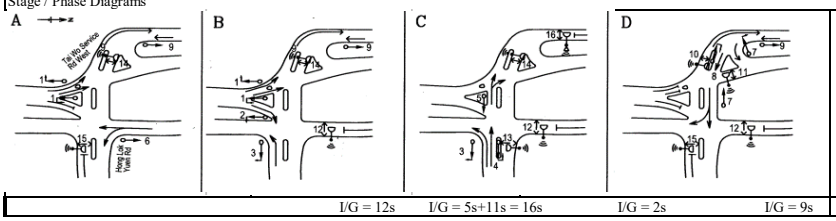
95(80) 15(40) 450(315)

170(140) 335(275)

400(500) 280(190) 280(235)

Check Phase		Check Phase	
εy	0.326	εy	0.350
L (sec)	37	L (sec)	37
C (sec)	120	C (sec)	120
y pract.	0.623	y pract.	0.623
R.C. (%)	91%	R.C. (%)	78%

Stage / Phase Diagrams

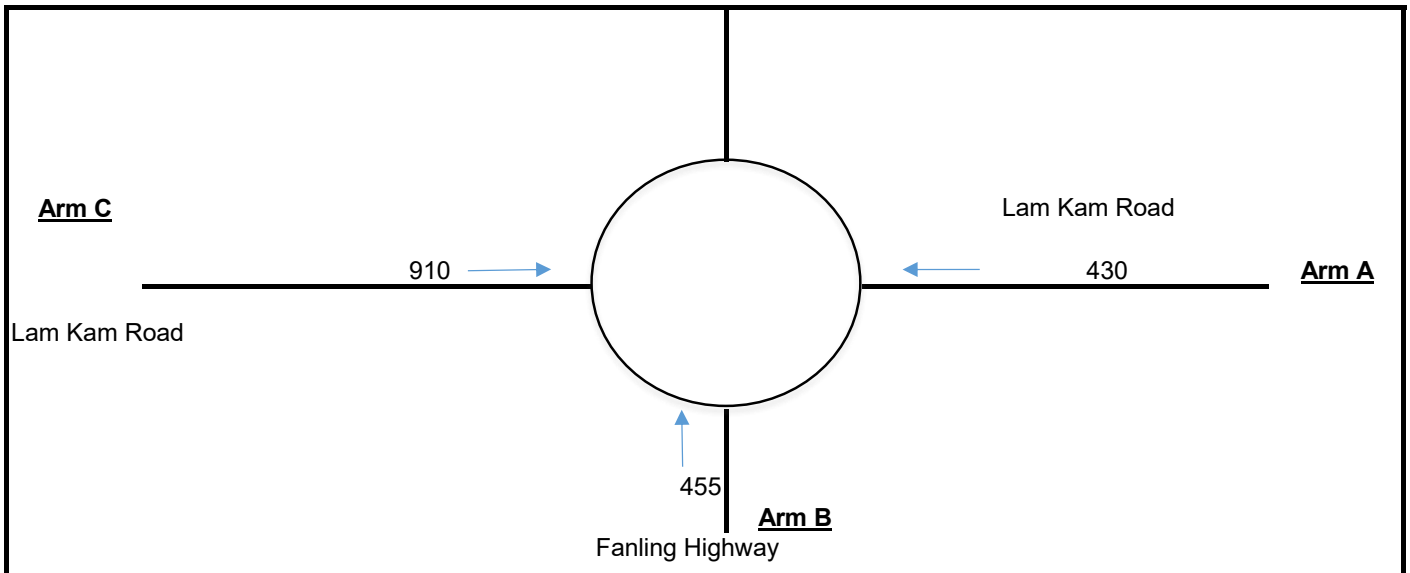


I/G = 12s I/G = 5s+11s = 16s I/G = 2s I/G = 9s

Roundabout Junction Calculation

Roundabout Junction : (A) Lam Kam Road Interchange

Scenario : 2026 Observed Traffic Flows (AM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	4.5	8.3	6
E	=	Entry width (m)	4.9	10.3	7.4
L	=	Effective length of flare (m)	21.3	33.8	20.6
R	=	Entry radius	26.7	42.5	63.4
D	=	Inscribed circle diameter (m)	101.2	89.8	104.5
A	=	Entry angle (degree)	33	40	45
Q	=	Entry flow (pcu/hr)	430	455	910
Qc	=	Circulating flow across entry (pcu/hr)	560	455	495

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.03	0.09	0.11
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	0.99	0.98
X_2	=	V+((E-V)/(1+2*S))	4.88	9.98	7.15
M	=	Exp((D-60)/10)	61.56	19.69	85.63
F	=	303*X_2	1477.83	3024.42	2166.43
Td	=	1+(0.5/(1+M))	1.01	1.02	1.01
Fc	=	0.21*Td*(1+0.2*X_2)	0.42	0.64	0.51
Qe	=	Capacity = K*(F-Fc*Qc)	1245.97	2707.14	1876.85
DFC	=	Entry Flow/Capacity = Q/Qe	0.35	0.17	0.48

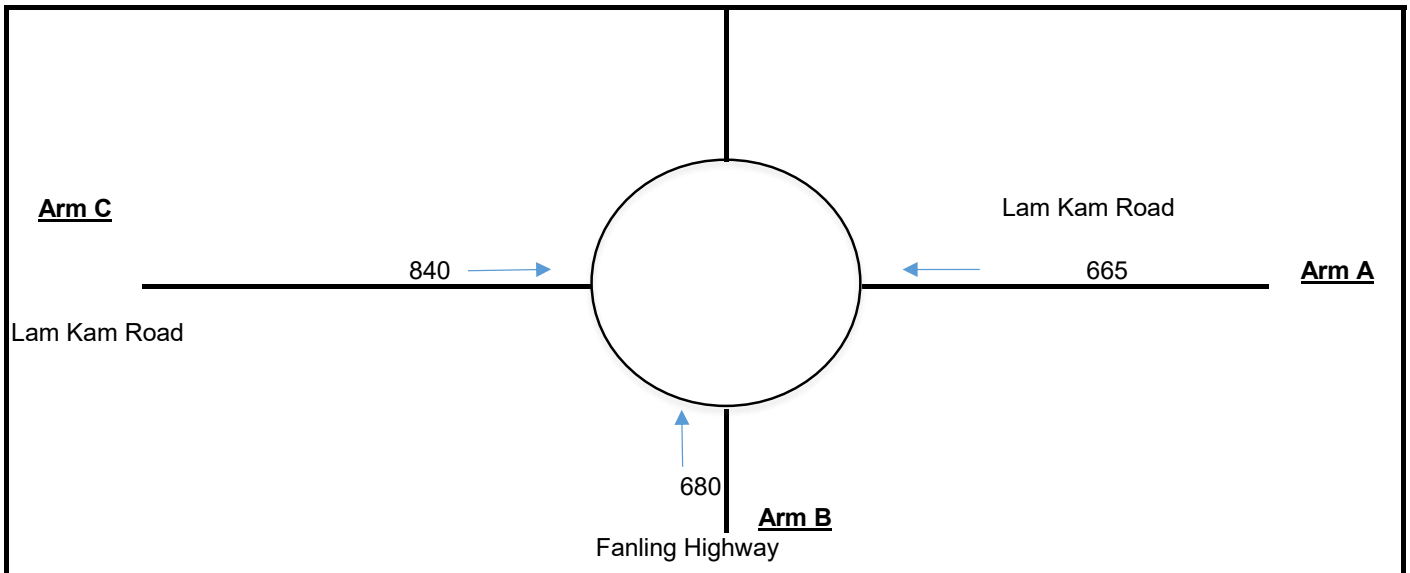
DFC of Critical Approach = 0.48

CTA

Roundabout Junction Calculation

Roundabout Junction : (A) Lam Kam Road Interchange

Scenario : 2026 Observed Traffic Flows (PM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	4.5	8.3	6
E	=	Entry width (m)	4.9	10.3	7.4
L	=	Effective length of flare (m)	21.3	33.8	20.6
R	=	Entry radius	26.7	42.5	63.4
D	=	Inscribed circle diameter (m)	101.2	89.8	104.5
A	=	Entry angle (degree)	33	40	45
Q	=	Entry flow (pcu/hr)	665	680	840
Qc	=	Circulating flow across entry (pcu/hr)	495	670	580

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.03	0.09	0.11
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	0.99	0.98
X_2	=	V+((E-V)/(1+2*S))	4.88	9.98	7.15
M	=	Exp((D-60)/10)	61.56	19.69	85.63
F	=	303*X_2	1477.83	3024.42	2166.43
Td	=	1+(0.5/(1+M))	1.01	1.02	1.01
Fc	=	0.21*Td*(1+0.2*X_2)	0.42	0.64	0.51
Qe	=	Capacity = K*(F-Fc*Qc)	1273.20	2569.81	1834.03
DFC	=	Entry Flow/Capacity = Q/Qe	0.52	0.26	0.46

DFC of Critical Approach = 0.52

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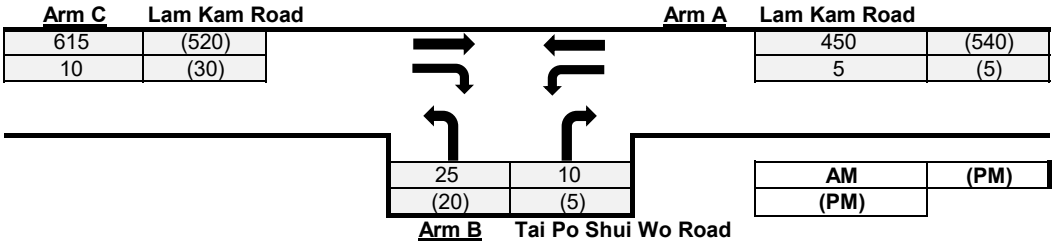
Priority Junction Calculation

Junction :	Lam Kam Road / Tai Po Shui Wo Road (C)	Job No.:	26038HK
Scenario :	2026 Observed Traffic Flows		



The predictive equations of capacity of movement are:

Q-BA = D(627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB))
Q-BC = E(745 - Y(0.364q-AC + 0.144q-AB))
Q-CB = F(745 - 0.364Y(q-AC + q-AB))

The geometric parameters represented by D, E, F are:

D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))
E = (1 + 0.094(w-BC - 3.65))(1 + 0.0009(V-rBC - 120))
F = (1 + 0.094(w-CB - 3.65))(1 + 0.0009(V-rCB - 120))

where
Y = 1 - 0.0345W
q-AB, etc = the design flow of movement AB, etc
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-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input						Calculated	
W	7.5	V-rBA	50	w-BA	3.8	D	0.893
W-CR	0	V-IBA	50	w-BC	3.8	E	0.950
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	1	V-rBC	50	w-CB	3.8	F	0.950
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	V-rCB	50			Y	0.741

Analysis :

Traffic Flow pcu/hr	AM	PM	Capacity pcu/hr	AM	PM	
q-CA	615	520	Q-BA	354	340	
q-CB	10	30	Q-BC	592	569	
q-AB	5	5	Q-CB	591	568	
q-AC	450	540	Q-CA	1770	1705	(If C-B blocked C-A)
q-BA	10	5	Q-BAC	497	502	(If Minor Road Share LT&RT)
q-BC	25	20				
f	0.714	0.800				

Results :

Ratio of Flow-to-Capacity	AM	PM
B-A	N/A	N/A
B-C	N/A	N/A
C-B	0.02	0.05
C-A	0.35	0.30
B-AC	0.07	0.05
Critical DFC	**0.35**	**0.30**

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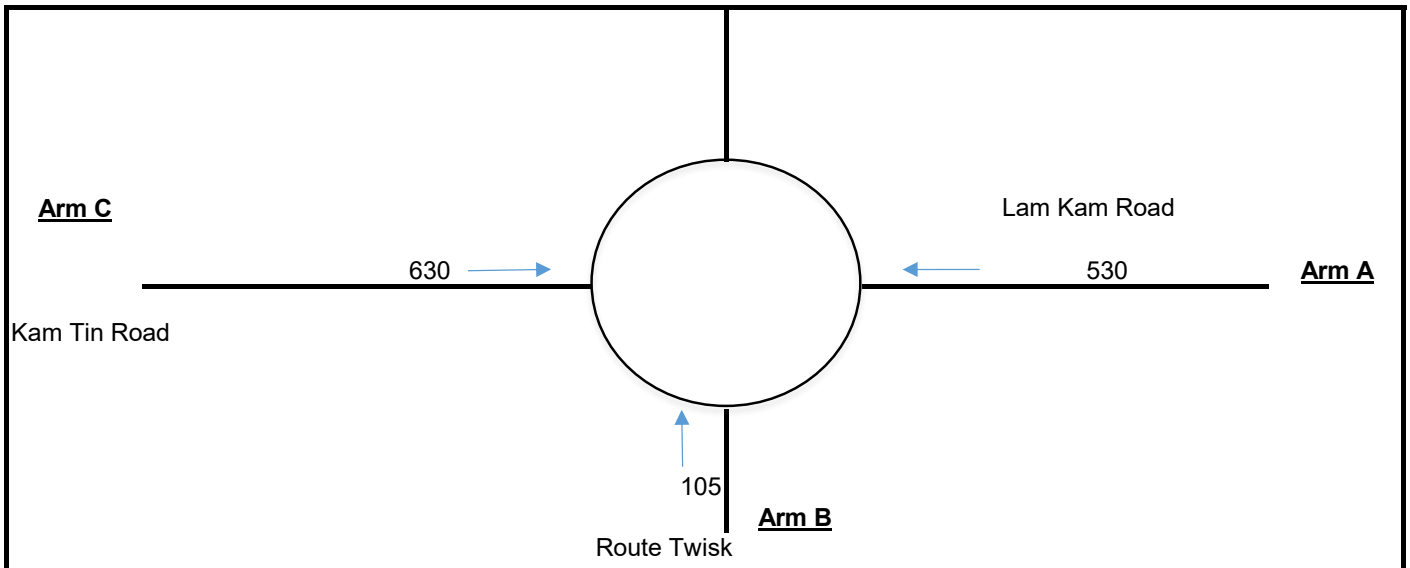
Roundabout Junction Calculation

Roundabout Junction : Kam Tin Road / Lam Kam Road / Route Twisk (D)

Scenario : 2026 Observed Traffic Flows (AM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	3.5	3.8	3.5
E	=	Entry width (m)	5.3	7.3	4.5
L	=	Effective length of flare (m)	10	12	10
R	=	Entry radius	60	85	90
D	=	Inscribed circle diameter (m)	28	28	28
A	=	Entry angle (degree)	20	20	40
Q	=	Entry flow (pcu/hr)	530	105	630
Qc	=	Circulating flow across entry (pcu/hr)	570	435	30

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.29	0.47	0.16
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.07	1.07	1.00
X_2	=	V+((E-V)/(1+2*S))	4.64	5.61	4.26
M	=	Exp((D-60)/10)	0.04	0.04	0.04
F	=	303*X_2	1406.57	1699.93	1290.05
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td*(1+0.2*X_2)	0.60	0.66	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	1136.50	1514.82	1277.02
DFC	=	Entry Flow/Capacity = Q/Qe	0.47	0.07	0.49

DFC of Critical Approach = 0.49

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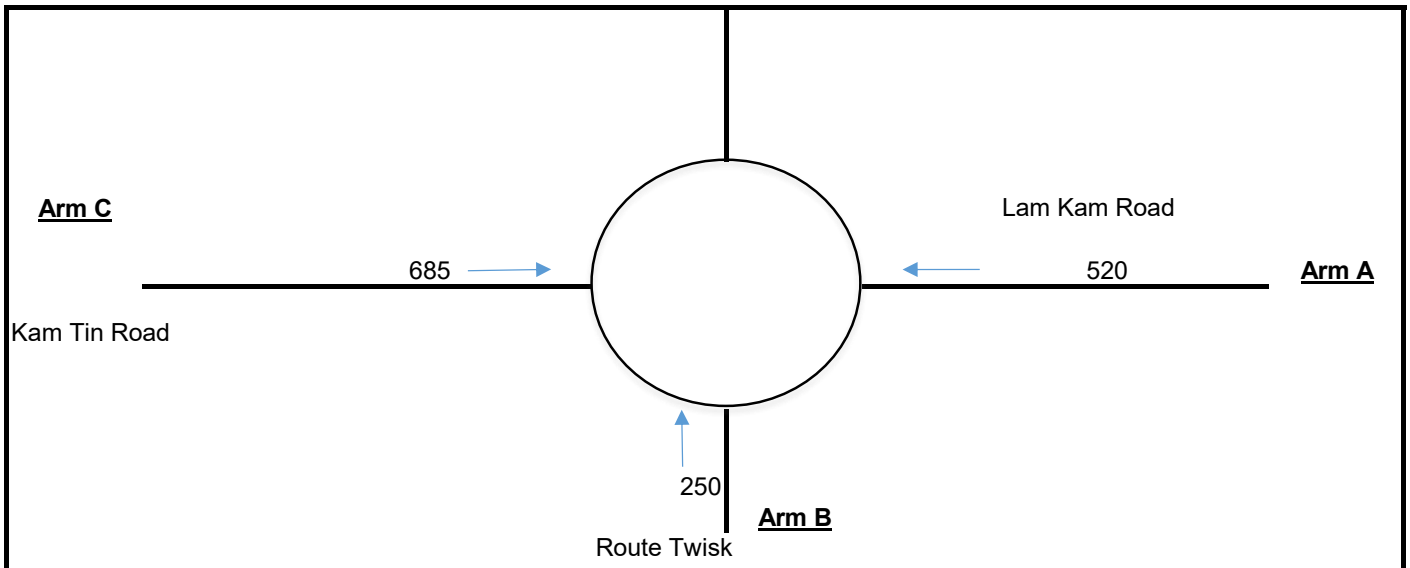
Roundabout Junction Calculation

Roundabout Junction : Kam Tin Road / Lam Kam Road / Route Twisk (D)

Scenario : 2026 Observed Traffic Flows (PM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	3.5	3.8	3.5
E	=	Entry width (m)	5.3	7.3	4.5
L	=	Effective length of flare (m)	10	12	10
R	=	Entry radius	60	85	90
D	=	Inscribed circle diameter (m)	28	28	28
A	=	Entry angle (degree)	20	20	40
Q	=	Entry flow (pcu/hr)	520	250	685
Qc	=	Circulating flow across entry (pcu/hr)	500	555	35

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.29	0.47	0.16
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.07	1.07	1.00
X_2	=	V+((E-V)/(1+2*S))	4.64	5.61	4.26
M	=	Exp((D-60)/10)	0.04	0.04	0.04
F	=	303*X_2	1406.57	1699.93	1290.05
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td*(1+0.2*X_2)	0.60	0.66	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	1181.29	1429.95	1274.13
DFC	=	Entry Flow/Capacity = Q/Qe	0.44	0.17	0.54

DFC of Critical Approach = 0.54

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TRAFFIC SIGNALS CALCULATION Job No: 26038HK **CTA Consultants Ltd.**

Junction: **Hong Lok Yuen Rd / Tai Wo Servie Rd West (A)**

Description: **2033 Reference Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Revised Saturation A.M.	Revised Saturation P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fanling Highway (SB)	S		6	A	3.6	25	0	1	83%	54%	1880	1915	253	0.135		224	0.117	
	S		6	A	3.6	0	0	0	0%	0%	2115	2115	285	0.135		247	0.117	
	S		6	A	3.8	0	0	0	0%	0%	2135	2135	287	0.135		249	0.117	
Tai Wo Service Road West	E		7	D	9.1	26	0	1	100%	100%	2385	2385	100	0.042		85	0.036	
	E		8	D	4.0	0	0	0	0%	0%	2155	2155	248	0.115		190	0.088	
	E		8	D	4.0	0	0	0	0%	0%	2155	2155	248	0.115		190	0.088	
	E			Free														
Tai Wo Service Road West	E		7	D	4.0	0	40	1	94%	78%	1945	1955	241	0.124	0.124	186	0.095	0.095
	E		7	D	4.0	0	30	0	100%	100%	2050	2050	254	0.124		194	0.095	
Lam Kam Road (NB)	N		1	A,B	3.5	50	0	1	100%	100%	1910	1910	425	0.223	0.223	535	0.280	0.280
	N		1	A,B	4.0	0	0	0	0%	0%	2155	2155	310	0.144		210	0.097	
	N		2	B	4.0	0	78	0	100%	100%	2115	2115	152	0.072		126	0.060	
	N		2	B	3.6	0	64	0	100%	100%	2065	2065	148	0.072		124	0.060	
Hong Lok Yuen Road	W		4	C	3.3	0	0	0	0%	0%	2085	2085	185	0.089		150	0.072	
	W		3	B,C	3.3	32	0	0	100%	100%	1990	1990	181	0.091		148	0.075	
	W		3	B,C	3.3	25	0	0	100%	100%	1965	1965	179	0.091		147	0.075	
Hong Lok Yuen Road	W		5	C	4.0	0	48	0	100%	100%	2090	2090	95	0.045		79	0.038	
	W		5	C	4.0	0	60	1	61%	27%	1985	2000	90	0.045		76	0.038	

Pedestrian Crossing			
	10p	D	Min. Crossing Time = 5GM + 7FGM = 12s
	11p	D	Min. Crossing Time = 5GM + 7FGM = 12s
	12p	B,C,D	Min. Crossing Time = 5GM + 12FGM = 17s
	13p	C	Min. Crossing Time = 5GM + 11FGM = 16s
	14p	A,B,C	Min. Crossing Time = 5GM + 9FGM = 14s
	15p	A,D	Min. Crossing Time = 5GM + 10FGM = 15s
	16p	C	Min. Crossing Time = 5GM + 6FGM = 11s

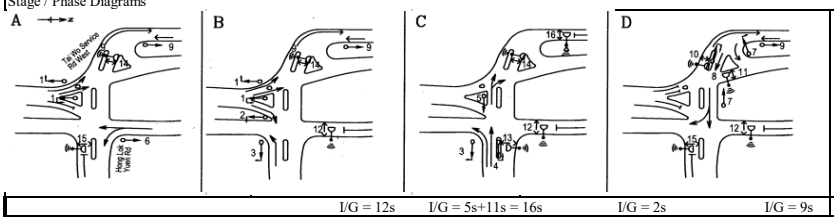
Notes:

Traffic Flow (pcu / hr) AM (PM)

615(600)
210(120)
185(150)
360(295)
100(85)
15(40)
480(340)
425(535)
310(210)
300(250)

Check Phase		Check Phase	
εy	0.346	εy	0.375
L (sec)	37	L (sec)	37
C (sec)	120	C (sec)	120
y pract.	0.623	y pract.	0.623
R.C. (%)	80%	R.C. (%)	66%

Stage / Phase Diagrams

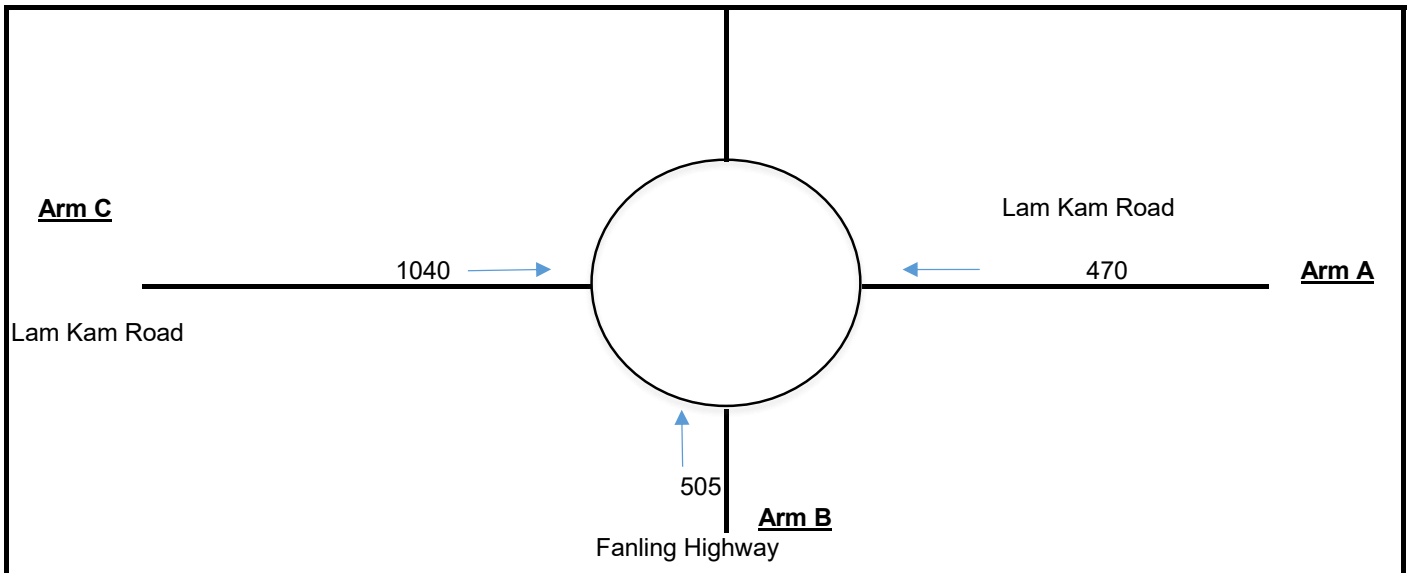


I/G = 12s I/G = 5s+11s = 16s I/G = 2s I/G = 9s

Roundabout Junction Calculation

Roundabout Junction : (A) Lam Kam Road Interchange

Scenario : 2033 Reference Traffic Flows (AM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	4.5	8.3	6
E	=	Entry width (m)	4.9	10.3	7.4
L	=	Effective length of flare (m)	21.3	33.8	20.6
R	=	Entry radius	26.7	42.5	63.4
D	=	Inscribed circle diameter (m)	101.2	89.8	104.5
A	=	Entry angle (degree)	33	40	45
Q	=	Entry flow (pcu/hr)	470	505	1040
Qc	=	Circulating flow across entry (pcu/hr)	620	505	530

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.03	0.09	0.11
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	0.99	0.98
X_2	=	V+((E-V)/(1+2*S))	4.88	9.98	7.15
M	=	Exp((D-60)/10)	61.56	19.69	85.63
F	=	303*X_2	1477.83	3024.42	2166.43
Td	=	1+(0.5/(1+M))	1.01	1.02	1.01
Fc	=	0.21*Td*(1+0.2*X_2)	0.42	0.64	0.51
Qe	=	Capacity = K*(F-Fc*Qc)	1220.84	2675.20	1859.22
DFC	=	Entry Flow/Capacity = Q/Qe	0.38	0.19	0.56

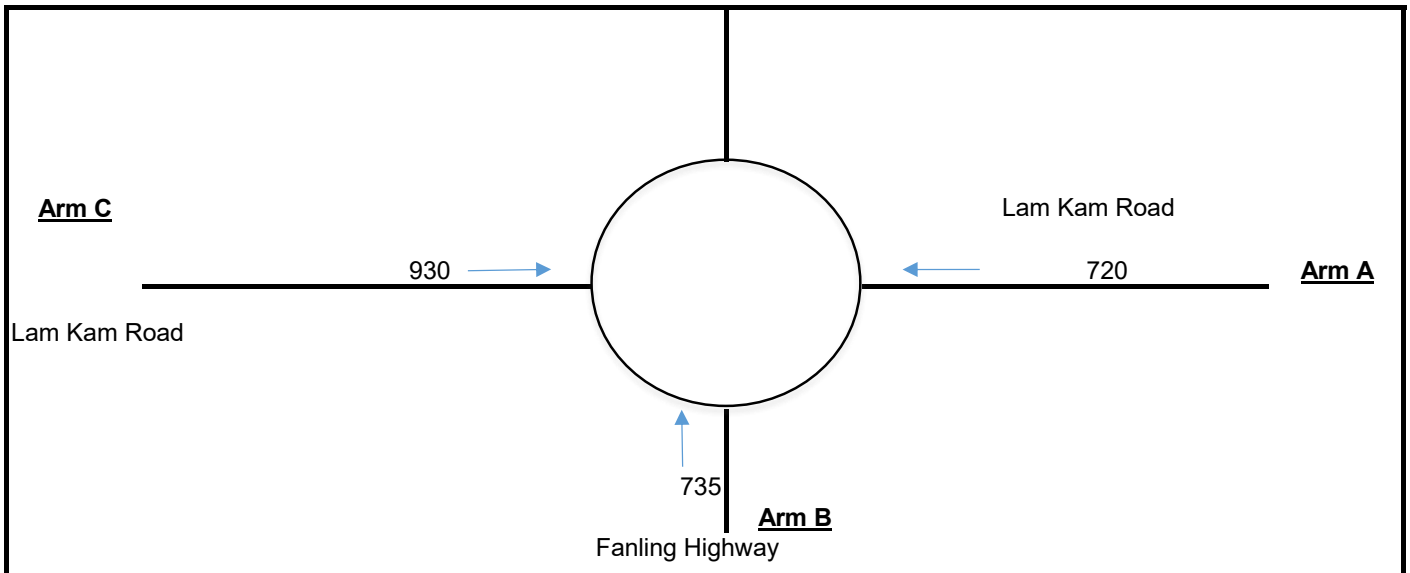
DFC of Critical Approach = 0.56

CTA

Roundabout Junction Calculation

Roundabout Junction : (A) Lam Kam Road Interchange

Scenario : 2033 Reference Traffic Flows (PM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	4.5	8.3	6
E	=	Entry width (m)	4.9	10.3	7.4
L	=	Effective length of flare (m)	21.3	33.8	20.6
R	=	Entry radius	26.7	42.5	63.4
D	=	Inscribed circle diameter (m)	101.2	89.8	104.5
A	=	Entry angle (degree)	33	40	45
Q	=	Entry flow (pcu/hr)	720	735	930
Qc	=	Circulating flow across entry (pcu/hr)	545	735	620

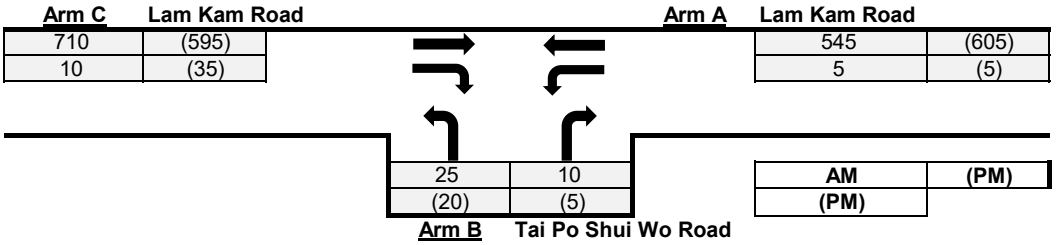
Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.03	0.09	0.11
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	0.99	0.98
X_2	=	V+((E-V)/(1+2*S))	4.88	9.98	7.15
M	=	Exp((D-60)/10)	61.56	19.69	85.63
F	=	303*X_2	1477.83	3024.42	2166.43
Td	=	1+(0.5/(1+M))	1.01	1.02	1.01
Fc	=	0.21*Td*(1+0.2*X_2)	0.42	0.64	0.51
Qe	=	Capacity = K*(F-Fc*Qc)	1252.26	2528.29	1813.88
DFC	=	Entry Flow/Capacity = Q/Qe	0.57	0.29	0.51

DFC of Critical Approach = 0.57

CTA

Priority Junction Calculation

Junction :	Lam Kam Road / Tai Po Shui Wo Road (C)	Job No.:	26038HK
Scenario :	2033 Reference Traffic Flows		



The predictive equations of capacity of movement are:

Q-BA = D(627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB))
Q-BC = E(745 - Y(0.364q-AC + 0.144q-AB))
Q-CB = F(745 - 0.364Y(q-AC + q-AB))

The geometric parameters represented by D, E, F are:

D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))
E = (1 + 0.094(w-BC - 3.65))(1 + 0.0009(V-rBC - 120))
F = (1 + 0.094(w-CB - 3.65))(1 + 0.0009(V-rCB - 120))

where
Y = 1 - 0.0345W
q-AB, etc = the design flow of movement AB, etc
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-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input						Calculated	
W	7.5	V-rBA	50	w-BA	3.8	D	0.893
W-CR	0	V-IBA	50	w-BC	3.8	E	0.950
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	1	V-rBC	50	w-CB	3.8	F	0.950
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	V-rCB	50			Y	0.741

Analysis :

Traffic Flow pcu/hr	AM	PM	Capacity pcu/hr	AM	PM	
q-CA	710	595	Q-BA	317	311	
q-CB	10	35	Q-BC	568	552	
q-AB	5	5	Q-CB	567	552	
q-AC	545	605	Q-CA	1768	1686	(If C-B blocked C-A)
q-BA	10	5	Q-BAC	463	478	(If Minor Road Share LT&RT)
q-BC	25	20				
f	0.714	0.800				

Results :

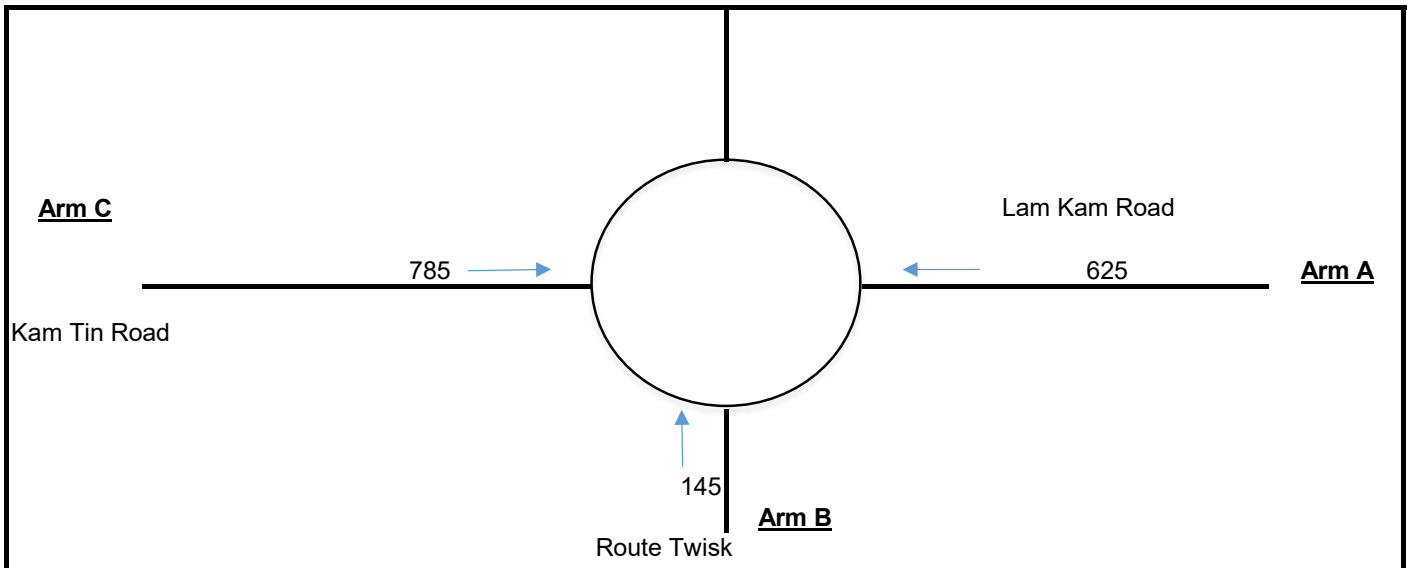
Ratio of Flow-to-Capacity	AM	PM
B-A	N/A	N/A
B-C	N/A	N/A
C-B	0.02	0.06
C-A	0.40	0.35
B-AC	0.08	0.05
Critical DFC	**0.40**	**0.35**

CTA Consultants Ltd.

Roundabout Junction Calculation

Roundabout Junction : Kam Tin Road / Lam Kam Road / Route Twisk (D)

Scenario : 2033 Reference Traffic Flows (AM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	3.5	3.8	3.5
E	=	Entry width (m)	5.3	7.3	4.5
L	=	Effective length of flare (m)	10	12	10
R	=	Entry radius	60	85	90
D	=	Inscribed circle diameter (m)	28	28	28
A	=	Entry angle (degree)	20	20	40
Q	=	Entry flow (pcu/hr)	625	145	785
Qc	=	Circulating flow across entry (pcu/hr)	655	525	35

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.29	0.47	0.16
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.07	1.07	1.00
X_2	=	V+((E-V)/(1+2*S))	4.64	5.61	4.26
M	=	Exp((D-60)/10)	0.04	0.04	0.04
F	=	303*X_2	1406.57	1699.93	1290.05
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td*(1+0.2*X_2)	0.60	0.66	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	1082.11	1451.16	1274.13
DFC	=	Entry Flow/Capacity = Q/Qe	0.58	0.10	0.62

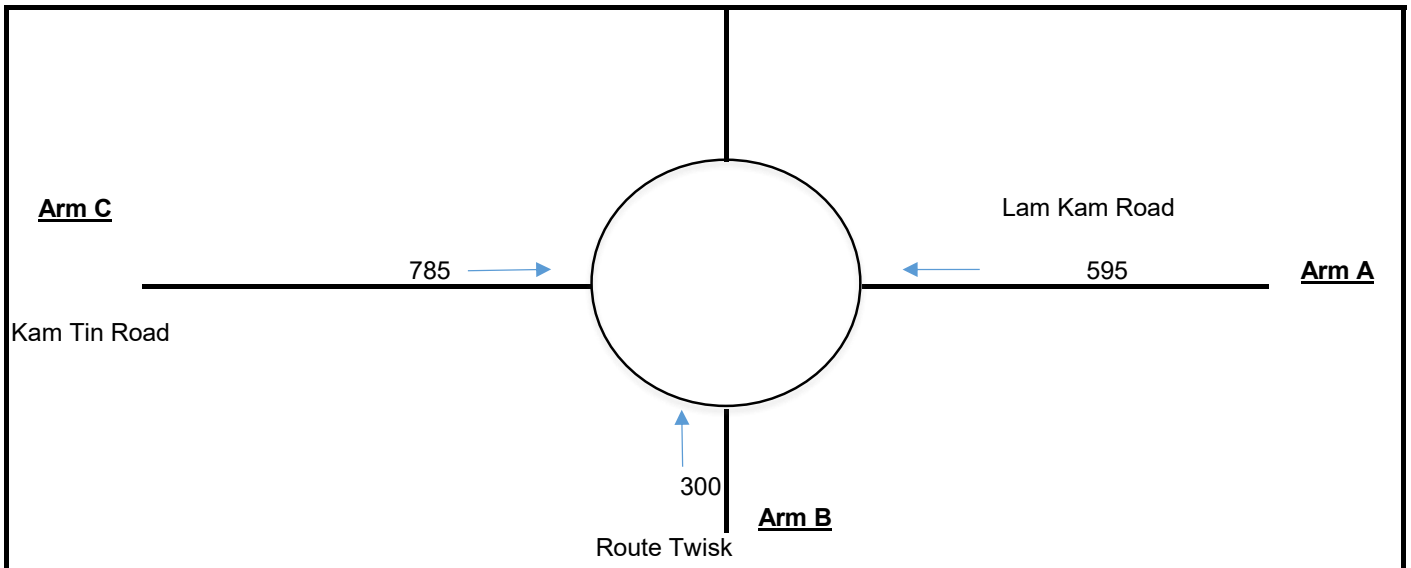
DFC of Critical Approach = 0.62

CTA

Roundabout Junction Calculation

Roundabout Junction : Kam Tin Road / Lam Kam Road / Route Twisk (D)

Scenario : 2033 Reference Traffic Flows (PM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	3.5	3.8	3.5
E	=	Entry width (m)	5.3	7.3	4.5
L	=	Effective length of flare (m)	10	12	10
R	=	Entry radius	60	85	90
D	=	Inscribed circle diameter (m)	28	28	28
A	=	Entry angle (degree)	20	20	40
Q	=	Entry flow (pcu/hr)	595	300	785
Qc	=	Circulating flow across entry (pcu/hr)	560	640	40

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.29	0.47	0.16
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.07	1.07	1.00
X_2	=	V+((E-V)/(1+2*S))	4.64	5.61	4.26
M	=	Exp((D-60)/10)	0.04	0.04	0.04
F	=	303*X_2	1406.57	1699.93	1290.05
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td*(1+0.2*X_2)	0.60	0.66	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	1142.90	1369.83	1271.24
DFC	=	Entry Flow/Capacity = Q/Qe	0.52	0.22	0.62

DFC of Critical Approach = 0.62

CTA

TRAFFIC SIGNALS CALCULATION Job No: 26038HK **CTA Consultants Ltd.**

Junction: **Hong Lok Yuen Rd / Tai Wo Servie Rd West (A)**

Description: **2033 Design Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) A.M.	Pro. Turning (%) P.M.	Revised Saturation A.M.	Revised Saturation P.M.	A.M. Peak Flow (pcu/hr)	A.M. Peak y Value	A.M. Peak Critical y	P.M. Peak Flow (pcu/hr)	P.M. Peak y Value	P.M. Peak Critical y
Fanling Highway (SB)	S		6	A	3.6	25	0	1	82%	53%	1880	1915	255	0.135		225	0.118	
	S		6	A	3.6	0	0	0	0%	0%	2115	2115	286	0.135		249	0.118	
	S		6	A	3.8	0	0	0	0%	0%	2135	2135	289	0.135		251	0.118	
Tai Wo Service Road West	E		7	D	9.1	26	0	1	100%	100%	2385	2385	100	0.042		85	0.036	
	E		8	D	4.0	0	0	0	0%	0%	2155	2155	248	0.115		190	0.088	
	E		8	D	4.0	0	0	0	0%	0%	2155	2155	248	0.115		190	0.088	
	E			Free														
Tai Wo Service Road West	E		7	D	4.0	0	40	1	94%	78%	1945	1955	241	0.124	0.124	186	0.095	0.095
	E		7	D	4.0	0	30	0	100%	100%	2050	2050	254	0.124		194	0.095	
Lam Kam Road (NB)	N		1	A,B	3.5	50	0	1	100%	100%	1910	1910	425	0.223	0.223	535	0.280	0.280
	N		1	A,B	4.0	0	0	0	0%	0%	2155	2155	315	0.146		215	0.100	
	N		2	B	4.0	0	78	0	100%	100%	2115	2115	152	0.072		126	0.060	
	N		2	B	3.6	0	64	0	100%	100%	2065	2065	148	0.072		124	0.060	
Hong Lok Yuen Road	W		4	C	3.3	0	0	0	0%	0%	2085	2085	185	0.089		150	0.072	
	W		3	B,C	3.3	32	0	0	100%	100%	1990	1990	181	0.091		148	0.075	
	W		3	B,C	3.3	25	0	0	100%	100%	1965	1965	179	0.091		147	0.075	
Hong Lok Yuen Road	W		5	C	4.0	0	48	0	100%	100%	2090	2090	95	0.045		79	0.038	
	W		5	C	4.0	0	60	1	61%	27%	1985	2000	90	0.045		76	0.038	

Pedestrian Crossing			
	10p	D	Min. Crossing Time = 5GM + 7FGM = 12s
	11p	D	Min. Crossing Time = 5GM + 7FGM = 12s
	12p	B,C,D	Min. Crossing Time = 5GM + 12FGM = 17s
	13p	C	Min. Crossing Time = 5GM + 11FGM = 16s
	14p	A,B,C	Min. Crossing Time = 5GM + 9FGM = 14s
	15p	A,D	Min. Crossing Time = 5GM + 10FGM = 15s
	16p	C	Min. Crossing Time = 5GM + 6FGM = 11s

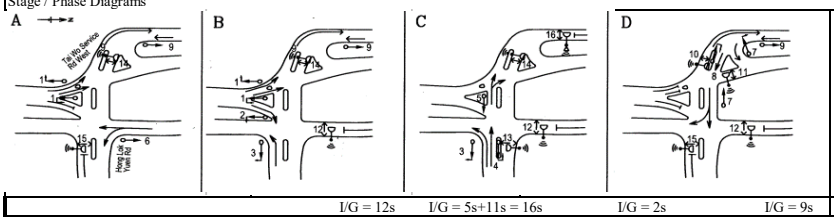
Notes:

Traffic Flow (pcu / hr) AM (PM)

620(605)
210(120)
185(150)
360(295)
100(85)
15(40)
480(340)
425(535)
315(215)
300(250)

Check Phase		Check Phase	
εy	0.346	εy	0.375
L (sec)	37	L (sec)	37
C (sec)	120	C (sec)	120
y pract.	0.623	y pract.	0.623
R.C. (%)	80%	R.C. (%)	66%

Stage / Phase Diagrams

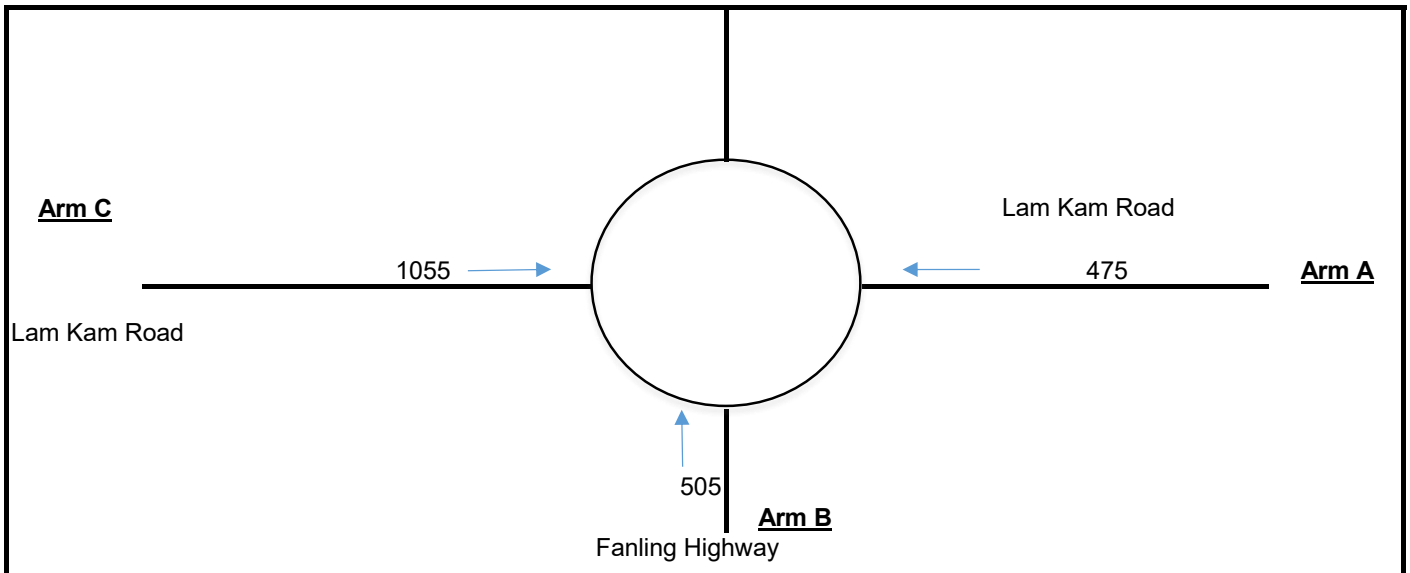


I/G = 12s I/G = 5s+11s = 16s I/G = 2s I/G = 9s

Roundabout Junction Calculation

Roundabout Junction : (A) Lam Kam Road Interchange

Scenario : 2033 Design Traffic Flows (AM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	4.5	8.3	6
E	=	Entry width (m)	4.9	10.3	7.4
L	=	Effective length of flare (m)	21.3	33.8	20.6
R	=	Entry radius	26.7	42.5	63.4
D	=	Inscribed circle diameter (m)	101.2	89.8	104.5
A	=	Entry angle (degree)	33	40	45
Q	=	Entry flow (pcu/hr)	475	505	1055
Qc	=	Circulating flow across entry (pcu/hr)	635	505	530

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.03	0.09	0.11
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	0.99	0.98
X_2	=	V+((E-V)/(1+2*S))	4.88	9.98	7.15
M	=	Exp((D-60)/10)	61.56	19.69	85.63
F	=	303*X_2	1477.83	3024.42	2166.43
Td	=	1+(0.5/(1+M))	1.01	1.02	1.01
Fc	=	0.21*Td*(1+0.2*X_2)	0.42	0.64	0.51
Qe	=	Capacity = K*(F-Fc*Qc)	1214.55	2675.20	1859.22
DFC	=	Entry Flow/Capacity = Q/Qe	0.39	0.19	0.57

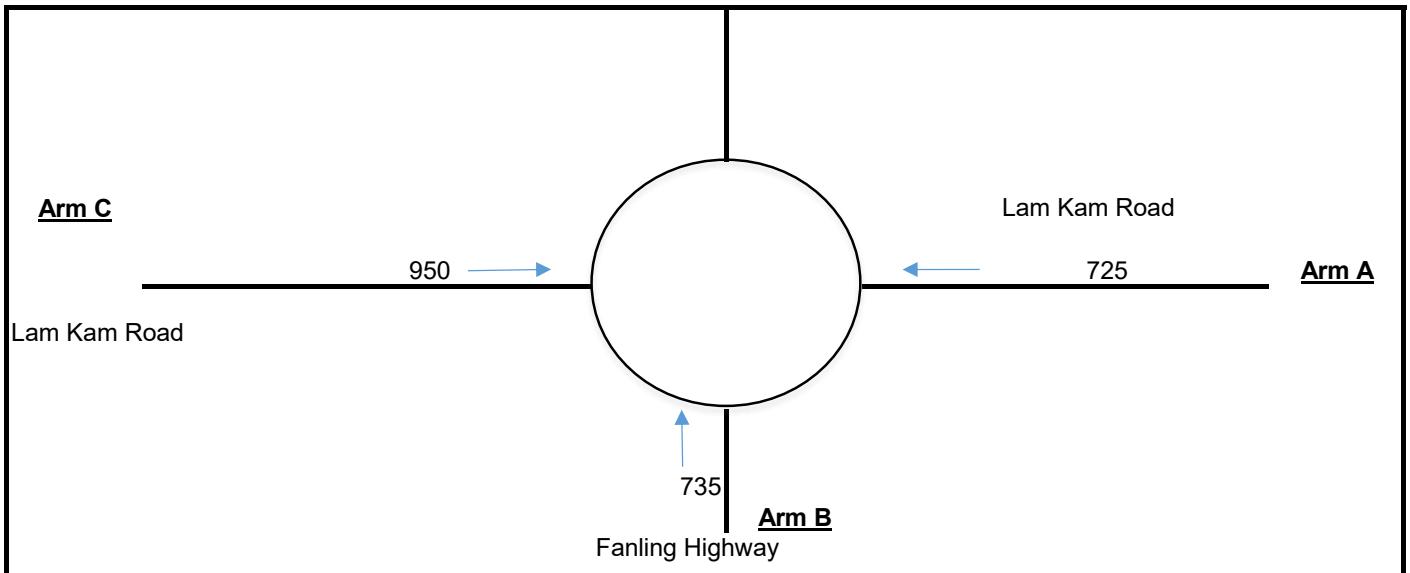
DFC of Critical Approach = 0.57

CTA

Roundabout Junction Calculation

Roundabout Junction : (A) Lam Kam Road Interchange

Scenario : 2033 Design Traffic Flows (PM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	4.5	8.3	6
E	=	Entry width (m)	4.9	10.3	7.4
L	=	Effective length of flare (m)	21.3	33.8	20.6
R	=	Entry radius	26.7	42.5	63.4
D	=	Inscribed circle diameter (m)	101.2	89.8	104.5
A	=	Entry angle (degree)	33	40	45
Q	=	Entry flow (pcu/hr)	725	735	950
Qc	=	Circulating flow across entry (pcu/hr)	560	740	620

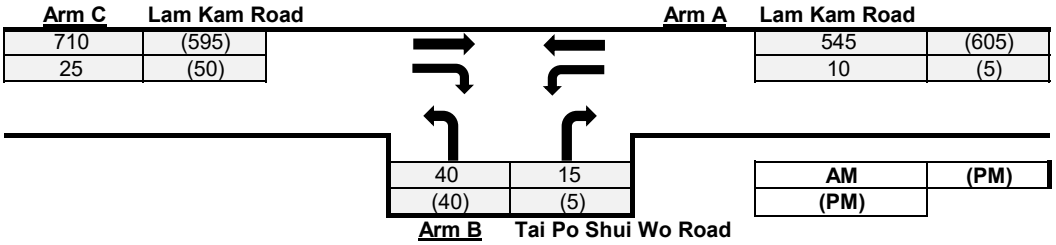
Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.03	0.09	0.11
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	0.99	0.98
X_2	=	V+((E-V)/(1+2*S))	4.88	9.98	7.15
M	=	Exp((D-60)/10)	61.56	19.69	85.63
F	=	303*X_2	1477.83	3024.42	2166.43
Td	=	1+(0.5/(1+M))	1.01	1.02	1.01
Fc	=	0.21*Td*(1+0.2*X_2)	0.42	0.64	0.51
Qe	=	Capacity = K*(F-Fc*Qc)	1245.97	2525.09	1813.88
DFC	=	Entry Flow/Capacity = Q/Qe	0.58	0.29	0.52

DFC of Critical Approach = 0.58

CTA

Priority Junction Calculation

Junction :	Lam Kam Road / Tai Po Shui Wo Road (C)	Job No.:	26038HK
Scenario :	2033 Design Traffic Flows		



The predictive equations of capacity of movement are:

Q-BA = D(627 + 14W-CR - Y(0.364q-AC + 0.144q-AB + 0.229q-CA + 0.52q-CB))
Q-BC = E(745 - Y(0.364q-AC + 0.144q-AB))
Q-CB = F(745 - 0.364Y(q-AC + q-AB))

The geometric parameters represented by D, E, F are:

D = (1 + 0.094(w-BA - 3.65))(1 + 0.0009(V-rBA - 120))(1 + 0.0006(V-IBA - 150))
E = (1 + 0.094(w-BC - 3.65))(1 + 0.0009(V-rBC - 120))
F = (1 + 0.094(w-CB - 3.65))(1 + 0.0009(V-rCB - 120))

where
Y = 1 - 0.0345W
q-AB, etc = the design flow of movement AB, etc
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-IBA = visibility to the left for waiting vehicles in stream BA, etc

Geometry :

Input						Calculated	
W	7.5	V-rBA	50	w-BA	3.8	D	0.893
W-CR	0	V-IBA	50	w-BC	3.8	E	0.950
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	1	V-rBC	50	w-CB	3.8	F	0.950
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	V-rCB	50			Y	0.741

Analysis :

Traffic Flow pcu/hr	AM	PM	Capacity pcu/hr	AM	PM	
q-CA	710	595	Q-BA	311	306	
q-CB	25	50	Q-BC	567	552	
q-AB	10	5	Q-CB	566	552	
q-AC	545	605	Q-CA	1720	1637	(If C-B blocked C-A)
q-BA	15	5	Q-BAC	463	507	(If Minor Road Share LT&RT)
q-BC	40	40				
f	0.727	0.889				

Results :

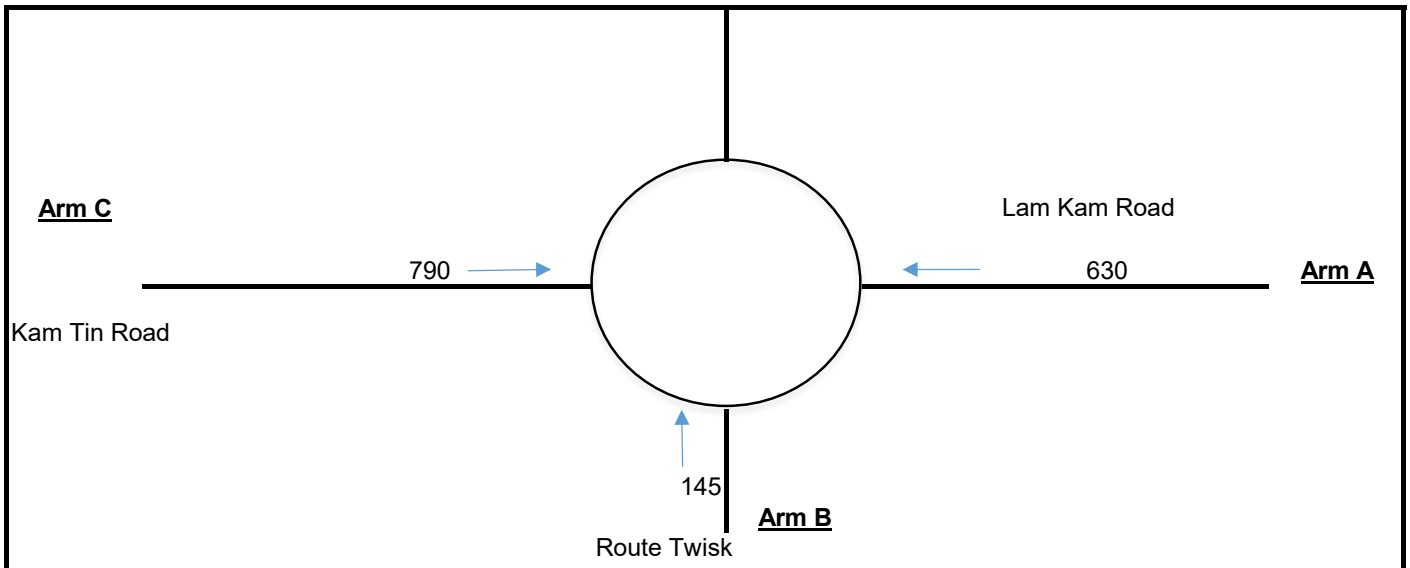
Ratio of Flow-to-Capacity	AM	PM
B-A	N/A	N/A
B-C	N/A	N/A
C-B	0.04	0.09
C-A	0.41	0.36
B-AC	0.12	0.09
Critical DFC	**0.41**	**0.36**

CTA Consultants Ltd.

Roundabout Junction Calculation

Roundabout Junction : Kam Tin Road / Lam Kam Road / Route Twisk (D)

Scenario : 2033 Design Traffic Flows (AM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	3.5	3.8	3.5
E	=	Entry width (m)	5.3	7.3	4.5
L	=	Effective length of flare (m)	10	12	10
R	=	Entry radius	60	85	90
D	=	Inscribed circle diameter (m)	28	28	28
A	=	Entry angle (degree)	20	20	40
Q	=	Entry flow (pcu/hr)	630	145	790
Qc	=	Circulating flow across entry (pcu/hr)	655	530	35

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.29	0.47	0.16
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.07	1.07	1.00
X_2	=	V+((E-V)/(1+2*S))	4.64	5.61	4.26
M	=	Exp((D-60)/10)	0.04	0.04	0.04
F	=	303*X_2	1406.57	1699.93	1290.05
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td*(1+0.2*X_2)	0.60	0.66	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	1082.11	1447.63	1274.13
DFC	=	Entry Flow/Capacity = Q/Qe	0.58	0.10	0.62

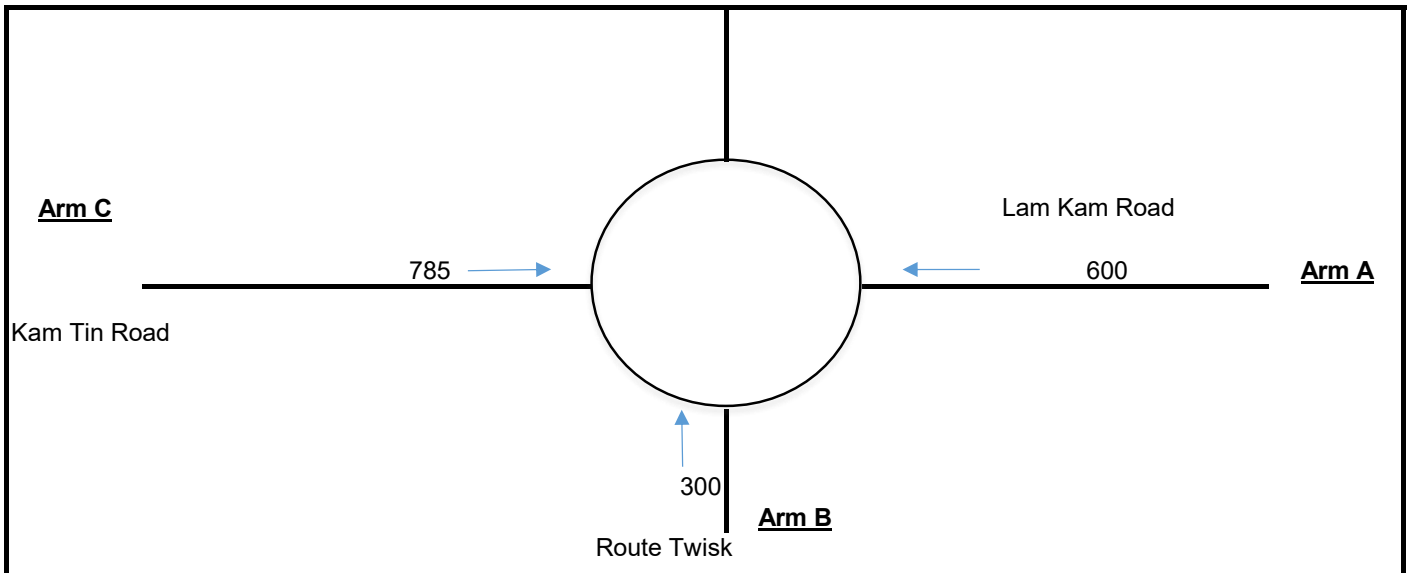
DFC of Critical Approach = 0.62

CTA

Roundabout Junction Calculation

Roundabout Junction : Kam Tin Road / Lam Kam Road / Route Twisk (D)

Scenario : 2033 Design Traffic Flows (PM Peak)



Input Parameters			Arm A	Arm B	Arm C
V	=	Approach half width (m)	3.5	3.8	3.5
E	=	Entry width (m)	5.3	7.3	4.5
L	=	Effective length of flare (m)	10	12	10
R	=	Entry radius	60	85	90
D	=	Inscribed circle diameter (m)	28	28	28
A	=	Entry angle (degree)	20	20	40
Q	=	Entry flow (pcu/hr)	600	300	785
Qc	=	Circulating flow across entry (pcu/hr)	560	645	40

Output Parameters			Arm A	Arm B	Arm C
S	=	Sharepness of flare = 1.6*(E-V)/L	0.29	0.47	0.16
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.07	1.07	1.00
X_2	=	V+((E-V)/(1+2*S))	4.64	5.61	4.26
M	=	Exp((D-60)/10)	0.04	0.04	0.04
F	=	303*X_2	1406.57	1699.93	1290.05
Td	=	1+(0.5/(1+M))	1.48	1.48	1.48
Fc	=	0.21*Td*(1+0.2*X_2)	0.60	0.66	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	1142.90	1366.29	1271.24
DFC	=	Entry Flow/Capacity = Q/Qe	0.52	0.22	0.62

DFC of Critical Approach = 0.62

CTA

APPENDIX B

Email reply from Planning Department on Potential/Committed Developments in the Vicinity of the Proposed Development

Catherina Chu

From: Nicol Wai Kin YU/PLAND <nwkyu@pland.gov.hk>
Sent: 11 September 2026 10:24 am
To: 'Catherina Chu'
Cc: Hiu Fung PANG/TD; horacemak@ctaconsultants.com; 'Edmund Yip'; Kevin Ka Wing LAU/PLAND; Christy Tsui Yan LEUNG/PLAND; Iris Lai Sheung LEUNG/PLAND
Subject: Re: Preliminary Planning Enquiry (3rd round) - Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories - Request for Confirmation on Planned and Committed Developments
Attachments: 20260901_S_NE-LT_11_Departmental Comments_To Applicant_TD (highlighted).pdf; 26038HK - TIA Report_20260713 (extract).pdf

Dear Catherina,

I refer to your email dated 1.9.2026 seeking our comment on the planned/committed developments for conducting TIA.

2. According to our record, the latest development parameters of two PH developments are as follows:

https://www.pland.gov.hk/file/resources/approved_pb/hd_pb/pdf/Kam_Sheung_Road_Site_1.pdf

https://www.pland.gov.hk/file/resources/approved_pb/hd_pb/pdf/Kam_Sheung_Road_Site_4A.pdf

3. You can make reference to the following link for the two LSPS schemes (LSPS/003 & 004).

https://www.devb.gov.hk/en/issues_in_focus/land_sharing_pilot_scheme/land_sharing_pilot_scheme_applications/application_received/index.html

4. Please note we have no information about the remaining listed developments. You may consult the relevant Government departments to confirm whether any of the listed developments are appropriate to be included in the assessment of the captioned study. Should any of these developments are to be considered in the assessment of the captioned study, the Consultant should obtain the necessary information on the public domain or through the respective departments as appropriate. Please be reminded that PlanD is not in a position to verify the information obtained and it is the Consultant's responsibility to ensure that all assumptions, development parameters and completion years of these developments are up-to-date at the time the assessment are being conducted.

Should you have any queries, pls feel free to contact me.

Best regards,

Nicol YU
TP/TP1
STNDPO
PlanD
2158 6226

規劃署
Planning Department
透過規劃工作，使香港成為一個宜居、具競爭力和可持續發展的亞洲國際都會
We plan to make Hong Kong a Liveable • Competitive • Sustainable ASIA'S WORLD CITY

From: Catherina Chu <catherinachu@ctaconsultants.com>
Sent: Tuesday, September 1, 2026 12:04 PM
To: Nicol Wai Kin YU/PLAND <nwkyu@pland.gov.hk>
Cc: Hiu Fung PANG/TD <hiufungpang@td.gov.hk>; horacemak@ctaconsultants.com; 'Edmund Yip' <edmundyip@ctaconsultants.com>
Subject: RE: Preliminary Planning Enquiry (3rd round) - Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, New Territories - Request for Confirmation on Planned and Committed Developments

Dear Nicol,

We, CTA Consultants Limited, are commissioned as the traffic consultant of the captioned project.

As discussed, as per comment (#ix) from TD, comments from PlanD regarding the planned and committed developments in the vicinity of the proposed development should be sought. We shall be grateful if you could assist to provide information of the committed and planned developments in the vicinity of the site.

Should you have any queries or require further information, please do not hesitate to contact Mr. Horace Mak/ Ms. Catherina Chu/ Mr. Edmund Yip at 2214 0849.

Thank you very much for your kind attention and we are looking forward to your favourable reply at your earliest convenience.

Best Regards,

Catherina Chu
Chief Transport Planner

CTA Consultants Limited
Unit 2108, 21/F, Westlands Centre, 20 Westlands Road, Quarry Bay, Hong Kong
Tel: (852) 2214 0849 Fax: (852) 2214 0817

APPENDIX C

Summary of 'Responses to Comments'

(October 2026)

Intended Section 12A Application for Amendment to the Approved Lam Tsuen Outline Zoning Plan No. S/NE-LT/11, to rezone the application site from "Agricultural Zone" to "G/IC(1)" for Proposed RCHE/RCHDs, Multiple Lots in D.D.8 and adjoining Government land, Lam Tsuen, Tai Po, N.T.
TIA Report
Summary of 'Responses to Comments' (October 2026)

Comments of Traffic Engineering (NTE) Division, Transport Department dated 1 September 2026 (Mr. PANG Hiu Fung, Jacky, 2399 2731)	**Responses**
Tai Po Shui Wo Road i. Tai Po Shui Wo Road is a single-track access road, with limited road capacity as well as loading and unloading facilities. With increased traffic flow due to the development, the conflict between vehicles entering and leaving Tai Po Shui Wo Road may cause traffic lockdown of the road, and vehicles queue may build up to Lam Kam Road causing substantial traffic congestion to the local road network. The applicant shall demonstrate from TPDM Vol. 2 Cl. 3.11.3.1 that the daily 2-way traffic flow would not exceed 500 vehicles per day. Otherwise considerations should be given to provide a 2-lane-2-way road to the site such that emergency vehicles would not be affected by road blockage due to vehicles conflict or illegal parking;	Noted and please refer to **Section 2.3** of the revised TIA report for the proposed minor road improvement of Tai Po Shui Wo Road, such that emergency vehicles would not be affected by road blockage due to vehicles conflict or illegal parking.
ii. The applicant is reminded that restriction for vehicles longer than 7m is currently in place for Tai Po Shui Wo Road and the operation of the care home shall account for such restriction. While (1) vehicles longer than 7m (light bus and ambulance) were proposed to be used at the site and (2) it is expected that certain construction vehicles may exceed 7m, the applicant is reminded to apply for permit for entry;	Noted and please note that permit for entry shall be applied before the construction and operation of the proposed development.

Comments of Traffic Engineering (NTE) Division, Transport Department dated 1 September 2026 (Mr. PANG Hiu Fung, Jacky, 2399 2731)	**Responses**
iii. The swept path analysis for fire engine moving into / out of Tai Po Shui Wo Road and the site shall be provided. FSD's comments shall be sought;	Please refer to **Figure SP-09** for the swept path analysis for fire engine moving into / out of Tai Po Shui Wo Road with the proposed road widening at Tai Po Shui Wo Road. Please note that FSD's comments shall be sought.
<u>Parking / Layout</u> iv. Figure 2.1 and 2.2: a. the MC parking (for both site A and B) is not indicated;	Noted and please note that MC parking has been added, please refer to **Figure 2.2** and **Figure 2.3** of the revised TIA report for details.
b. the aisle width in the parking layout should be advised;	Noted and please refer to **Figure 2.2** and **Figure 2.3** of the revised TIA report for the aisle width in the parking layout.
v. Fig. 2.3: The sightline would pass through the site boundary, the applicant shall advise if there would be walls or planters blocking the sightline;	Please be clarified that there will be no walls or planters blocking the sightline.
vi. Swept path for vehicles moving in and out of the access of both site A and B shall be provided;	Please refer to **Figure SP-03** and **Figure SP-04** of the revised TIA report for the swept path of light bus moving in and out of the access of site A and site B respectively.
vii. The applicant shall justify that the parking provision is sufficient. With the lack of parking space in the local area, visitors may illegally park their vehicles at Tai Po Shui Wo Road and Lam Kam Road, causing congestion and nuisance to the local residents and affecting emergency vehicles. The utilization of the existing parking spaces as well as the illegal parking situation at Tai Po Shui Road shall be advised;	Noted and please refer to **Section 2.6** of the revised TIA report for the utilization of the existing parking spaces as well as the illegal parking situation at Tai Po Shui Wo Road.

Comments of Traffic Engineering (NTE) Division, Transport Department dated 1 September 2026 (Mr. PANG Hiu Fung, Jacky, 2399 2731)	**Responses**
viii. The ancillary parking provision shall be commented by SWD;	Noted.
<u>Cumulative Traffic Impact</u> ix. The list of committed developments shall be confirmed by PlanD.	Noted and please note that PlanD has been consulted for the committed developments, please refer to **Appendix B** of the revised TIA report for details.
<u>Public Transport and Pedestrian assessment</u> x. The public transport and pedestrian assessments are missing.	Please refer to **Chapter 6** and **Chapter 7** of the revised TIA report for the public transport and pedestrian assessments respectively.
<u>Fig. 3.3</u> xi. The junction layout in fig. 3.3 is different from the existing layout. The applicant shall review.	Noted and revised, please refer to **Figure 3.3 (Rev A)** of the revised TIA report for the revised junction layout.