

Attachment II

Revised Traffic Impact Assessment Report

**Planning Approval Renewal
Asphalt Plant at Sai Tso Wan Road A/TY/135,
TYTL 108 RP
(New Planning Application No. A/TY/148)**

Traffic Impact Assessment

Revised Final Report

June 2024



CTA Consultants Limited

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1. INTRODUCTION

1.1 Background

1.1.1 The asphalt plant of the captioned Planning Approval is located at Sai Tso Wan Road, Tsing Yi and shown in **Figure 1.1**.

1.1.2 The captioned Planning Approval (previous approved planning application no.: A/TY/135) was granted in 2019 and will expire on 2 Aug 2024. The Applicant would like to submit a renewal planning application for another 5 years.

1.1.3 We, CTA Consultants Limited (CTA), is commissioned as the traffic consultant to undertake a Traffic Impact Assessment (TIA) study for assessing the traffic impact, and to propose any measures if necessary.

1.2 Study Objectives

1.2.1 The main objective of this study are as follows:

- to carry out a traffic impact assessment to identify the acceptability of the proposed asphalt plant in traffic terms;
- to assess the existing traffic conditions in the vicinity of the proposed plant;
- to forecast traffic demands in the adjacent road network in the design year 2029;
- to assess the impacts of traffic generated by the adjacent new developments in the road network; and
- to propose any traffic improvement measures for alleviating any foreseeable traffic problems if necessary.

1.3 Structure of this Report

1.3.1 Following this introductory chapter, there are 5 further chapters.

- **Chapter 2 – The Proposed Activities**, which presents the site location and production information of the proposed plant.



- **Chapter 3 – Existing Traffic Condition**, which describes the existing local road network in the vicinity of Study Area, presents a summary of the traffic count survey and assesses the existing traffic conditions.
- **Chapter 4 – Future Traffic Conditions**, which estimates the future traffic flows for the proposed plant on the surrounding road network.
- **Chapter 5 – Traffic Impact Assessment**, which study the operation performance of the critical junctions in design year.
- **Chapter 6 – Summary and Conclusion**, which presents the conclusions regarding the traffic issues associated with the proposed activities.



2. THE PROPOSED ACTIVITIES

2.1 Site Location

2.1.1 The proposed plant is situated at Sai Tso Wan Road, as shown in **Figure 1.1**. It is located at the Western seaside of Tsing Yi, which can only be accessed by single 2-way 2-lane Sai Tso Wan Road.

2.1.2 The layout of the proposed asphalt plant is shown in **Figure 2.1**.

2.2 Development Proposal

2.2.1 The proposed asphalt plant will be 24-hour standby for production orders, which is a government requirement of Specialist Contractors to supply of bituminous pavement materials and construction of special bituminous surfacing.

2.2.2 The design rated output of the proposed asphalt plant is 260 tonnes/hr. However, the production rate would be limited to not exceeding 80% of the output rate, i.e. 208 tonnes/hr. This rate could be limited under Specific Process (SP) License issued by Environmental Protection Department (EPD).

2.2.3 As advised by the operator, the operation process of the plant will be:

- There will be one loading/unloading area to be provided and operated by the proposed asphalt plant.
- The capacity of the dump truck varies from 11.5 tonnes to 15.5 tonnes, which gives an average of 13.5 tonnes per dump truck.
- Delivery of raw materials will be carried out during off-peak hours.
- Bitumen will be delivered to the plant from Shell terminal (less than 300 meters away) by truck. When the plant running in maximum capacity, two truck of bitumen per day is required.
- The waste disposal truck and fuel tanker will only be required once per 2-3 days.



- Aggregates will be delivered by barge

2.2.4 Occasional operation on Sundays and holidays and at night will be required. About 80% of raw materials will be transported by barge and the remaining 20% consists of Bitumen and fuel to be transported by land transport (trucks).

2.3 Traffic Arrangement

2.3.1 To facilitate the operation of the proposed plant, the following types of parking facilities are provided within the plant:

- 7 nos. of HGV Parking Spaces (11m × 3.5m);
- 4 nos. of Private Car Parking Spaces (5m × 2.5m);
- 1 no. of Accessible Car Parking Space (5m × 3.5m);
- 1 no. of Loading/Unloading Area for Asphalt; and
- 3 nos. of Loading/Unloading Bay for Other Material Trucks (11m × 3.5m)

2.3.2 A maximum of 8 trucks can stack within the Subject Site which could satisfy normal operation needs. Therefore, it is anticipated that the vehicles generated to/ from the proposed plant will not queue along Sai Tso Wan Road outside the proposed plant.



3. EXISTING TRAFFIC CONDITIONS

3.1 Existing Road Network

3.1.1 The proposed plant will be accessed through Tsing Yi Road West, Tsing Yi Road and Sai Tso Wan Road.

3.1.2 Sai Tso Wan Road is a 2-lane local road connecting Sai Tso Wan area and Tsing Yi Road West/Tsing Yi Road. It is a major road link providing access to/from various sites in Sai Tso Wan area.

3.2 Critical Junctions

3.2.1 In order to establish the existing traffic condition in the vicinity, traffic survey in form of manual classification counts was conducted at 23 critical junctions. The location of the surveyed junctions is indicated in **Figure 3.1** and their existing junction layout arrangements are given in **Figures 3.2 to 3.24** respectively.



Table 3.1 Identified Critical Junctions

Ref.	Junction	Type	Figure No.
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	3.2
J2	Tsing Hung Road / Tsing Yi Road	Signalized	3.3
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	3.4
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	3.5
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	3.6
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	3.7
J7	Tsing Yi Road West / Tsing Chin Street*	Priority	3.8
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	3.9
J9	Tsing Yi Road West / Liu To Road	Signalized	3.10
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	3.11
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	3.12
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	3.13
J13	Tsing Yi Road / Tsing Keung Street	Priority	3.14
RA1	Tsing Yi Interchange	Roundabout	3.15
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	3.16
RA3	Hong Wan Road	Roundabout	3.17
RA4	Hong Wan Road / Tsing Ko Road	Roundabout	3.18
RA5	Tam Kon Shan Interchange	Roundabout	3.19
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	3.20
RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	3.21
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	3.22
RA9	Tam Kon Shan Road / Tsing Yi North Coastal Road	Roundabout	3.23
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	3.24

3.2.2 The survey was conducted during the morning, logistic peak and evening peak periods in 26 January 2024. The survey provides details of the traffic situation in the nearby area. Based on surveyed traffic flows, it was found that the AM, logistic and PM peak hour occurred from 08:00 to 09:00, 11:15 to 12:15 and 17:30 to 18:30 respectively. The results of the observed traffic flows are presented in **Figure 3.25**.



3.2.3 Based on the observed traffic flows in **Figure 3.25**, the junction capacity assessment is carried out for the critical junctions and the results of the assessment are summarized in **Table 3.2** below.

Table 3.2 Operational Performance of Identified Critical Junctions in 2024
Operational Performance of Critical Junctions in Observed Case in
Year 2029 (Without Proposed Plant)

Ref.	Junction	Method of Control	Year 2024 Observed Case		
			RC/RFC ⁽¹⁾		
			AM Peak	Logistic Peak	PM Peak
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	72%	62%	107%
J2	Tsing Hung Road / Tsing Yi Road	Signalized	74%	88%	96%
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	0.5	0.41	0.41
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	46%	35%	115%
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	121%	82%	127%
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	0.34	0.27	0.21
J7	Tsing Yi Road West / Tsing Chin Street ⁽²⁾	Priority	N/A	N/A	N/A
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	60%	87%	103%
J9	Tsing Yi Road West / Liu To Road	Signalized	44%	69%	57%
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	42%	82%	78%
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	21%	40%	42%
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	45%	78%	70%
J13	Tsing Yi Road / Tsing Keung Street	Priority	0.17	0.25	0.13
RA1	Tsing Yi Interchange (North)	Roundabout	0.71	0.59	0.37
	Tsing Yi Interchange (South)	Roundabout	0.58	0.44	0.66
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	0.45	0.45	0.49
RA3	Hong Wan Road	Roundabout	0.45	0.37	0.40
RA4	Hong Wan Road / Tsing Ko Road	Roundabout	0.26	0.25	0.26
RA5	Tam Kon Shan Interchange	Roundabout	0.63	0.62	0.69
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	0.38	0.32	0.38



RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	0.07	0.09	0.10
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	0.43	0.43	0.43
RA9	Tam Kon Shan Road / Tsing Yi North Costal Road	Roundabout	0.06	0.08	0.08
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	0.27	0.25	0.19

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

3.2.4 The results in **Table 3.2** show that the junctions are now operating with ample capacities in peak hours.

3.3 Public Transport Services in the Vicinity of Proposed Plant

3.3.1 Limited road-based public transport services are currently operating in the vicinity of the proposed plant. Only one GMB route is operating close to the proposed plant (within 500m radius from the proposed plant) and the details of the GMB route are presented in **Table 3.3** below.

Table 3.3 Existing Road-based Public Transport Services in the Vicinity

Service	Route	Origin - Destination	Frequency (min)
GMB	88M	Kwai Fong Station – Sai Tso Wan Road (Hong Kong Unit Dockyard)	5 – 15



4. FUTURE TRAFFIC CONDITIONS

4.1 Design year

4.1.1 The original planning approval will expire on 2 Aug 2024, as another 5 year of temporary use is applied, year 2029 is adopted as the design year for this study to assess the impact of the development related traffic on the local road network.

4.2 Reference Traffic Flows

4.2.1 To estimate the 2029 reference traffic flows (without proposed plant) in the local road network, an appropriate growth factor has to be identified for the area in the first instance based on historical trend and planning data.

Historical Trend

4.2.2 Transport Department has traffic count stations in the vicinity of the proposed development. The traffic counts reported in the Annual Traffic Census (ATC) over a period of 6 years, between 2017 and 2022 are summarized in **Table 4.1**.

Table 4.1 Historical Traffic Data from Annual Traffic Census

ATC Stn No.	Road Name	Annual Average Daily Traffic						Annual Growth Rate
		2017	2018	2019	2020	2021	2022	
5038	Nam Wan Tunnel (from East Tsing Yi Viaduct to Cheung Tsing Highway)	50,940	54,280	55,040	37,850	41,090	41,060	-4.22%
5849	Tsing Yi Rd W (Tsing Nam St – Ching Hong Road)	15,410	15,640*	15,580*	15,430*	13,690	15,820	0.53%
6044	Tsing Yi Rd W (Tsing Hong Road – Fung Shue Wo Road)	20,260	19,350	19,280*	19,100*	19,840*	21,050	0.77%
6643	Sai Tso Wan Rd (Tsing Yi Rd – Dockyard Front Gate)	5,020	10,030	8,390	8,960	9,410	11,200	17.41%
TOTAL		91,630	99,300	98,290	81,340	84,030	89,130	-0.55%

*AADT estimated by Growth Factor



4.2.3 As shown in **Table 4.1**, the average annual traffic growth pattern in the vicinity of the proposed development shows a growth trend of -0.55% per year.

2019-Based TPEDM planning data

4.2.4 Reference has also been made to the latest 2019-Based Territorial Population Employment Data Matrices (TPEDM) planning data published by the Planning Department for projection of population and employment within the study district. The average annual growth rates in terms of population and employment from 2019 to 2031 are tabulated in **Table 4.2**.

Table 4.2 2019-based Population and Employment Growth

Tsing Yi				
Data	Year			Average Annual Growth Rate
	2019	2026	2031	
Population	182,350	188,550	184,400	+0.09%
Employment	38,500	38,700	36,650	-0.41%
Total	220,850	227,250	221,050	0.01%

4.2.5 From **Table 4.2**, it is found that the average annual growth rates of population and employment in Tsing Yi are +0.01% per annum respectively.

Adopted Growth Rate

4.2.6 A.A.D.T. of ATC indicates that the traffic flow of the local road network has an average annual growth rate of -0.55%.

4.2.7 Whilst, the planning data indicates that the population and employment of the study area are expected to grow with an average annual growth rate of +0.01%.

4.2.8 As a conservative approach, annual growth rate **+1.0%** p.a. has been adopted for projecting traffic forecasts. It is deemed sufficient to allow for any unexpected future growth as a result of some changes in land use or development in the study area.



4.3 Planned / Committed Future developments

4.3.1 There are numbers of planned/committed future developments in vicinity. The updated planning parameters are shown in **Table 4.3**. The locations of these future developments are shown in **Figure 4.1**.

4.3.2 The traffic trips generated from these planned/committed developments are estimated and shown in **Table 4.4**.

4.3.3 These traffic trips were assigned to the road network to obtain the reference traffic in the design year.

Table 4.3 Development Schedule of Proposed Development at Vicinity

Ref.	Development Site / Planning Application No.	Use	Development Parameters	Completion Year
A	A/TY/131	Animal Welfare Centre	About 8,720m ²	2024
B	Ching Hong Road North Public Housing Development	Public Housing	Phase 1: 851 units	2024
			Phase 2: 612 units	2024
			Phase 3: 1680 units	2029
			Phase 4: 770 units	2030-31
			Retail: 2000m ² Social Welfare Facilities	2024 - 2029
C	Housing Development at Tsing Yi Road West	Public Housing	3,400 units	2034/35
D	Y/TY/2- Tsing Yi Town Lot 80 and 108RP (Phase 1)	Private Housing	5,048 units	2028
	Y/TY/2- Tsing Yi Town Lot 80 and 108RP (Phase 2)	Public Housing	4,704 units	2036
		Private Housing	5,323 units	2036
E	Tsing Yi – Lantau Link	Infrastructure	-	2033 (Construction traffic may occur at about 2027)
F	A/TY/147 (Renewal of A/TY/136)	Concrete Batching Plant	300m ³ /hr (240m ³ /hr as limited by SP License)	Under Operation
G	A/TY/149 (Renewal of A/TY/139)	Concrete Batching Plant	250 m ³ /hr	Under Operation



4.3.4 Housing Developments at Ching Hong Road North (Phase 4) and Tsing Yi Road West would be completed after our design year. Y/TY/2- Tsing Yi Town Lot 80 and 108RP is still under planning application and not approved yet. Thus, they would not be included in this assessment. A/TY/147 and A/TY/149 are renewal applications which are already under operation and thus no new trips will be formed. The construction traffic of Tsing Yi – Lantau Link is reviewed and considered. It would not give significant impact to the road network.

Table 4.4 Estimated Traffic Generations of Planned Vicinity Development

Development Type	Average Flat Size m ²	Unit	Trip Rate			
			AM Peak		PM Peak	
			Gen.	Att.	Gen.	Att.
Public Rental	40	Pcu/hr/flat	0.0432	0.0326	0.0237	0.0301
Retail	-	pcu/hr/100 sqm GFA	0.2296	0.2434	0.3100	0.3563
Developments			Trips (Pcu/hr)			
A ⁽¹⁾	A/TY/131		64	172	115	72
B	Ching Hong Road North Public Housing Development	Phase 1	37	28	20	26
		Phase 2	26	20	15	18
		Phase 3	73	55	40	51
		Retail	5	5	6	7
		Kindergarten ⁽²⁾	30	30	30	30
		Social Welfare Facilities ⁽³⁾	10	10	10	10
E	Tsing Yi – Lantau Link Construction Vehicles ⁽⁴⁾		15	15	15	15

Note: (1) Development trips according to its TIA report

(2) Reference from other public housing TIA reports (Sheung Shui Area 4 and 30)

(3) Nominal Trips

(4) Assume 1 construction vehicle per 10 min per bound, i.e. 6 veh/hr, For 2.5 pcu factor, 15 pcu/hr

4.3.5 The 2029 reference flows are then derived by applying the annual growth rate plus the additional traffic generations of the developments in Tsing Yi.

$$\begin{array}{l}
 \text{2029} \\
 \text{Reference Flows} \\
 \text{(without} \\
 \text{Proposed Plant)} \\
 \end{array}
 =
 \begin{array}{l}
 \text{2024} \\
 \text{Observed} \\
 \text{Flows} \\
 \end{array}
 \times
 \begin{array}{l}
 \text{Adopted Growth} \\
 \text{Factor} \\
 \text{(i.e. +1\% p.a. for} \\
 \text{5 years)} \\
 \end{array}
 +
 \begin{array}{l}
 \text{Traffic Flows of} \\
 \text{Planned Adjacent} \\
 \text{Developments} \\
 \end{array}$$



4.3.6 The 2029 reference traffic flows at surrounding critical junctions are shown in **Figure 4.3**.

4.4 Traffic Generation Calculation and Assumptions from The Proposed Activities

4.4.1 The design rated output of the proposed asphalt plant is 260 tonnes/hr. However, the production rate would be limited to not exceeding 80% of the output rate, i.e 208 tonnes/hr. This rate could be limited under Specific Process (SP) License issued by Environmental Protection Department (EPD)

4.4.2 The capacity of the dump truck varies from 11.5 tonnes to 15.5 tonnes, which gives an average of 13.5 tonnes per dump truck, thus hourly trip rate of dump trucks will be 16 trucks/hr.

4.4.3 About 80% of raw materials will be transported by barge and the remaining 20% consists of Bitumen and fuel to be transported by land transport (trucks).

4.4.4 For conservative approach, various types of vehicles are assumed accessing the existing asphalt plant during the peak hour simultaneously and the estimated hourly traffic generation is summarized in **Table 4.5**.

Table 4.5 Estimated Hourly Traffic Generation of the Proposed Asphalt Plant (Production Capacity 208 tonnes/hr)

Types of Vehicles	Traffic Generation (in veh/hr)	Traffic Generation (in pcu/hr) ⁽¹⁾
Dump Truck	16	40
Bitumen Tanker/ Waste Disposal Truck/ Fuel Tanker ⁽²⁾	2	5
Total	18	45

Notes: (1) PCU factor of 2.5 has been adopted for trucks.

(2) Delivery of raw materials will be carried out during off-peak hours.

The Bitumen tanker will only be required twice a day.

The waste disposal truck and fuel tanker will only be required once per 2-3 days during off-peak hours.

Aggregates will be delivered by barge.



4.4.5 The estimated peak hour traffic generation of the proposed asphalt plant under 80% of full operation (Production Capacity 208 tonnes/hr) will be about **45 pcus in / 45pcus out**.

4.5 Development Traffic Flows

4.5.1 The net traffic trips of the proposed development is superimposed onto the year 2029 reference traffic flow (without the proposed development) as:

$$\begin{array}{l} \mathbf{2029\ Design\ Flows} \\ \mathbf{(with\ Proposed\ Plant)} \end{array} = \begin{array}{l} \mathbf{2029\ Reference} \\ \mathbf{Traffic\ Flows\ (without} \\ \mathbf{Proposed\ Plant)} \end{array} + \begin{array}{l} \mathbf{Traffic\ Flows\ of} \\ \mathbf{Proposed\ Developments} \\ \mathbf{at\ Tsing\ Yi} \end{array}$$

4.5.2 The 2029 design traffic flows at surrounding critical junctions are shown in **Figure 5.1**.



5. TRAFFIC IMPACT ASSESSMENT

5.1 Operational Assessment

5.1.1 Based on the design traffic flows in **Figure 5.1**, a junction capacity assessment is carried out for the key junctions and the results of the assessment are summarized in **Tables 5.1** and **5.2** below.

Table 5.1 Operational Performance of Critical Junctions in Reference Case in Year 2029 (Without Proposed Plant)

Ref.	Junction	Method of Control	Year 2029 Reference Case (Without Proposed Plant)		
			RC/RFC ⁽¹⁾		
			AM Peak	Logistic Peak	PM Peak
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	47%	49%	82%
J2	Tsing Hung Road / Tsing Yi Road	Signalized	66%	78%	87%
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	0.54	0.45	0.44
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	38%	29%	105%
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	111%	73%	116%
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	0.37	0.29	0.22
J7	Tsing Yi Road West / Tsing Chin Street*	Priority	N/A	N/A	N/A
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	39%	59%	81%
J9	Tsing Yi Road West / Liu To Road	Signalized	38%	61%	49%
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	17%	44%	45%
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	2%	15%	23%
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	26%	52%	51%
J13	Tsing Yi Road / Tsing Keung Street	Priority	0.18	0.26	0.14
J14	Tsing Yi Road / Planned New Road ⁽³⁾	Signalized	146%	138%	152%
RA1	Tsing Yi Interchange (North)	Roundabout	0.76	0.63	0.40
	Tsing Yi Interchange (South)	Roundabout	0.63	0.48	0.73
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	0.48	0.48	0.53
RA3	Hong Wan Road / Planned New Road ⁽³⁾	Roundabout	0.47	0.39	0.42



RA4	Hong Wan Road / Tsing Ko Road	Roundabout	0.27	0.26	0.28
RA5	Tam Kon Shan Interchange	Roundabout	0.72	0.70	0.79
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	0.47	0.40	0.46
RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	0.08	0.09	0.11
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	0.46	0.46	0.46
RA9	Tam Kon Shan Road / Tsing Yi North Costal Road	Roundabout	0.07	0.08	0.08
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	0.28	0.27	0.20

- Note: (1) RC = Reserve Capacity RFC = Ratio of Flow to Capacity for Priority Junction
(2) Only ingress traffic is allowed on Tsing Chin Street. No traffic conflicts or delay is expected in this location. Therefore, no junction assessment is required.
(3) New Road between Tsing Yi Road / Hong Wan Road was considered



Table 5.2 Operational Performance of Critical Junctions in Design Case in Year 2029 (With Proposed Plant)

Ref.	Junction	Method of Control	Year 2029 Design Case (With Proposed Plant)		
			RC/RFC ⁽¹⁾		
			AM Peak	Logistic Peak	PM Peak
J1	Cheung Tsing Highway / Tsing Yi Road West	Signalized	40%	39%	75%
J2	Tsing Hung Road / Tsing Yi Road	Signalized	66%	78%	85%
J3	Tsing Sheung Road / Tsing Yi Road Priority	Priority	0.54	0.45	0.45
J4	Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	Signalized	33%	24%	89%
J5	Entrance of VEC / Sai Tso Wan Road	Signalized	99%	65%	102%
J6	Tsing Tim Street / Sai Tso Wan Road	Priority	0.38	0.30	0.23
J7	Tsing Yi Road West / Tsing Chin Street*	Priority	N/A	N/A	N/A
J8	Tsing Yi Road West / Tsing Hong Road	Signalized	39%	59%	81%
J9	Tsing Yi Road West / Liu To Road	Signalized	38%	61%	49%
J10	Tsing Yi Road West / Fung Shue Wo Road	Signalized	17%	44%	45%
J11	Tsing Yi Heung Sze Wui Road / Cheung Wan Street	Signalized	2%	15%	23%
J12	Tsing Yi Heung Sze Wui Road / Chung Mei Road	Signalized	26%	52%	51%
J13	Tsing Yi Road / Tsing Keung Street	Priority	0.18	0.26	0.14
J14	Tsing Yi Road / Planned New Road ⁽³⁾	Signalized	>100%	>100%	>100%
RA1	Tsing Yi Interchange (North)	Roundabout	0.76	0.63	0.40
	Tsing Yi Interchange (South)	Roundabout	0.63	0.48	0.73
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	Roundabout	0.48	0.48	0.53
RA3	Hong Wan Road / Planned New Road ⁽³⁾	Roundabout	0.47	0.39	0.42
RA4	Hong Wan Road / Tsing Ko Road	Roundabout	0.27	0.26	0.28
RA5	Tam Kon Shan Interchange	Roundabout	0.72	0.70	0.79
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road	Roundabout	0.47	0.40	0.46
RA7	Tsing Sheung Road / Tsing Yi Hong Wan Road	Roundabout	0.08	0.09	0.11
RA8	Tsing Hong Road / Tsing Yi Road	Roundabout	0.46	0.46	0.46
RA9	Tam Kon Shan Road / Tsing Yi North Costal Road	Roundabout	0.07	0.08	0.08
RA10	Tsing Ko Road / Tsing Sheung Road	Roundabout	0.28	0.27	0.20

Note: (1) RC = Reserve Capacity RFC = Ratio of Flow to Capacity for Priority Junction
 (2) Only ingress traffic is allowed on Tsing Chin Street. No traffic conflicts or delay is expected in this location. Therefore, no junction assessment is required.



(3) *New Road between Tsing Yi Road / Hong Wan Road was considered*

5.1.2 Based on the assessment presented in **Tables 5.1** and **5.2**, all junctions will be operating with ample capacities during design year except J11.

5.1.3 J11 will near its capacity due to the increase of left turn traffic by Animal Welfare Centre (A/TY/131) from Tsing Yi Heung Sze Wui Road southbound to Cheung Wan Street. However, due to the committed restriction listed in **Tables 5.3** and **5.4** below, our asphalt trucks cannot pass through RA6 in peak hour which is connected to J11 at the north. Thus will not asphalt trucks will move to the Tsing Yi Heung Sze Wui Road southbound of J11 and will not worsen the case.

5.2 Traffic Management Plan

5.2.1 In previous application, in order to avoid traffic impact induced by the proposed plant to Tsing Yi Town Centre, restrictions were given to the asphalt trucks of the plant. They are not allowed to pass through critical junctions during the peak hour periods (Except emergency and exceptional cases which would be considered by various Government Departments) and are summarized in **Table 5.3**.

Table 5.3 Restriction at Other Critical Junctions

Ref.	<u>No trucks</u> should be allowed to pass through the following junctions	Restricted Hours		
		AM Peak 07:45 – 9:15	Logistic Peak 11:45 – 12:45	PM Peak 16:30 – 17:30
J8	Tsing Yi Road West / Ching Hong Road	X	X	X
RA1	Tsing Yi Interchange	X	○	X
RA2	Tsing Yi Road West / Tsing Yi Hong Wan Road / Tsing Sha Highway	X	X	○
RA5	Tam Kon Shan Interchange	X	○	○
RA6	Tsing Yi Heung Sze Wui Road / Fung Shue Wo Road / Tsing King Road (Together with Junction Cheung Wan Street / Tsing Yi Heung Sze Wui Road)	X	X	X

X: Not allowed to pass through

○: Allow to pass through



5.2.2 The traffic arrangement will follow the Traffic Management Plan approved in A/TY/135.



6. SUMMARY AND CONCLUSION

6.1 Summary

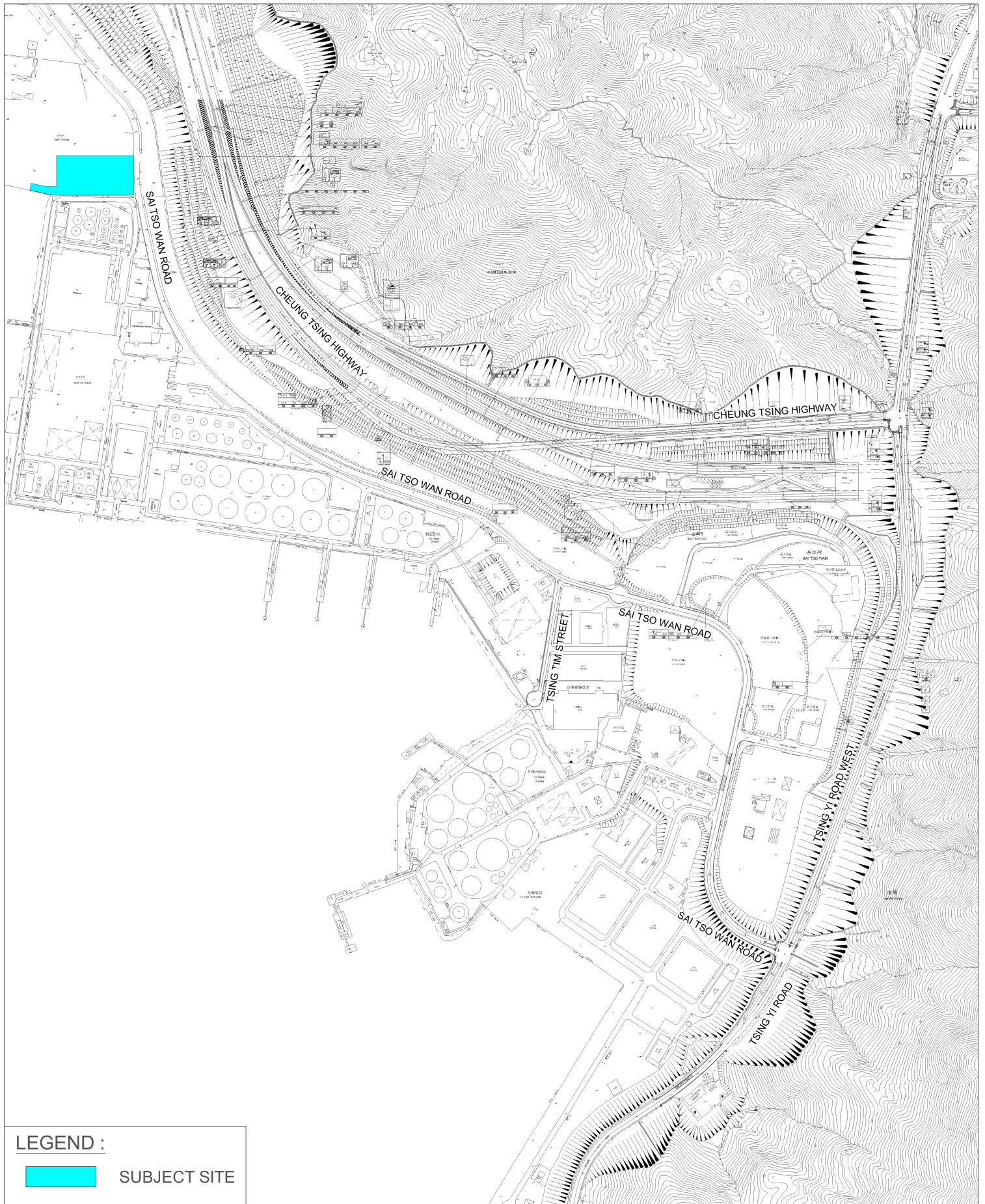
- 6.1.1 The captioned Planning Approval was granted in 2019 and will expire on 2 Aug 2024. The Applicant would like to submit a renewal planning application for another 5 years.
- 6.1.2 We, CTA Consultants Limited (CTA), is commissioned as the traffic consultant to undertake a Traffic Impact Assessment (TIA) study for assessing the traffic impact, and to propose any measures if necessary.
- 6.1.3 To appraise the existing traffic conditions, a traffic count survey was conducted in the surrounding road network of the proposed plant. Moreover, current operational performance of the critical junctions was assessed with the observed traffic flows. The operational assessment results revealed that all critical junctions are at present operating with reasonable capacity in peak hours.
- 6.1.4 In order to assess the impact of the development related traffic on the local road network, the 5th year after the approval of planning application of the proposed plant (i.e. year 2029) has been adopted as the design year for this study.
- 6.1.5 To reveal the traffic impact of various proposed developments in the vicinity, traffic generations by the developments in the vicinity have also been taken into consideration.
- 6.1.6 All the assessed junctions will be operating with ample spare capacity in design year.
- 6.1.7 As the traffic trips of both committed planning and proposed development do not produce significant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.



6.2 Conclusion

6.2.1 In conclusion, this traffic impact assessment (TIA) has demonstrated that the traffic generated by the proposed plant on the surrounding road network can be absorbed by the road network.

6.2.2 Hence, it is concluded that the proposed plant at the Application Site is acceptable from traffic engineering view point.



LEGEND :



SUBJECT SITE

FIGURE NO.:

1.1

PROJECT TITLE:

Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP

PROJECT NO.:

23125HK

DRAWING TITLE:

LOCATION PLAN

SCALE:

1 : 7000
(IN A4 SIZE)

DATE:

22 MAR 2024

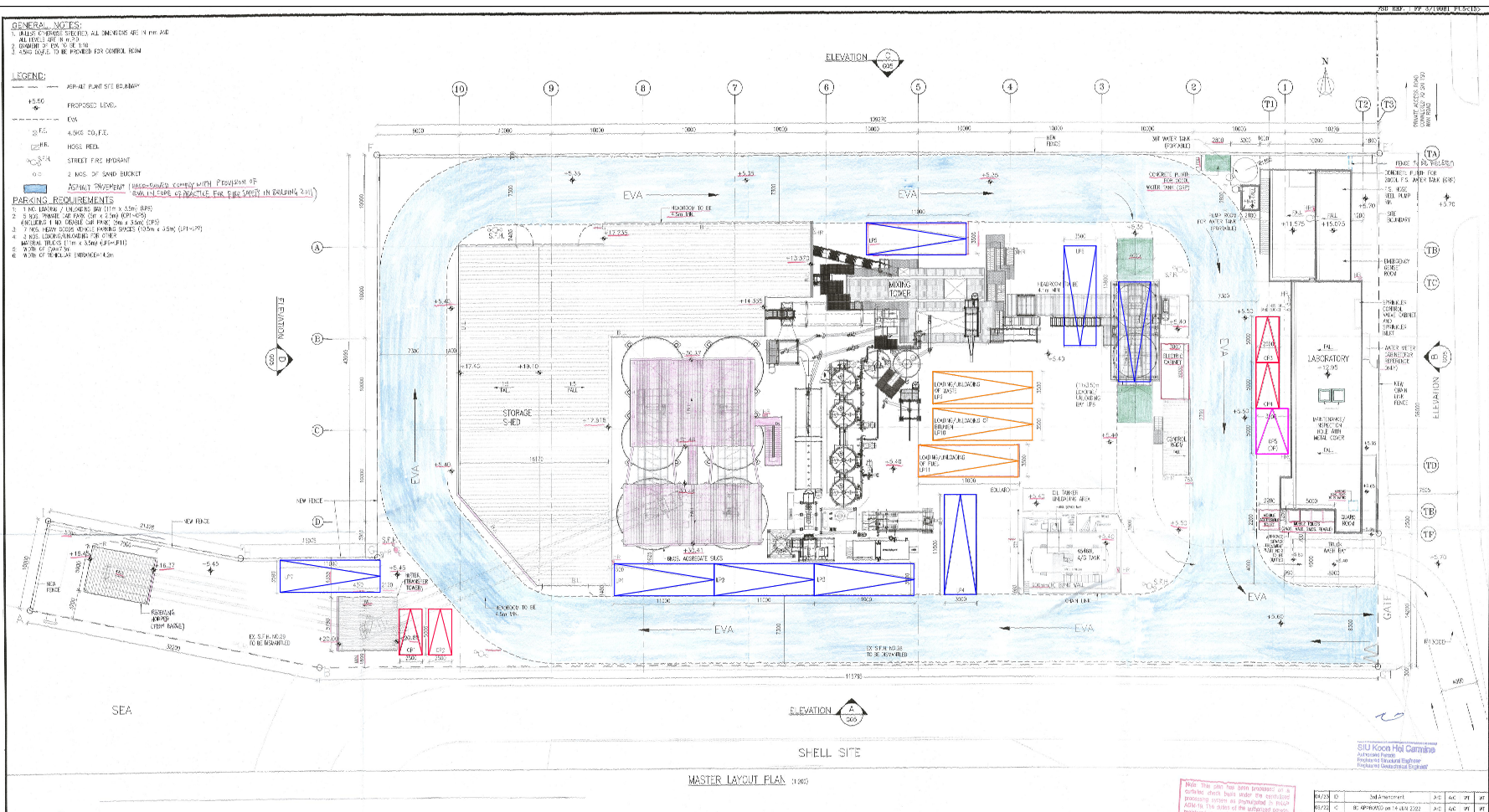


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GENERAL NOTES:
 1. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN METERS.
 2. ALL LEVELS ARE R.F.S.
 3. DIMENSIONS OF WORK ARE TO FACE UNLESS OTHERWISE SPECIFIED.
 4. ALL WORK TO BE IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARDS OF THE HONG KONG CONSTRUCTION AUTHORITY.

LEGEND:

- PROPOSED PLANT SITE BOUNDARY
 - PROPOSED LEVEL
 - EVA
 - 4.5KG COFFEE
 - HOSE REEL
 - STREET FIRE HYDRANT
 - 2 NOS. OF SAND BUCKET
 - AGRICULTURAL IMPLEMENT (UNLESS OTHERWISE SPECIFIED, PROVIDE ONE)
- PARKING REQUIREMENTS:
 1. 1 NO. BAY FOR LIGHTING AND 1 NO. BAY FOR
 2. 3 NOS. BAY FOR LIGHTING AND 1 NO. BAY FOR
 3. 1 NO. BAY FOR LIGHTING AND 1 NO. BAY FOR
 4. 1 NO. BAY FOR LIGHTING AND 1 NO. BAY FOR
 5. 1 NO. BAY FOR LIGHTING AND 1 NO. BAY FOR
 6. 1 NO. BAY FOR LIGHTING AND 1 NO. BAY FOR
 7. 1 NO. BAY FOR LIGHTING AND 1 NO. BAY FOR



LEGEND :

- L/UL FOR ASPHALT
- L/UL FOR OTHER MATERIALS
- PARKING SPACE FOR PRIVATE CAR
- PARKING SPACE FOR DISABLES

Note: This plan has been prepared on a preliminary basis under the authority of the Planning Commission and is subject to the approval of the Planning Commission. It is not to be used for any other purpose without the prior written consent of the Planning Commission.

Plan Approved
WONG Wing-chi, Vickie
 Senior Building Surveyor
 for BUILDING AUTHORITY
 24 MAY 2022

REV	DESCRIPTION	DATE	BY	CHECKED
01/25	Initial	2022	WVC	WVC
02/25	Revised	2022	WVC	WVC
03/25	Revised	2022	WVC	WVC
04/25	Revised	2022	WVC	WVC
05/25	Revised	2022	WVC	WVC

HONGKONG UNITED DOCKYARDS LIMITED

ASPHALT PLANT IN TYTL 108 RP

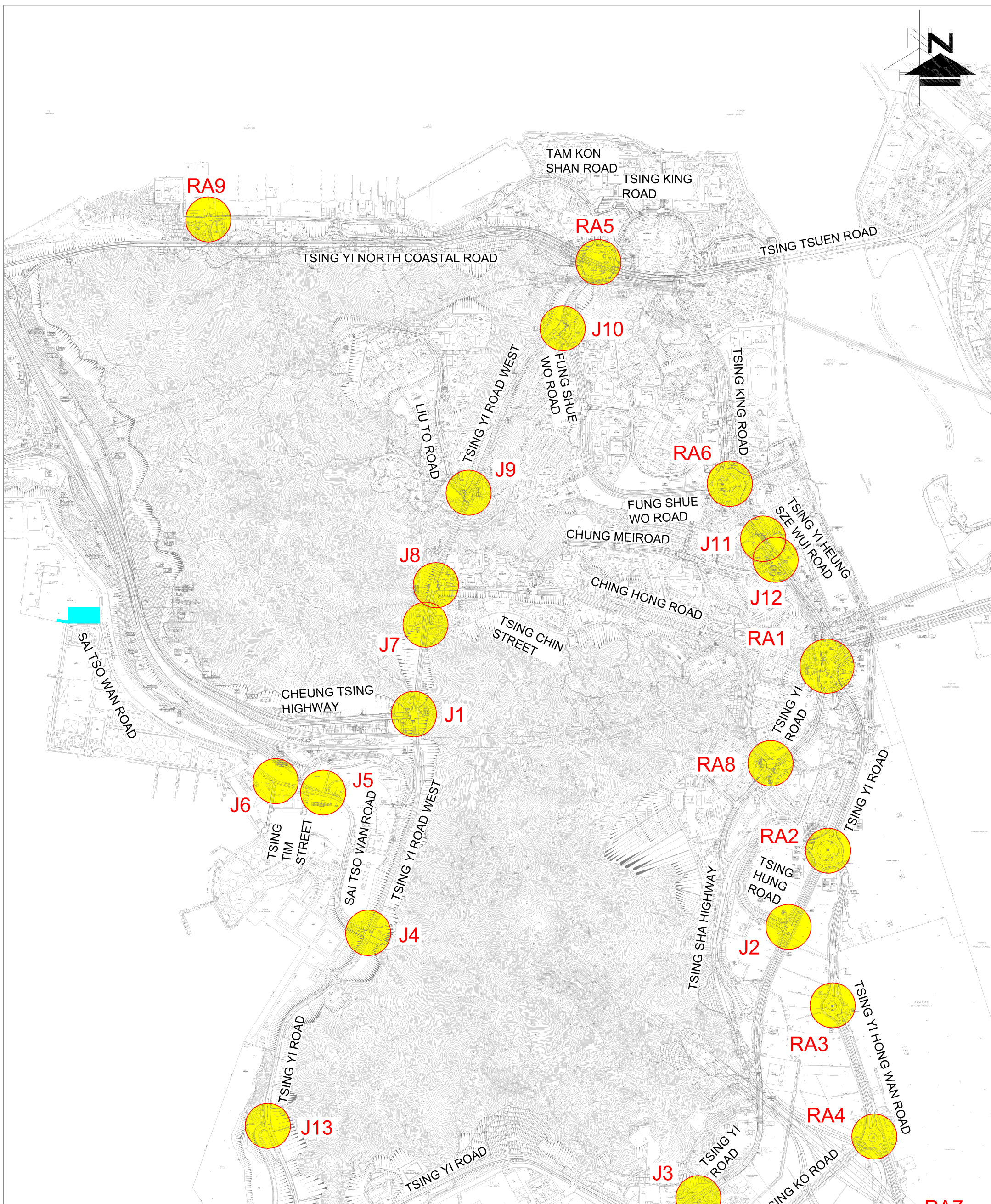
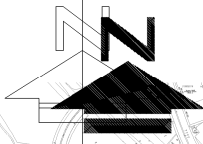
MASTER LAYOUT PLAN

HA747A/GG2(D)

MAURICE LEE & ASSOCIATES LIMITED
 李發理建築工程師事務所有限公司

FIGURE NO.:	2.1	PROJECT TITLE:	Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP
PROJECT NO.:	23125HK	DRAWING TITLE:	APPROVED MASTER LAYOUT PLAN
SCALE: N.T.S. @A4	DATE: 21 MAY 2024		





LEGEND :



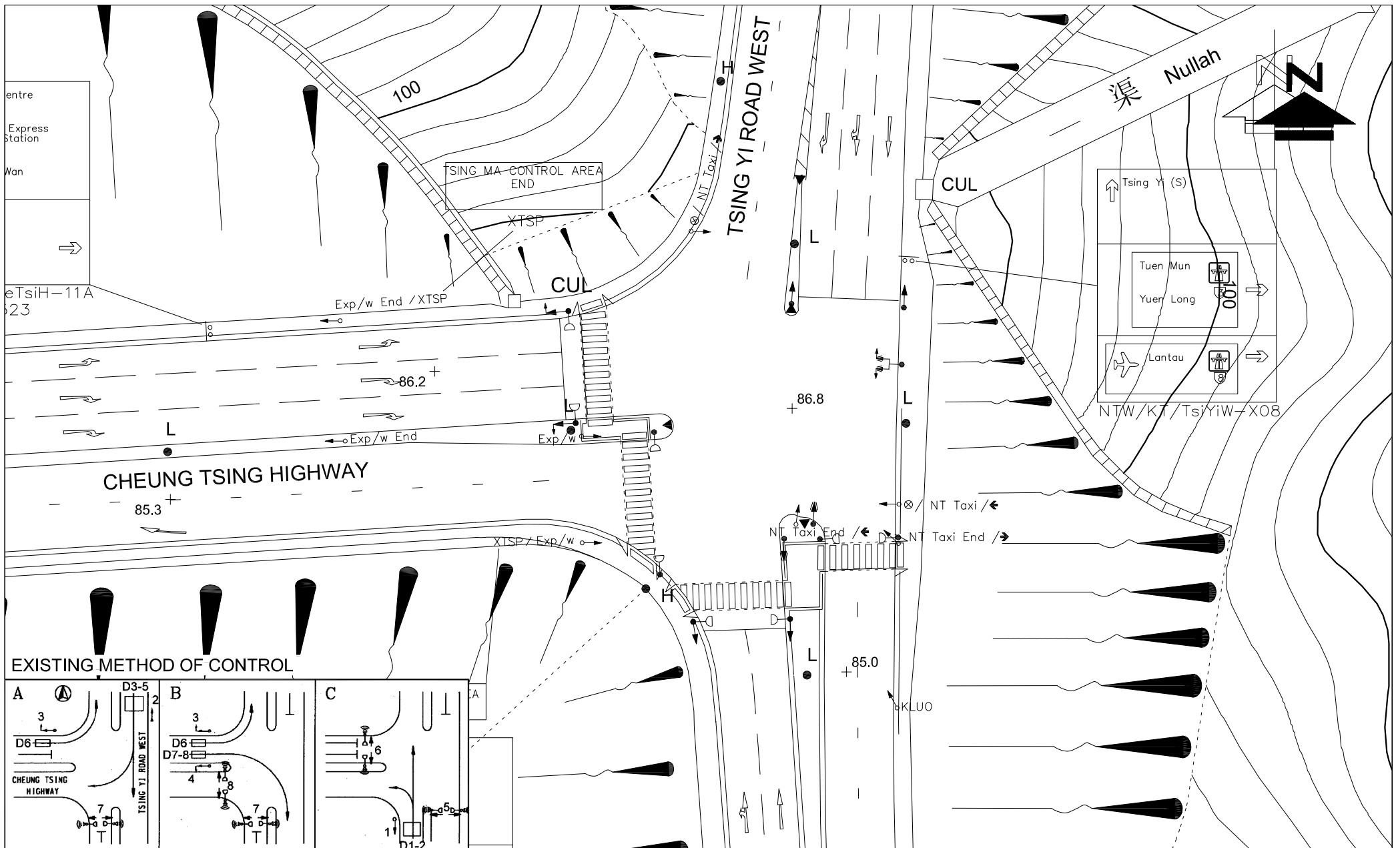
SUBJECT SITE

FIGURE NO.:	3.1
PROJECT NO.:	23125HK
SCALE:	DATE:
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PROJECT TITLE:	Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP
DRAWING TITLE:	CRITICAL JUNCTION



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EXISTING METHOD OF CONTROL

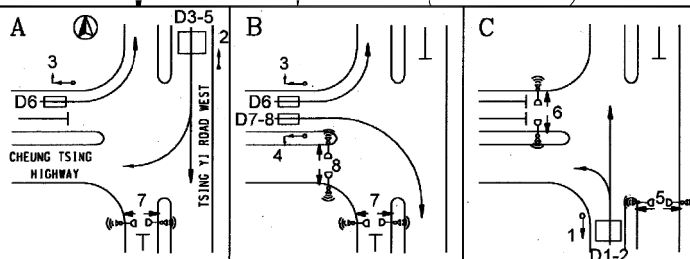



FIGURE NO.:		PROJECT TITLE:	
3.2		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		DRAWING TITLE:	
23125HK		EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / CHEUNG TSING HIGHWAY (J1)	
SCALE:	DATE:	 CTA Consultants Limited 志達顧問有限公司	
1 : 500 @A4	21 MAY 2024		

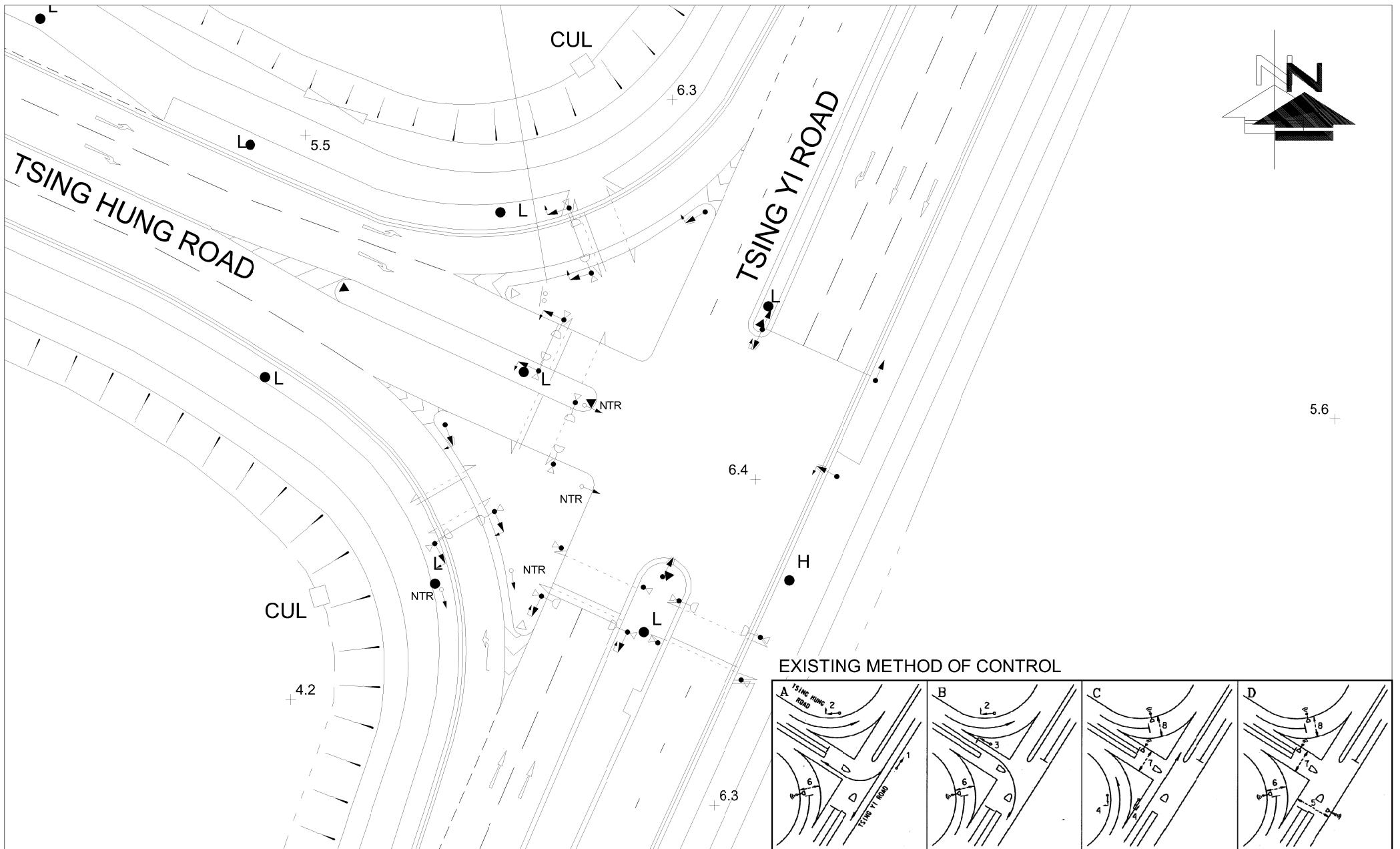


FIGURE NO.: 3.3		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING HUNG ROAD / TSING YI ROAD (J2)
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 21 MAY 2024	



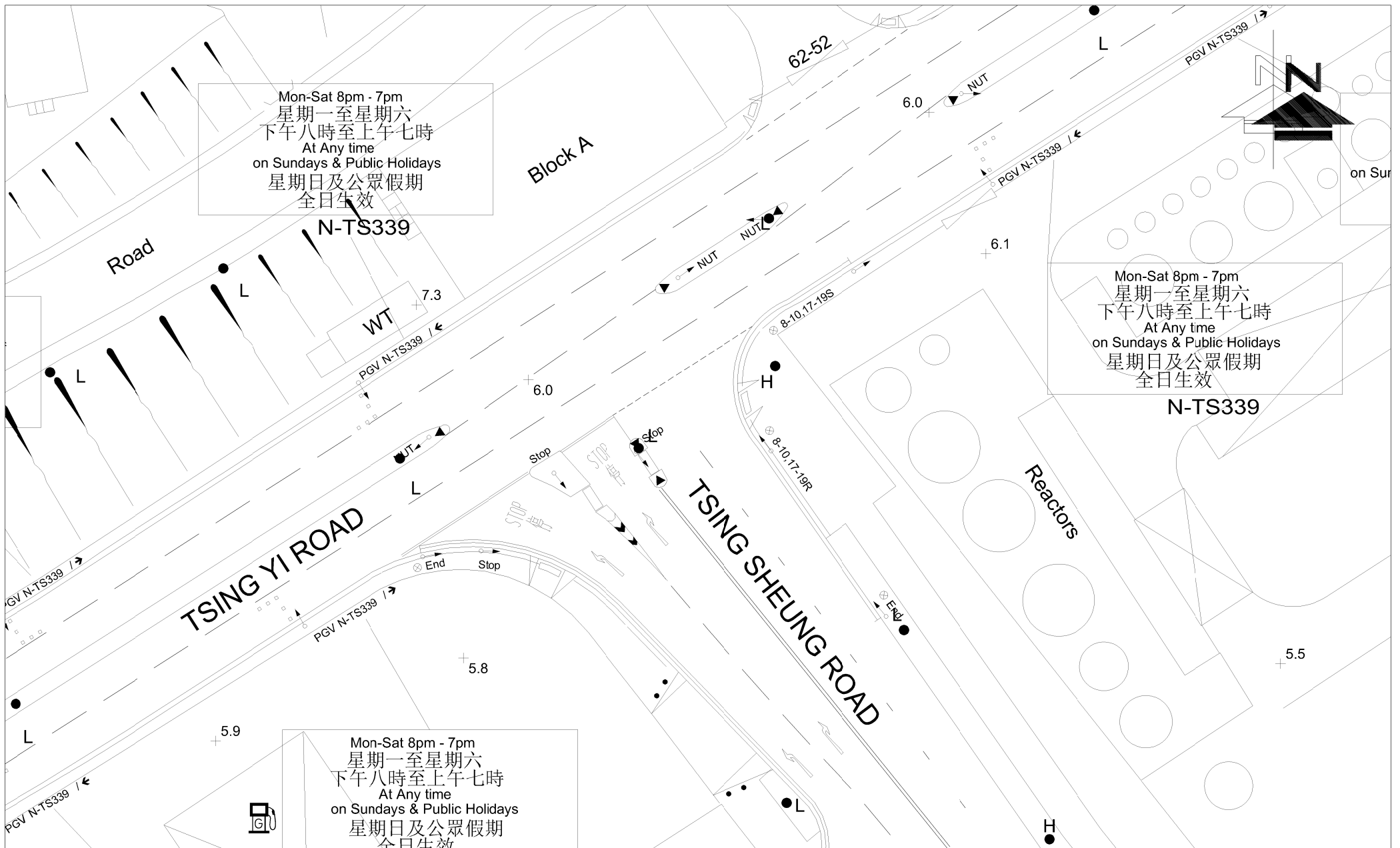


FIGURE NO.:		3.4		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING SHEUNG ROAD / TSING YI ROAD (J3)	
SCALE:	DATE:						
1 : 500 (IN A4 SIZE)	21 MAY 2024						



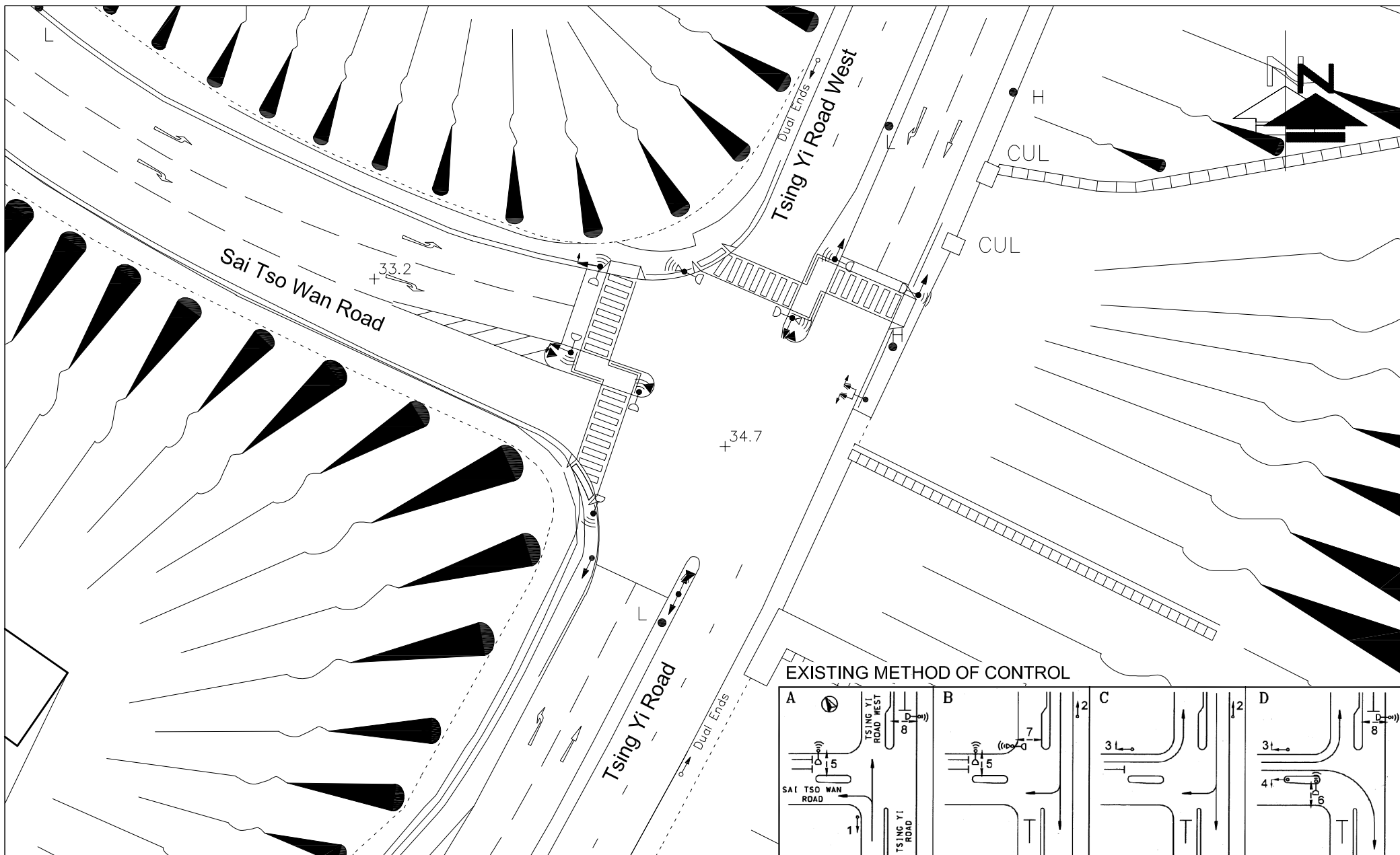

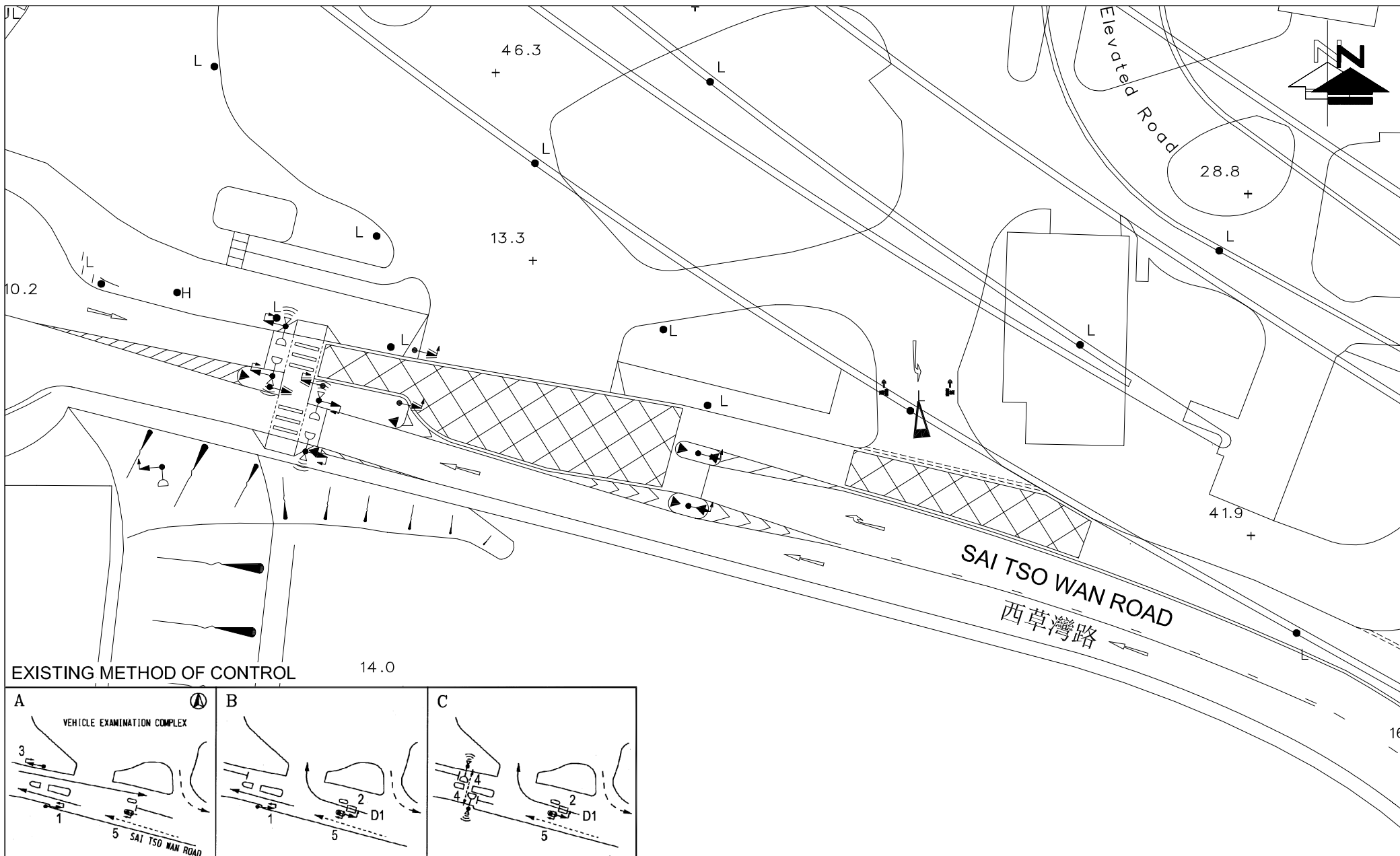


FIGURE NO.: 3.5		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SAI TSO WAN ROAD / TSING YI ROAD WEST / TSING YI ROAD (J4)	
SCALE: 1 : 500 @A4	DATE: 21 MAY 2024		



EXISTING METHOD OF CONTROL

14.0

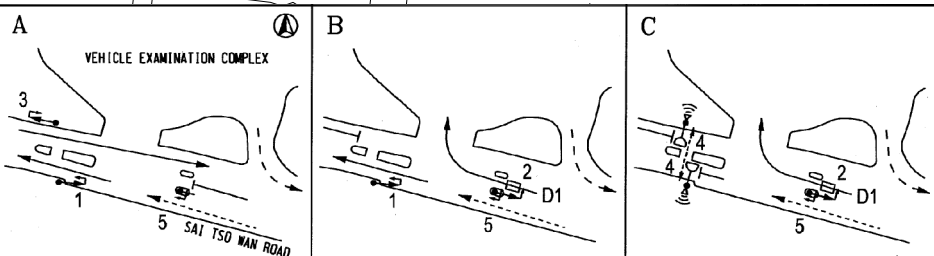


FIGURE NO.:
3.6

PROJECT TITLE:
Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP

PROJECT NO.:
23125HK

DRAWING TITLE:
EXISTING JUNCTION LAYOUT OF ENTRANCE OF VEC / SAI TSO ROAD (J5)

SCALE:
1 : 500 @A4

DATE:
21 MAY 2024



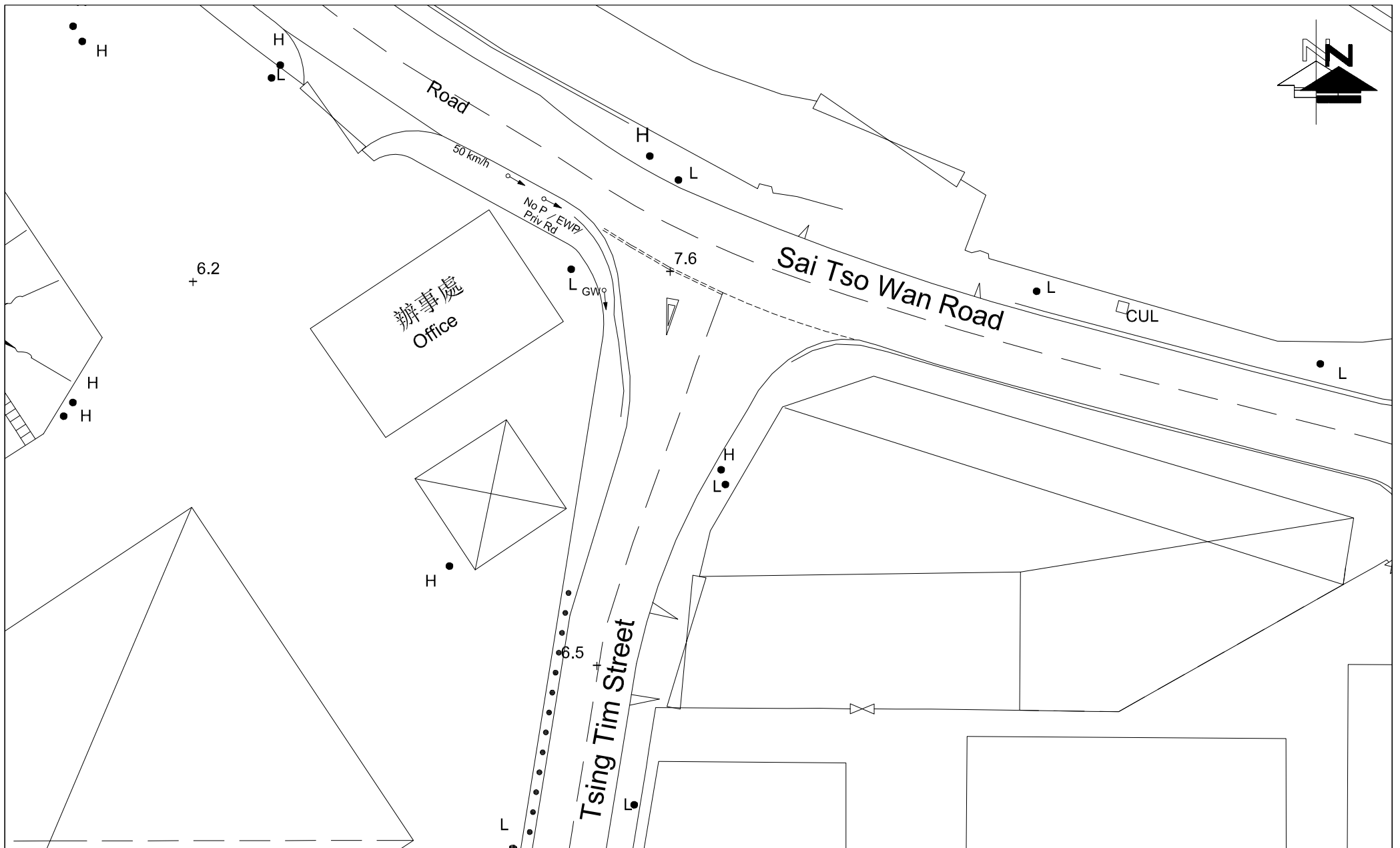



FIGURE NO.: 3.7		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING TIM STREET / SAI TSO WAN ROAD (J6)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 21 MAY 2024		



FIGURE NO.: 3.8		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF YI ROAD WEST / TSING CHIN STREET (J7)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 21 MAY 2024		

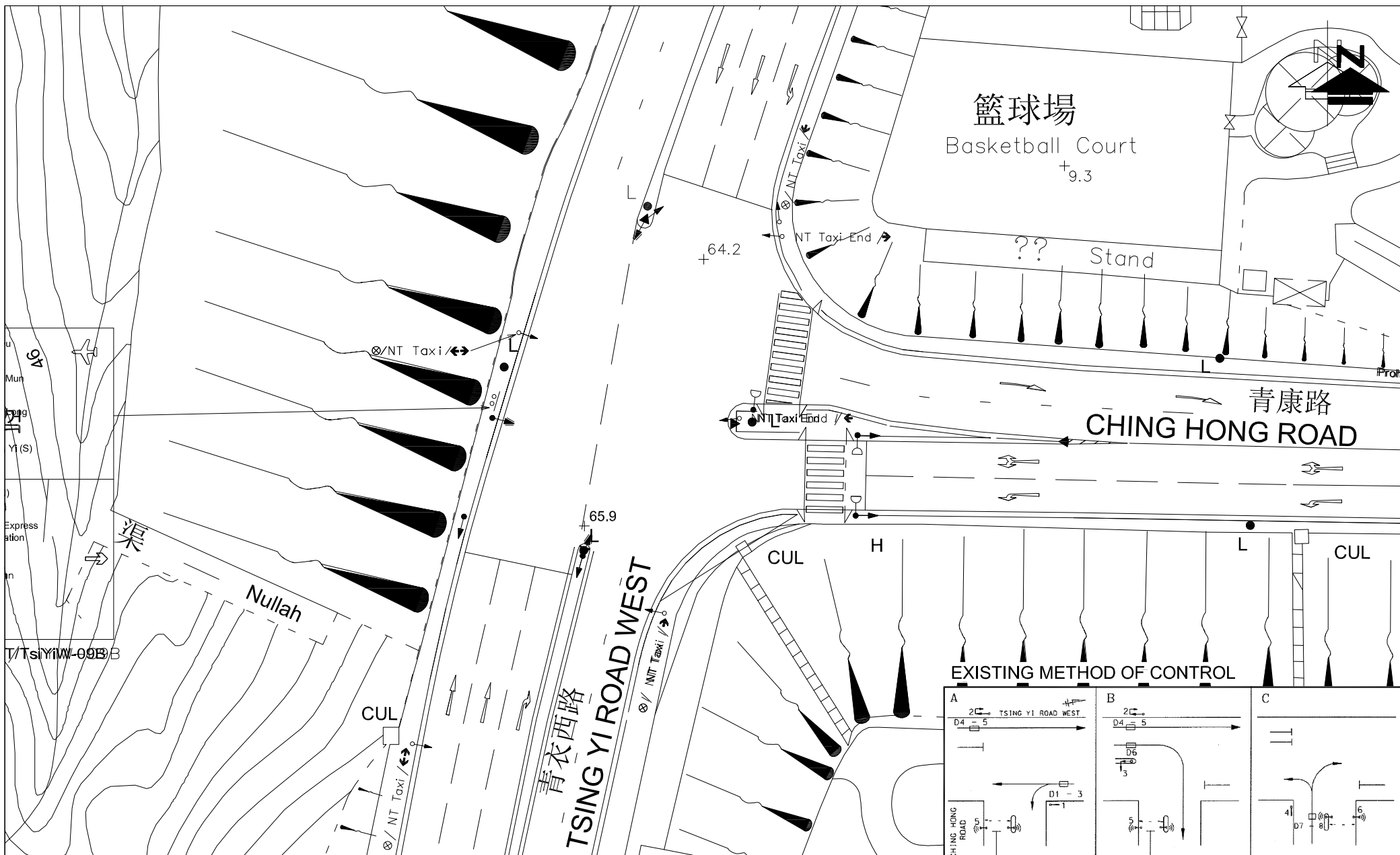



FIGURE NO.: 3.9		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / TSING HONG ROAD (J8)	
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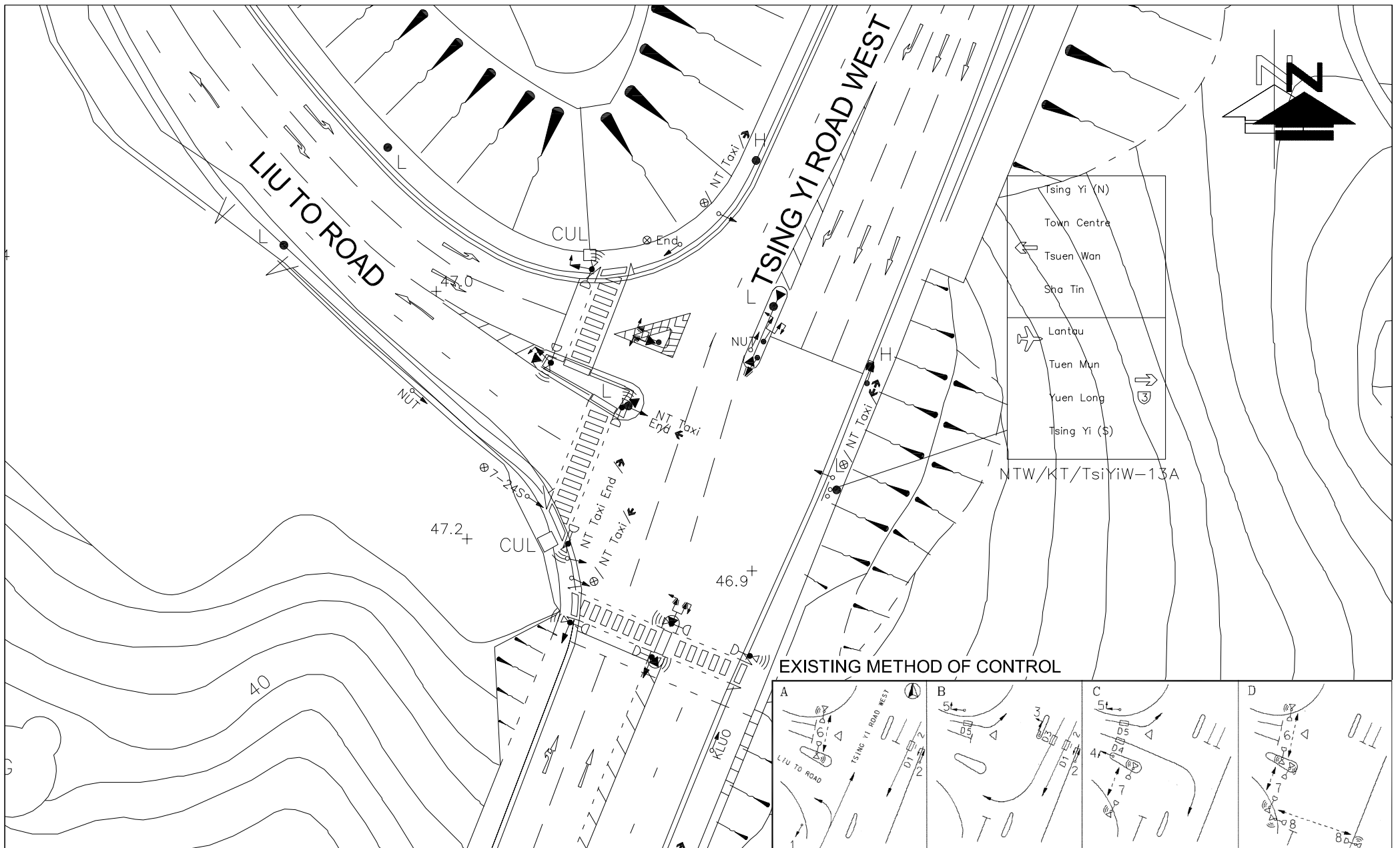



FIGURE NO.: 3.10		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / LIU TO ROAD (J9)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 21 MAY 2024		

EXISTING METHOD OF CONTROL

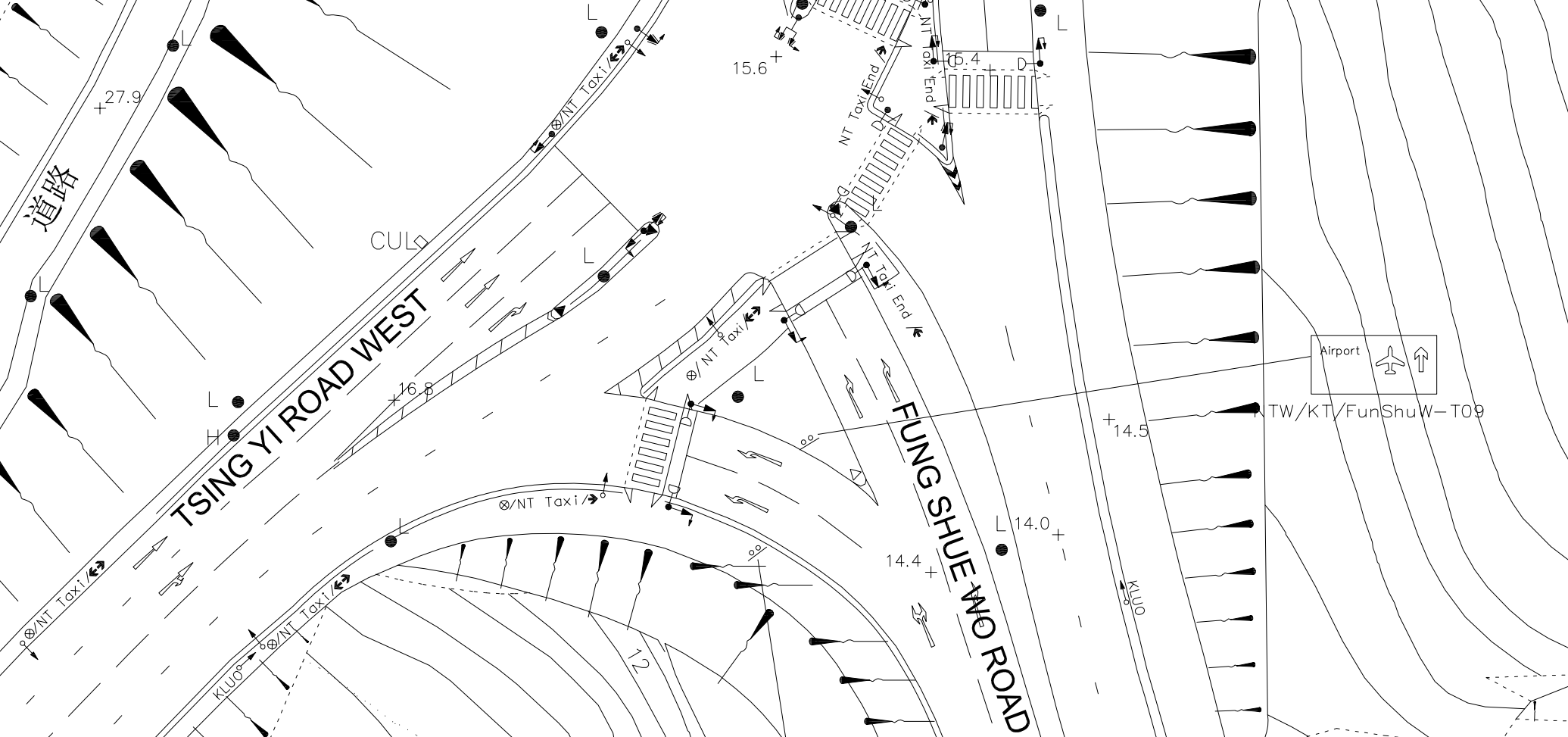
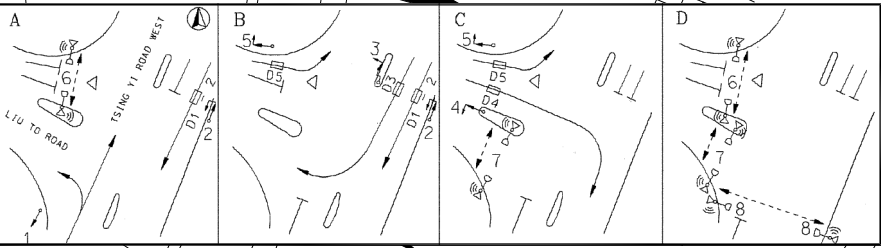
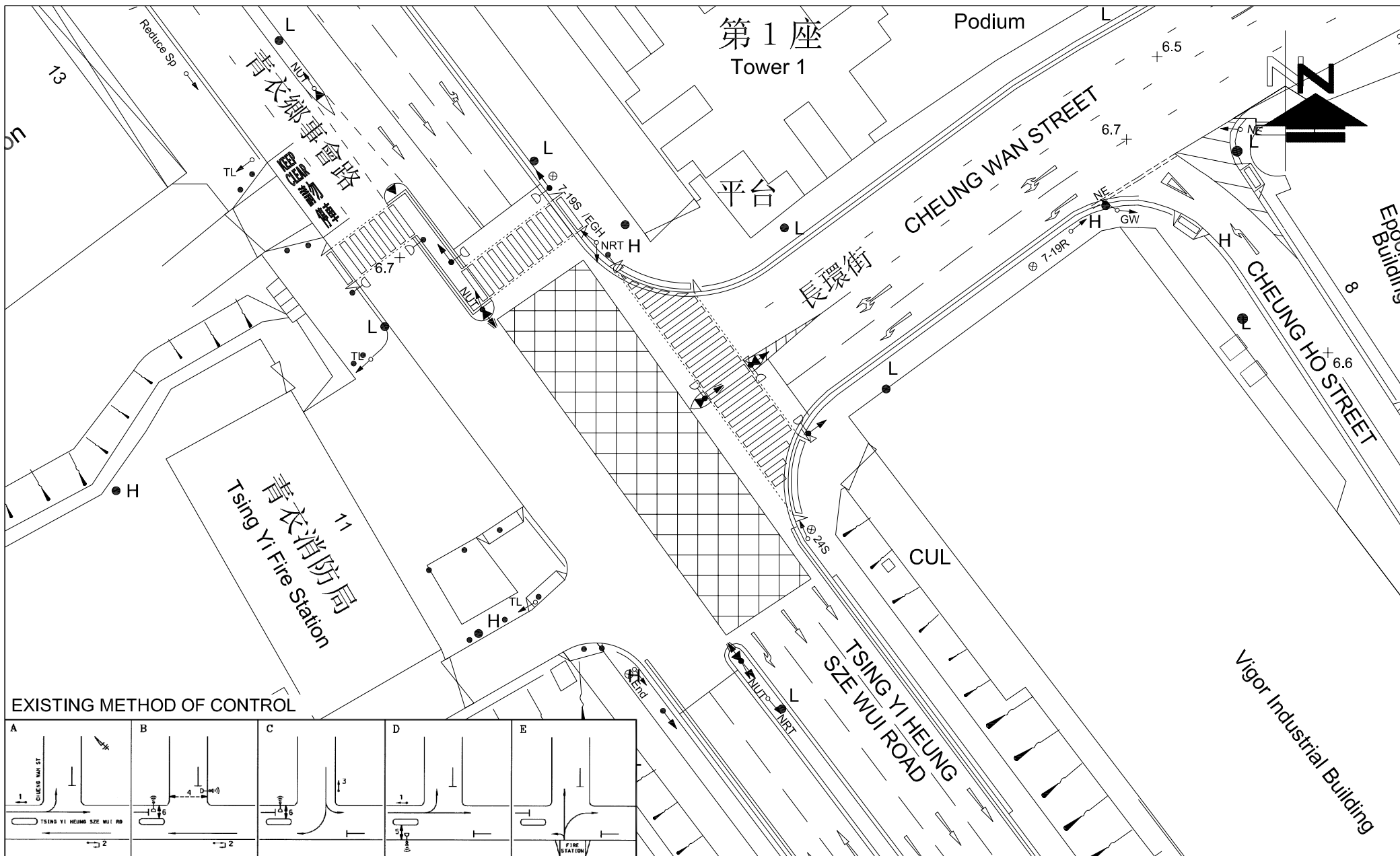


FIGURE NO.:		3.11		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / FUNG SHUE WO ROAD (J10)	
SCALE:		1 : 500		DATE:		21 MAY 2024	
(IN A4 SIZE)							





EXISTING METHOD OF CONTROL

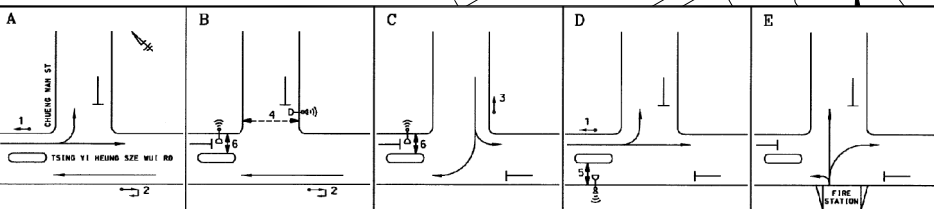


FIGURE NO.: 3.12		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI HEUNG SZE WUI ROAD / CHEUNG WAN STREET (J11)
SCALE: 1 : 500 @A4	DATE: 21 MAY 2024	



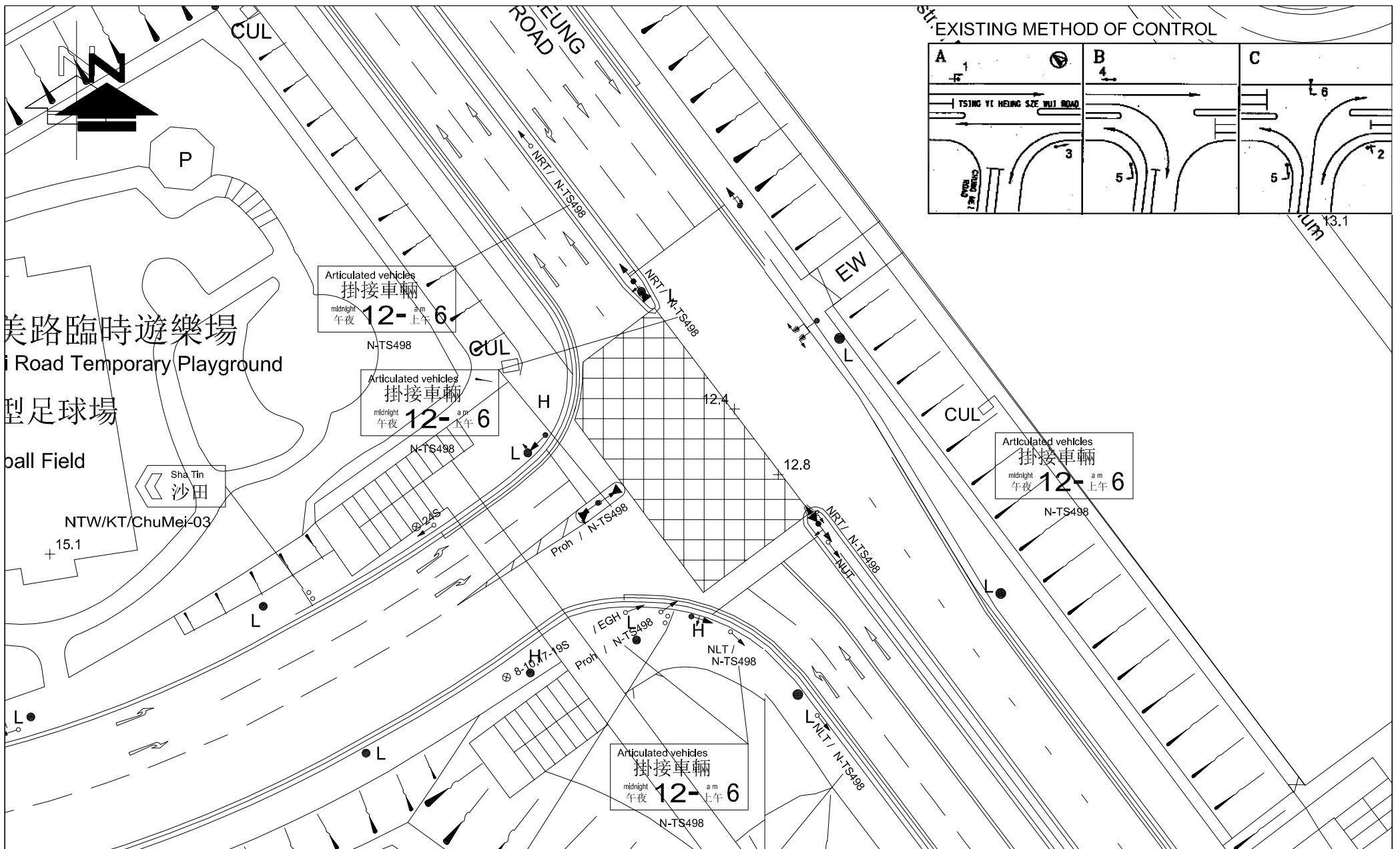



FIGURE NO.:		3.13		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:			
SCALE:				1 : 500 @A4			
DATE:				21 MAY 2024			
EXISTING JUNCTION LAYOUT OF TSING YI HEUNG SZE WUI ROAD / CHUNG MEI STREET (J12)							
 CTA Consultants Limited 志達顧問有限公司							

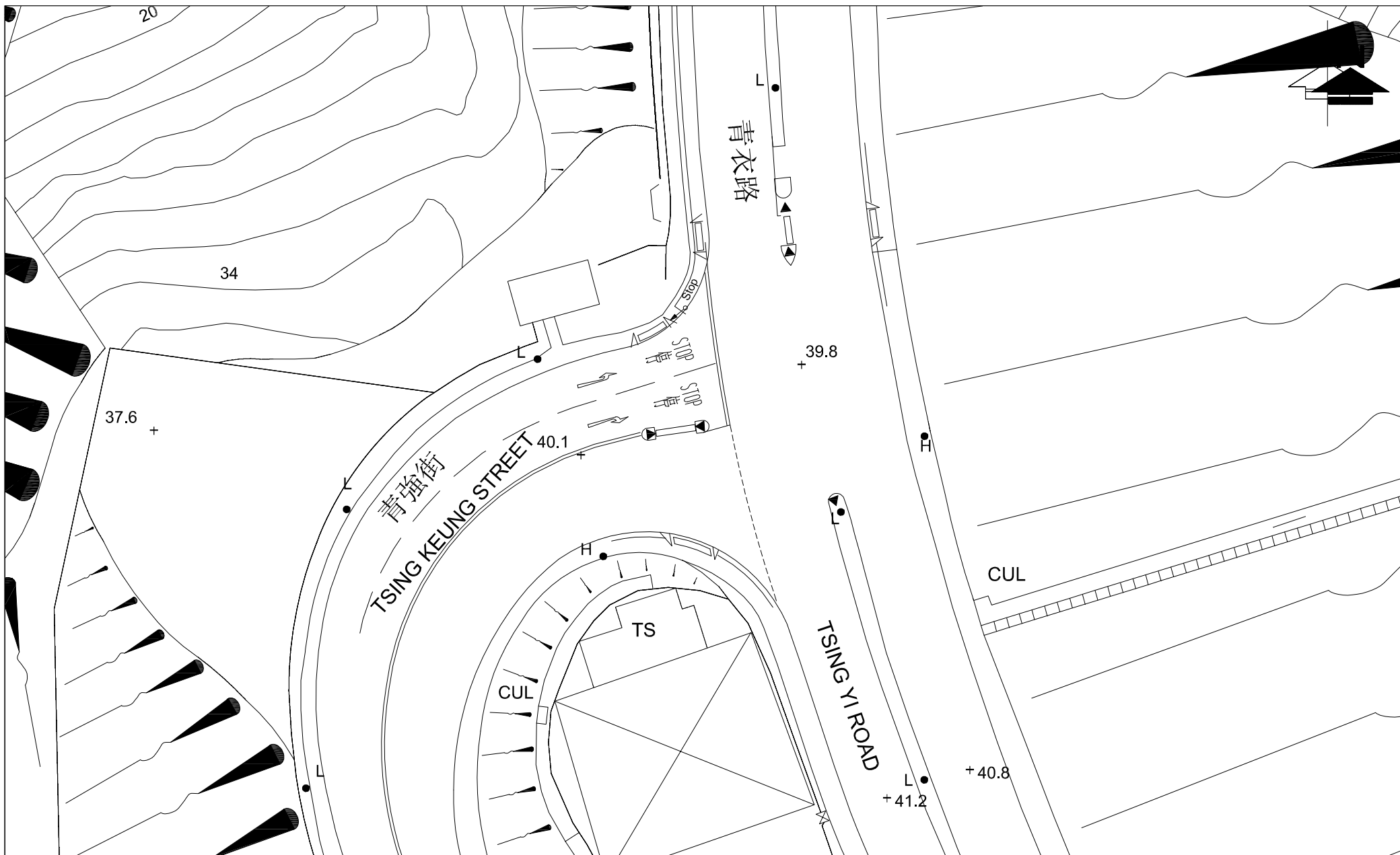



FIGURE NO.: 3.14		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YIP ROAD / TSING KEUNG STREET (J13)	
SCALE: 1 : 500 (IN A4 SIZE)	DATE: 21 MAY 2024		

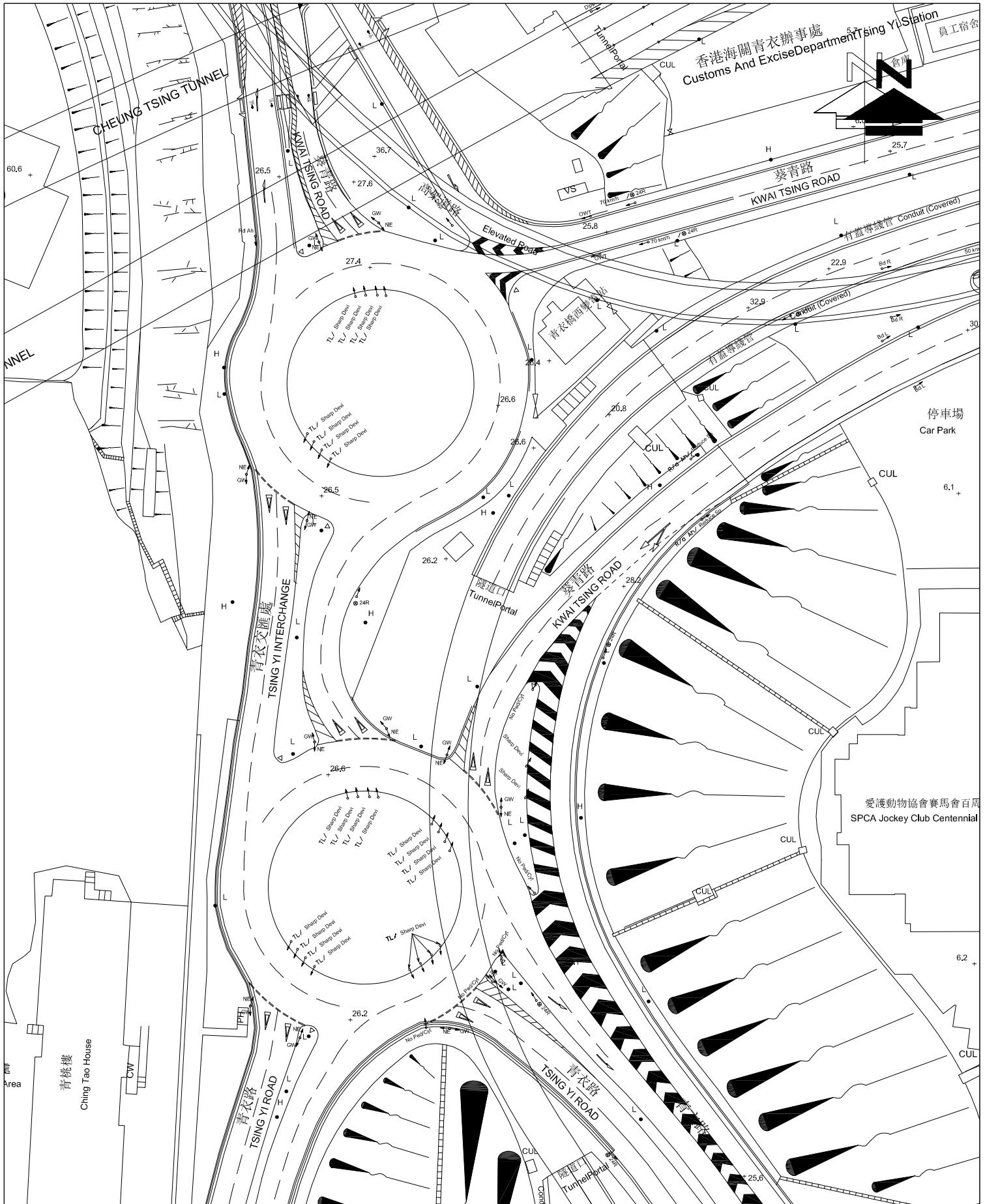



FIGURE NO.:		3.15		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:			
SCALE:		DATE:		EXISTING JUNCTION LAYOUT OF SING YI INTERCHANGE (RA1)			
1 : 1000 (IN A4 SIZE)		21 MAY 2024					
				 CTA Consultants Limited 志達顧問有限公司			

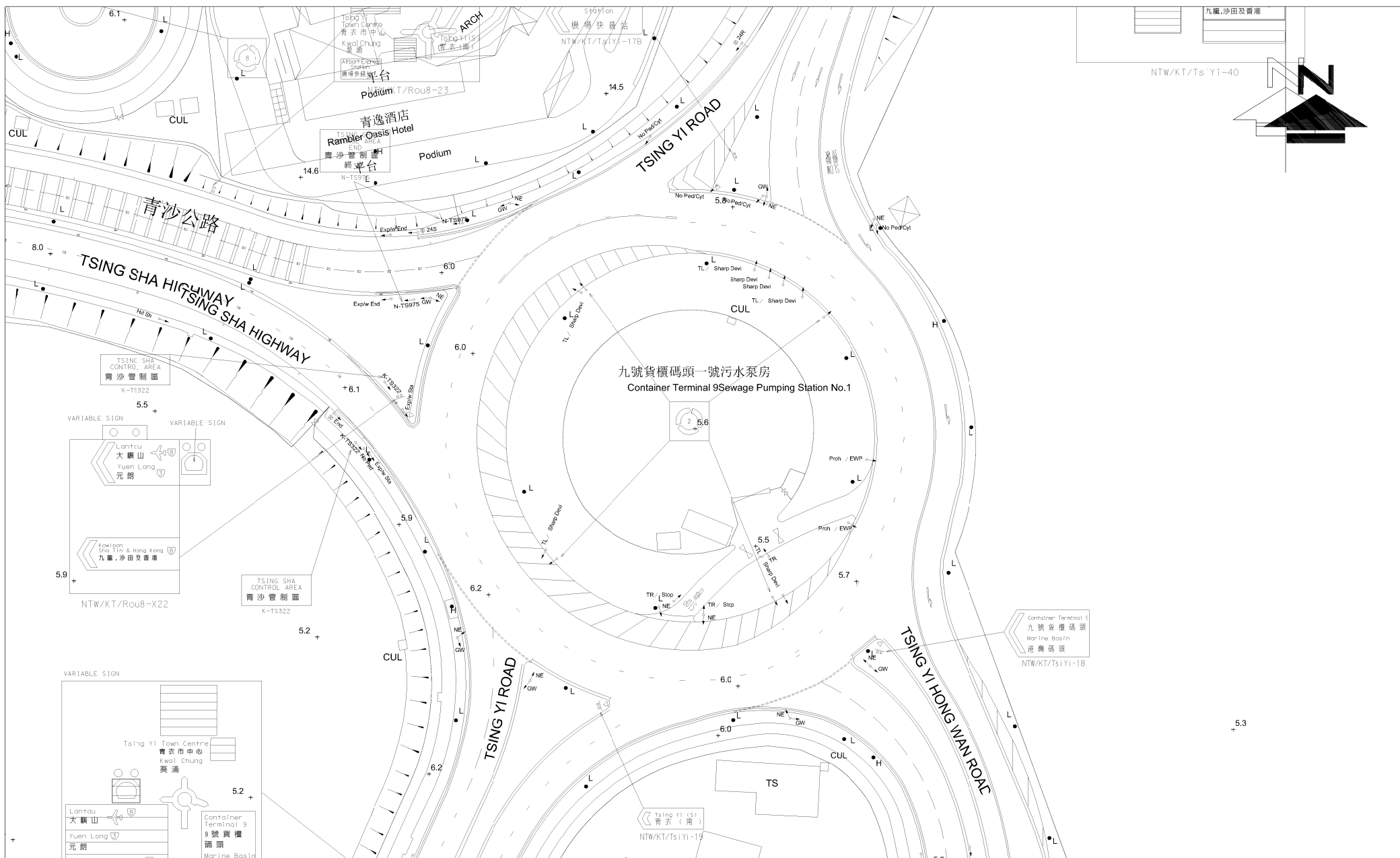


FIGURE NO.:		PROJECT TITLE:	
3.16		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		DRAWING TITLE:	
23125HK		EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / TSING YI HONG WAN ROAD / TSING SHA HIGHWAY (RA2)	
SCALE:	DATE:		
1 : 1000 (IN A4 SIZE)	21 MAY 2024		

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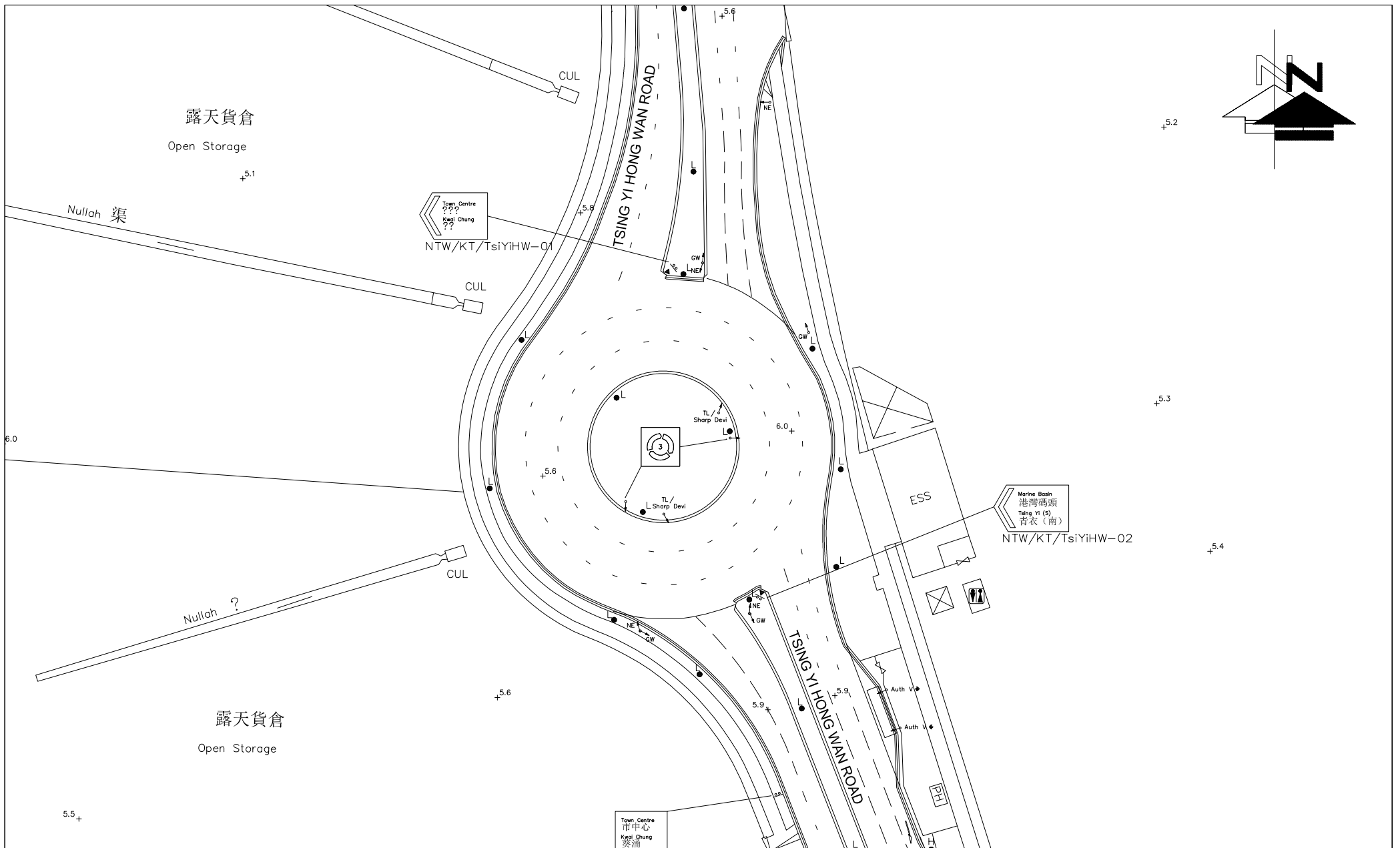



FIGURE NO.: 3.17		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI ROAD WEST / FUNG SHUE WO ROAD (RA3)	
SCALE: 1 : 1000 (IN A4 SIZE)	DATE: 21 MAY 2024		

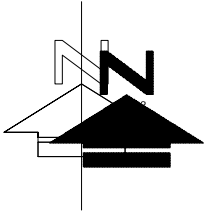
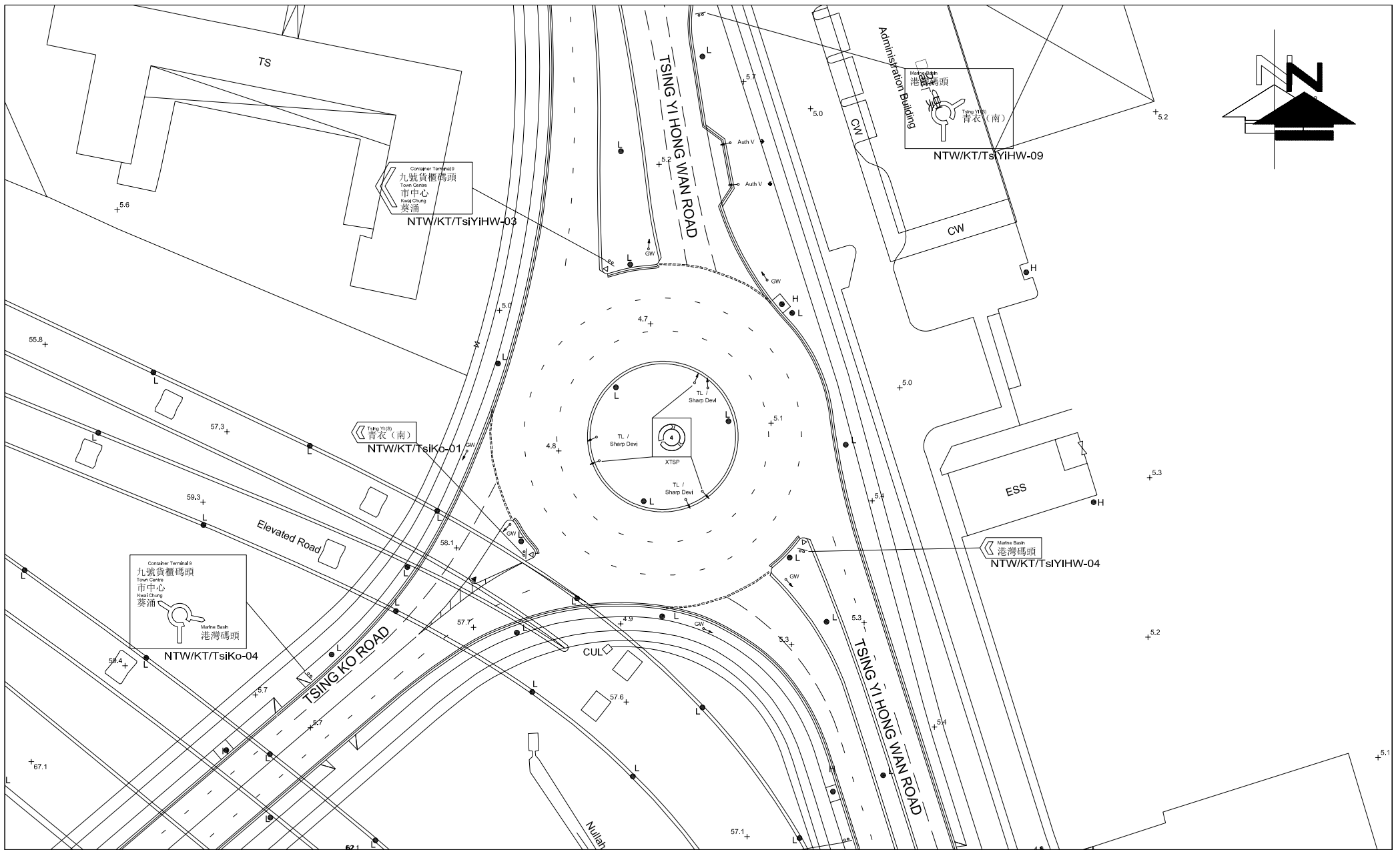


FIGURE NO.:		3.18		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING YI HONG WAN ROAD / TSING KO ROAD (RA4)	
SCALE:	DATE:						
1 : 1000 (IN A4 SIZE)	21 MAY 2024						



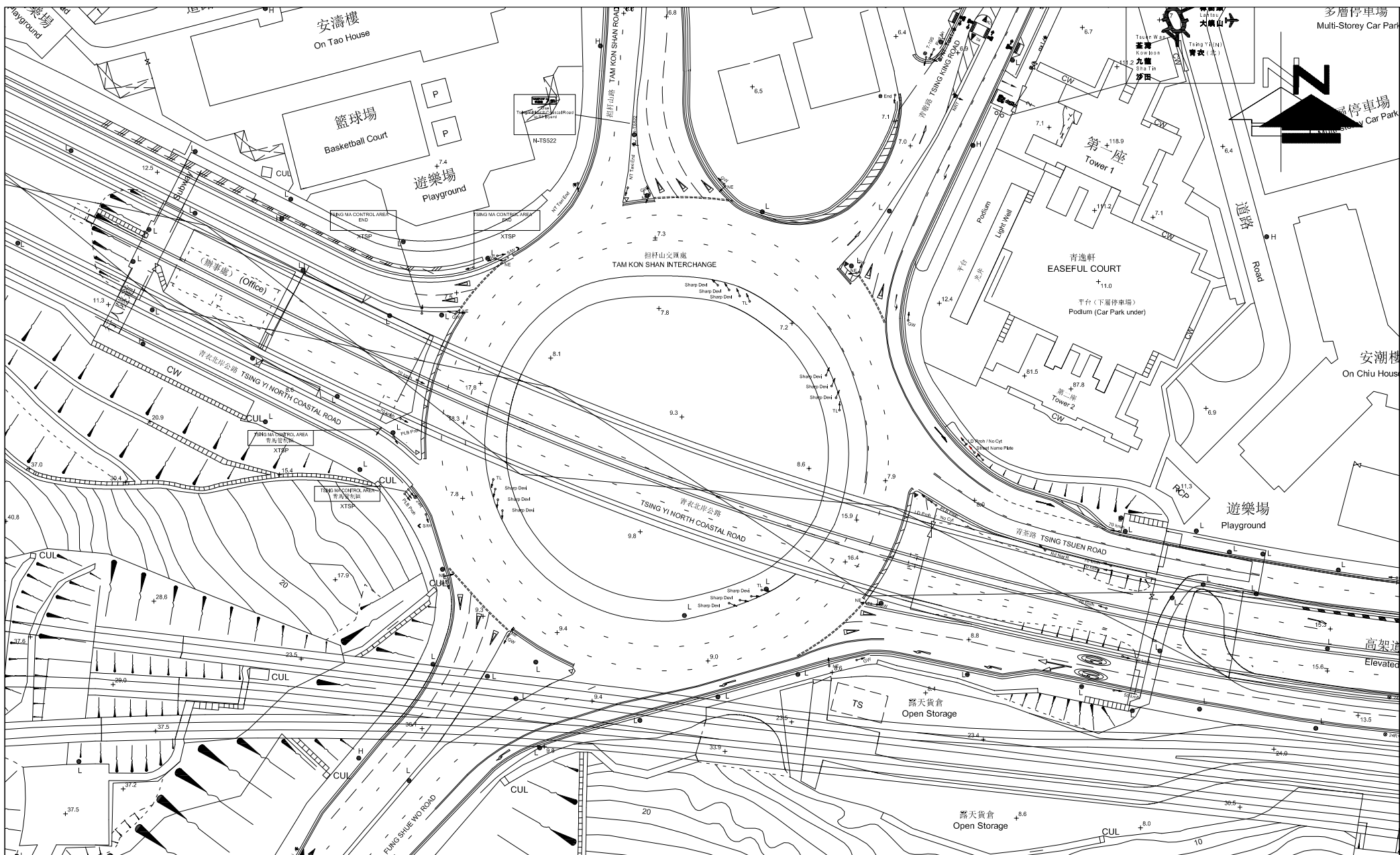


FIGURE NO.:		3.19		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TAM KON SHAN INTERCHANGE (RA5)	
SCALE:	DATE:						
1 : 1200 (IN A4 SIZE)	21 MAY 2024						

CTA Consultants Limited
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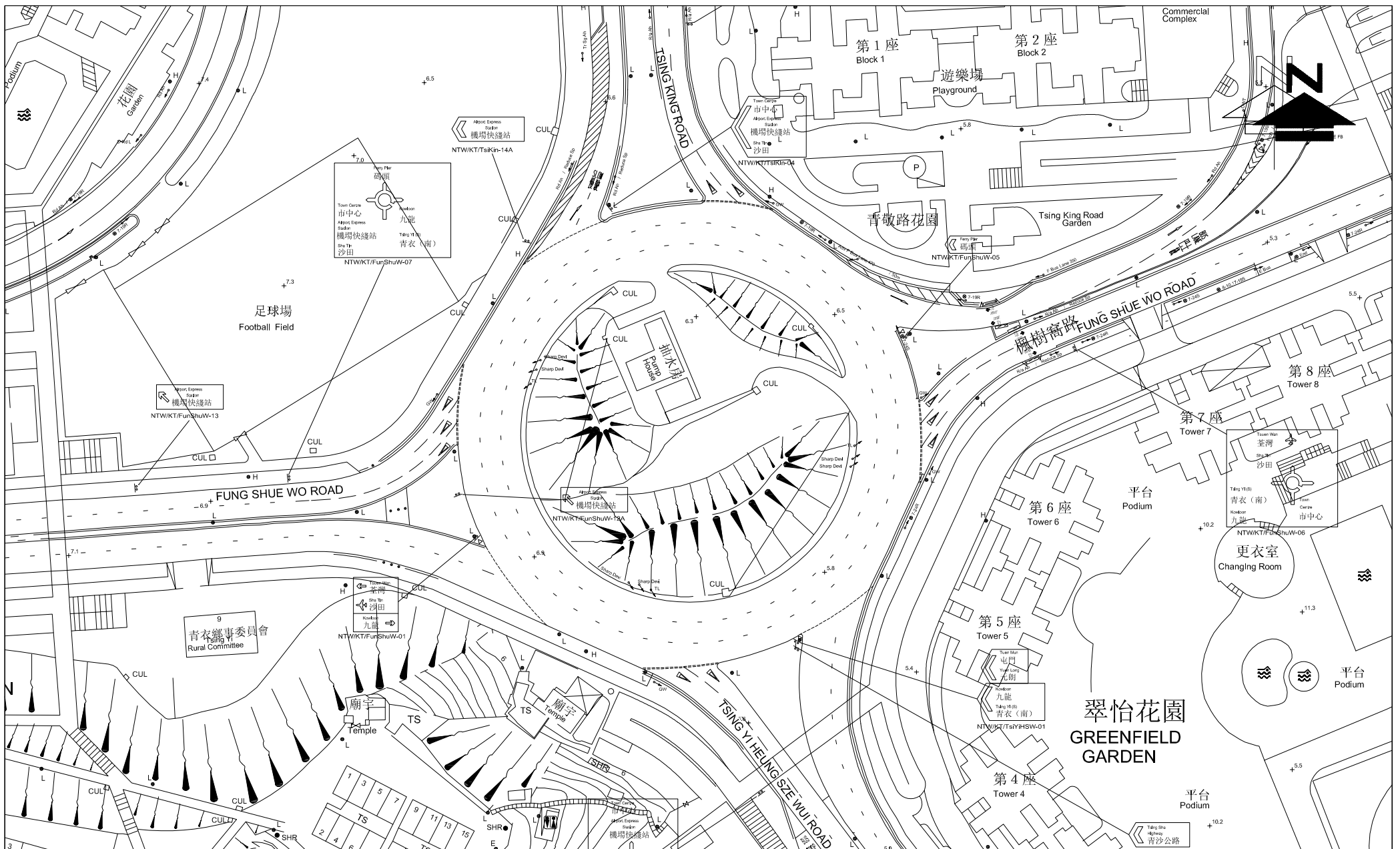



FIGURE NO.: 3.20		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING YI HEUNG SZE WUI ROAD / FUNG SHUE WO ROAD / TSING KING ROAD (RA6)	
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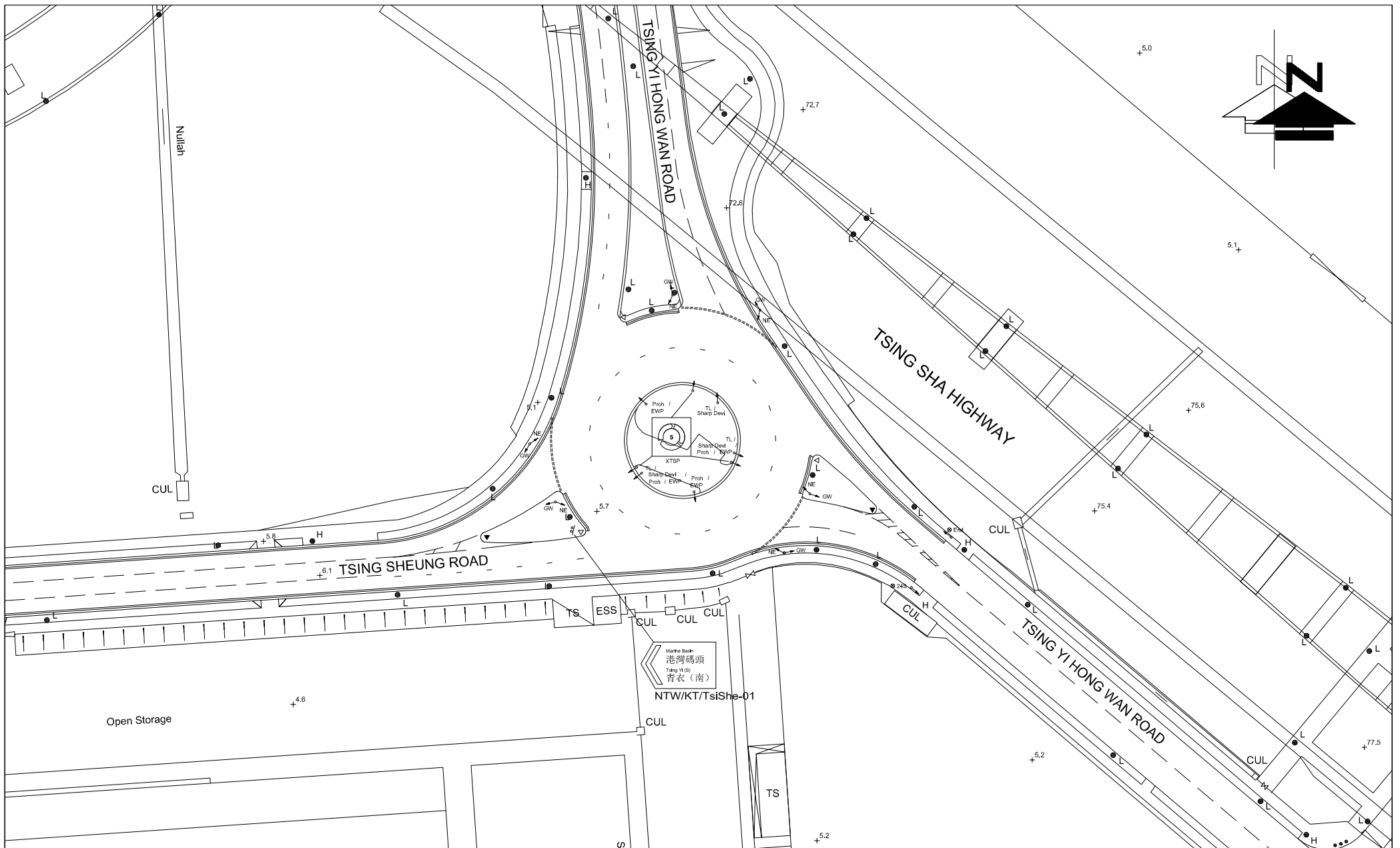


FIGURE NO.:		3.21		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING SHEUNG ROAD / TSING YI HONG WAN ROAD (RA7)	
SCALE:	DATE:						
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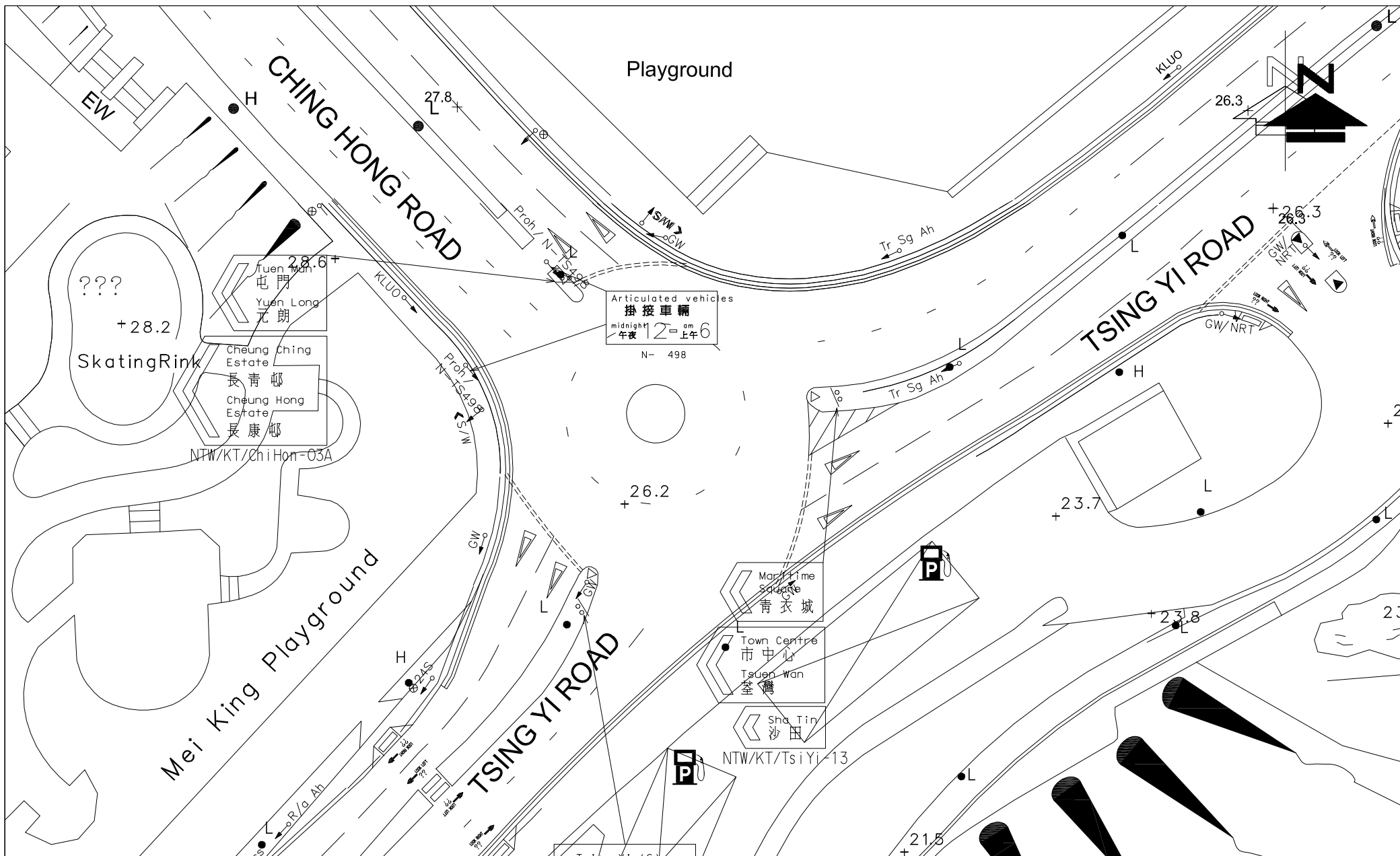


FIGURE NO.:		3.22		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TSING HONG ROAD / TSING YI ROAD (RA8)	
SCALE:	DATE:						
1 : 500 (IN A4 SIZE)	21 MAY 2024						



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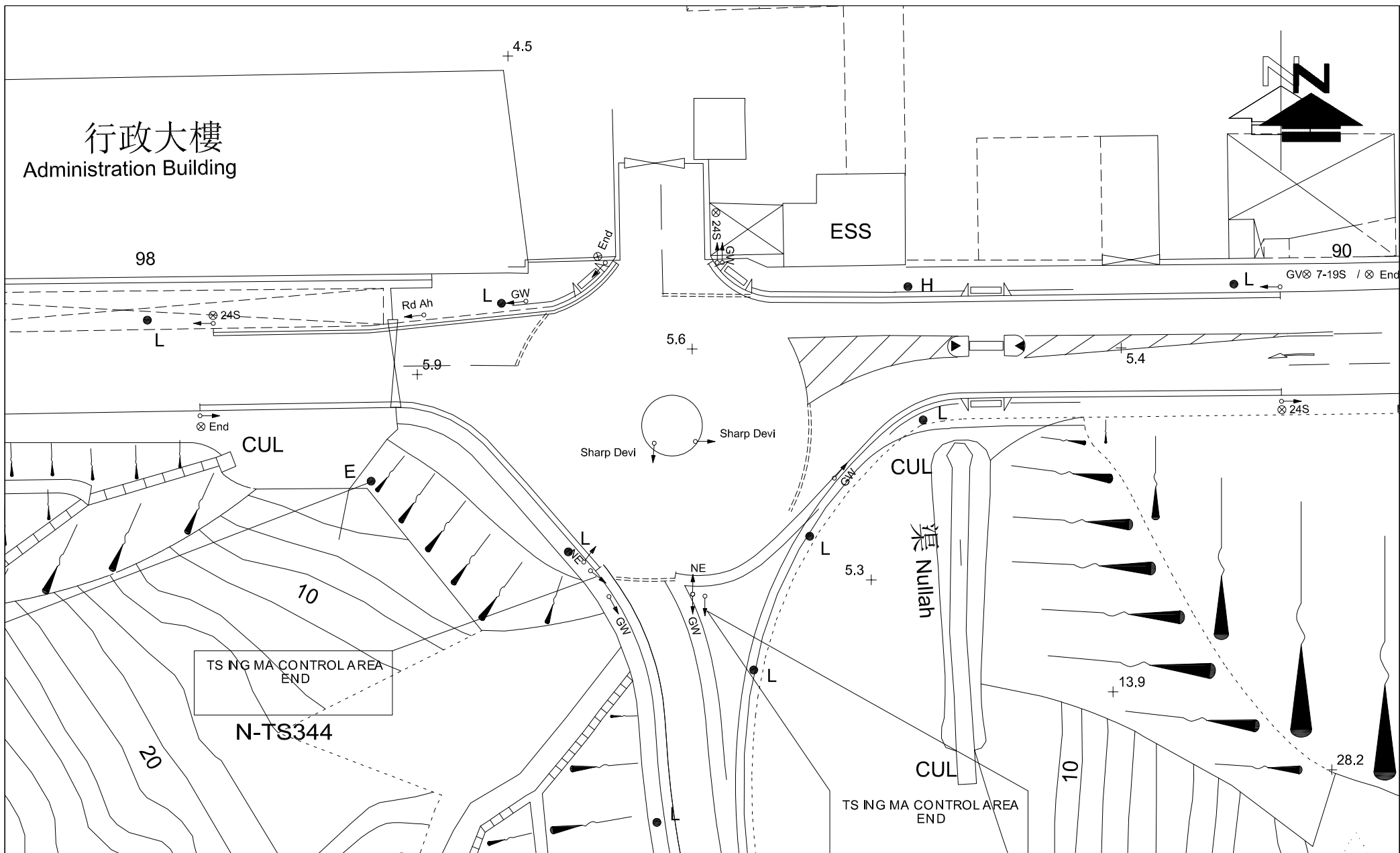


FIGURE NO.:		3.23		PROJECT TITLE:		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		23125HK		DRAWING TITLE:		EXISTING JUNCTION LAYOUT OF TAM KON SHAN ROAD / TSING YI NORTH COSTAL ROAD (RA9)	
SCALE:	DATE:						
1 : 500 (IN A4 SIZE)	21 MAY 2024						



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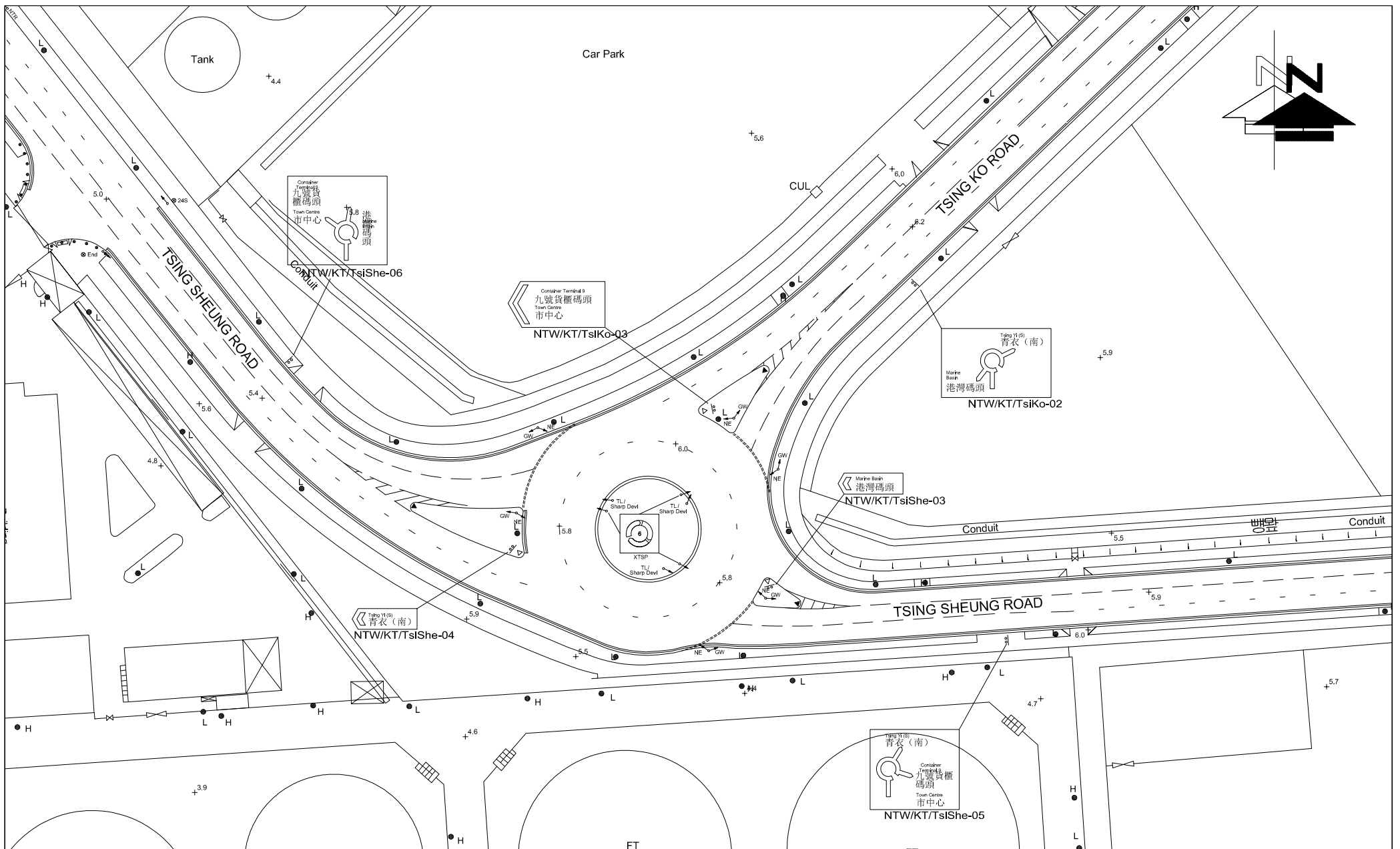



FIGURE NO.: 3.24		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	 CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23125HK		DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TSING KO ROAD / TSING SHEUNG ROAD (RA10)	
SCALE: 1 : 1000 (IN A4 SIZE)	DATE: 21 MAY 2024		

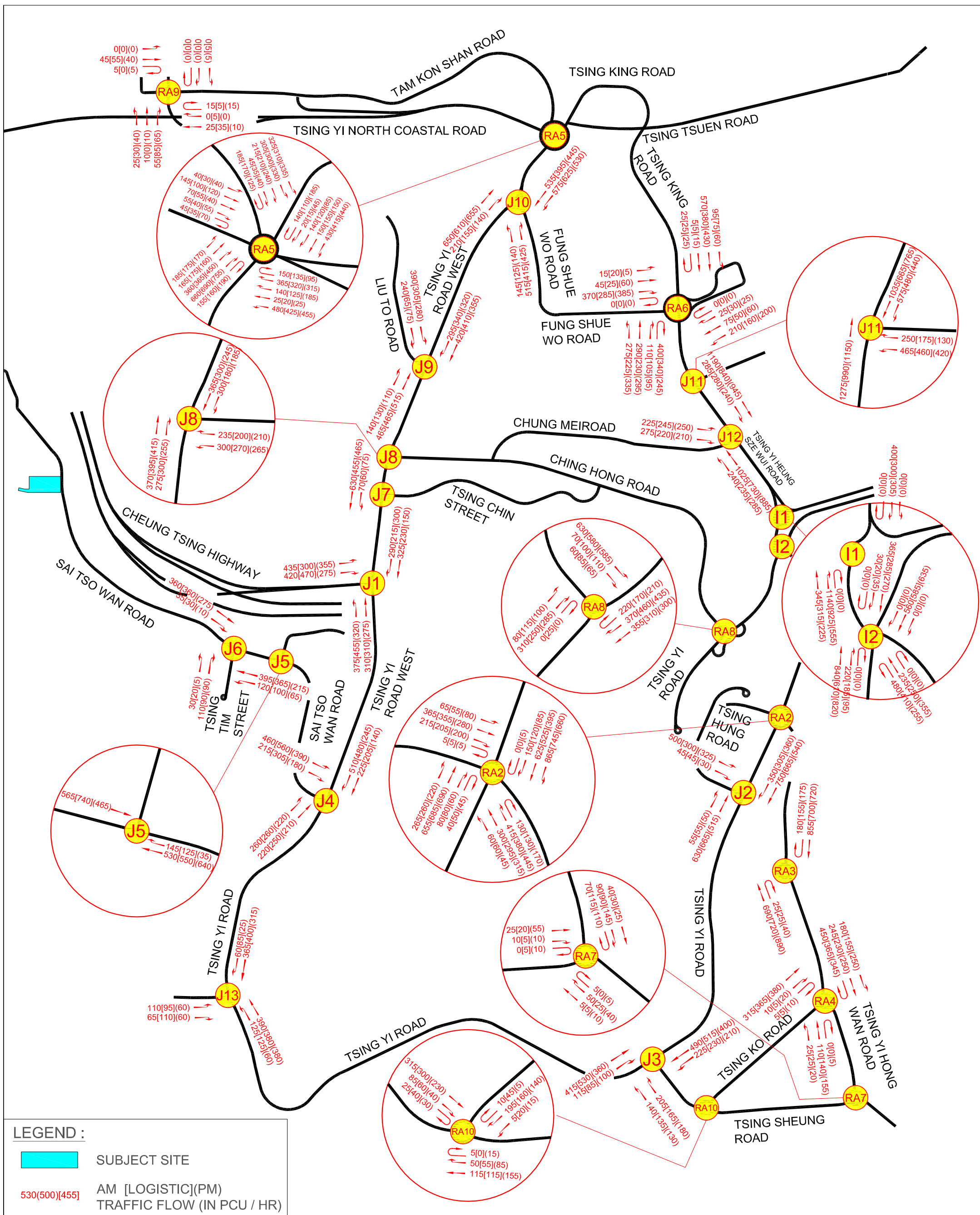
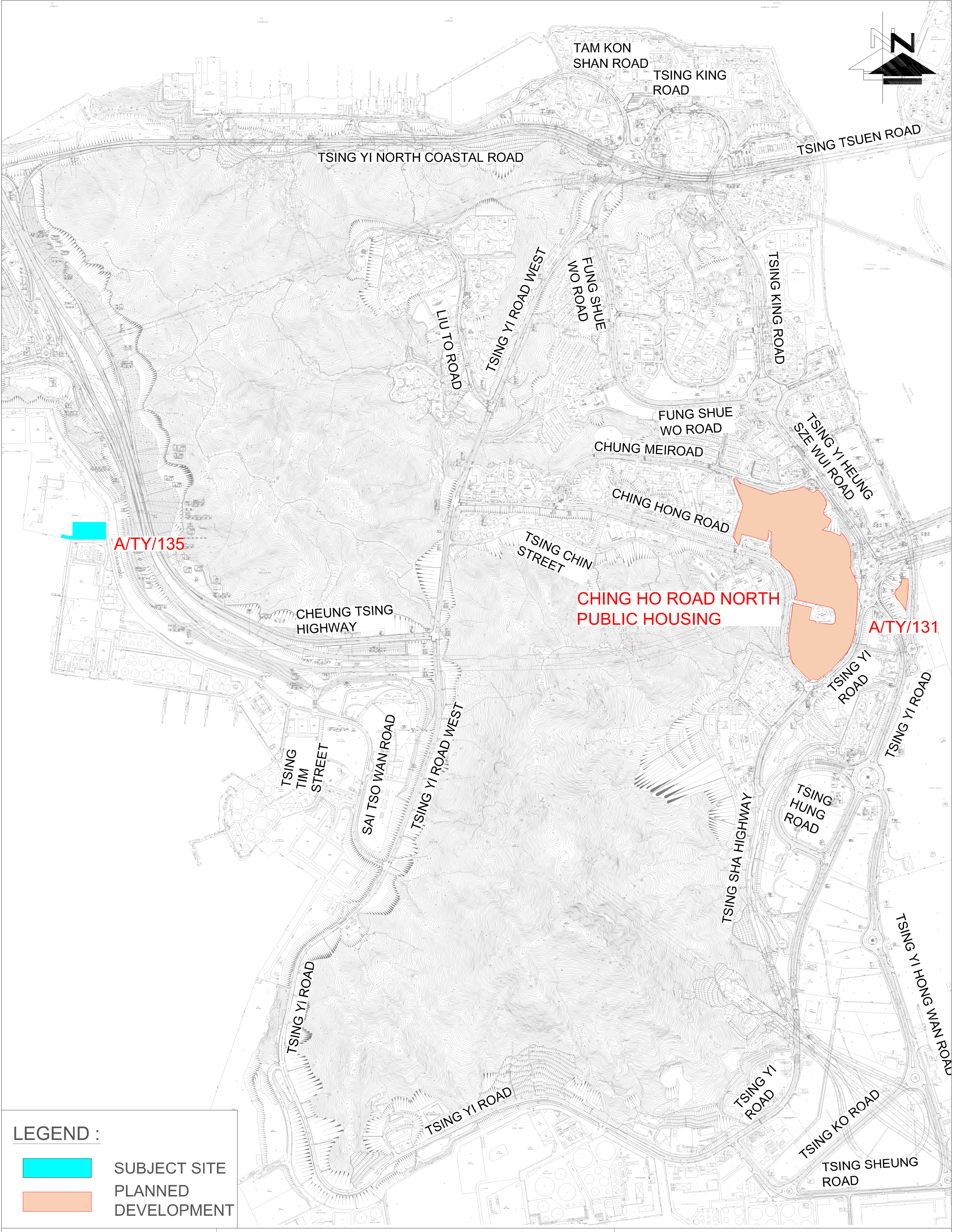
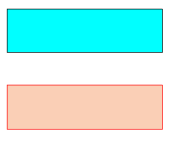


FIGURE NO.: 3.25		PROJECT TITLE: Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.: 23125HK		DRAWING TITLE: 2024 OBSERVED TRAFFIC FLOW	
SCALE: 1 : 12000 @ A3	DATE: 21 MAY 2024	CTA Consultants Limited 志達顧問有限公司	



LEGEND :

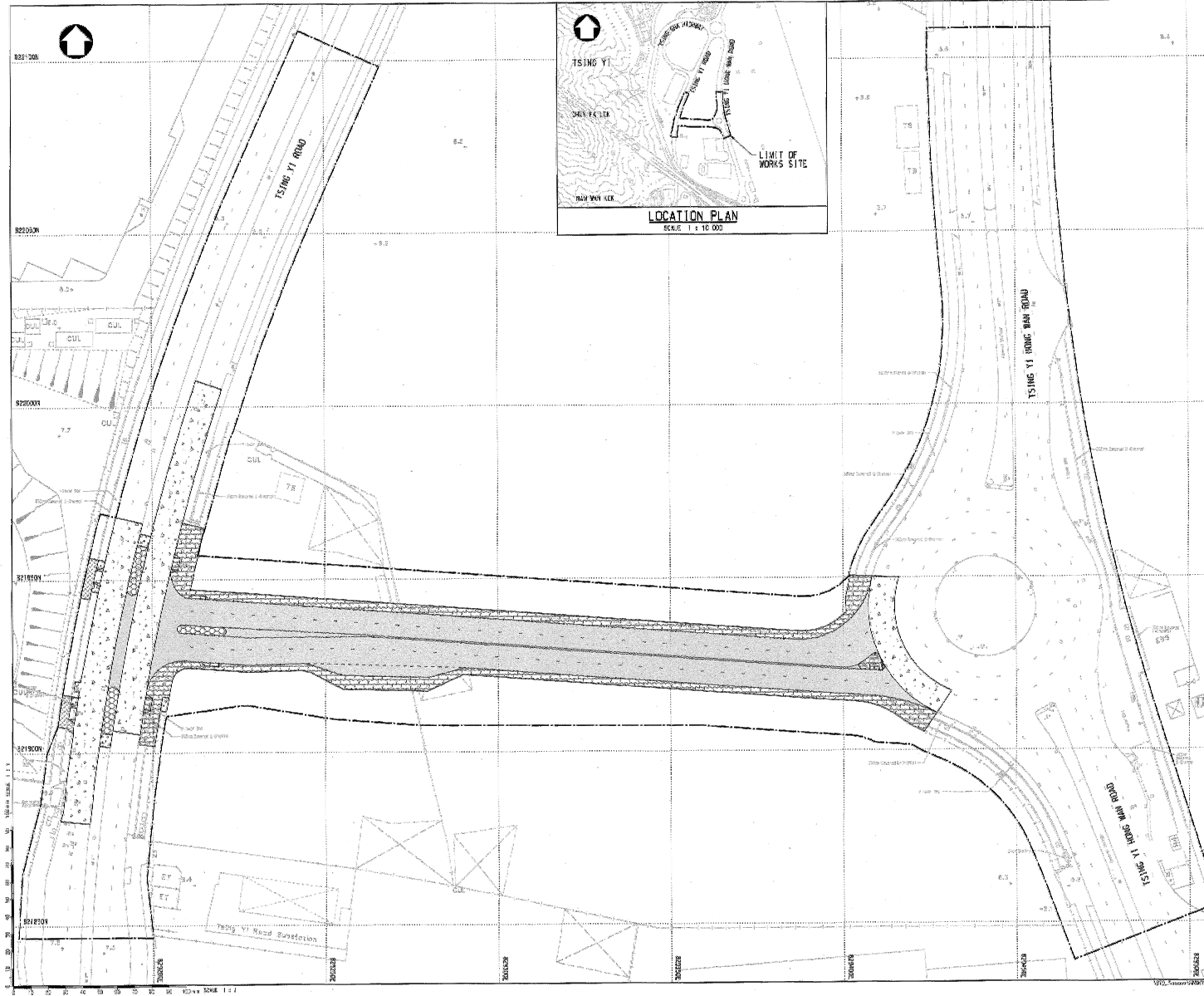
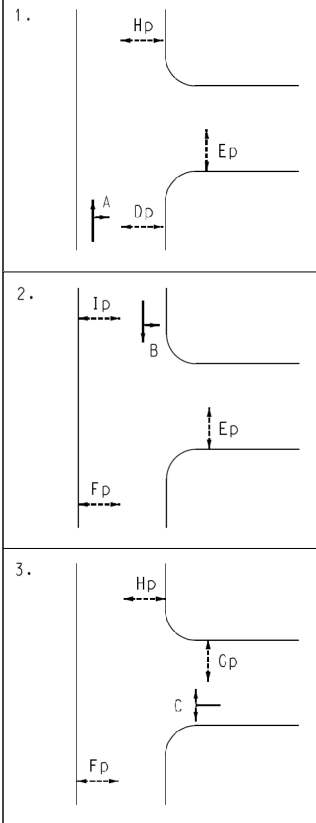


SUBJECT SITE
PLANNED DEVELOPMENT

FIGURE NO.:	4.1
PROJECT NO.:	23125HK
SCALE:	DATE:
1 : 11000 @A3	22 MAR 2024

PROJECT TITLE:	Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP
DRAWING TITLE:	PLANNED DEVELOPMENT IN VICINITY

METHOD OF CONTROL



LEGEND :

- [Symbol] LIMIT OF WORKS SITE
- [Symbol] PROPOSED CARRIAGEWAY WITH FLEXIBLE PAVEMENT
- [Symbol] PROPOSED FOOTPATH WITH CONCRETE PAVEMENT
- [Symbol] PROPOSED PESTERIAN REFUGE ISLAND
- [Symbol] PROPOSED KERBSIDE TRAFFIC COLLECTION ISLAND
- [Symbol] EXISTING CARRIAGEWAY TO BE RECONSTRUCTED
- [Symbol] EXISTING FOOTPATH TO BE RECONSTRUCTED
- [Symbol] EXISTING OPENLY AREA TO BE RECONSTRUCTED
- [Symbol] PROPOSED PESTERIAN CROSSING

NO.	DATE	REVISION	BY	CHECKED
1	2024	GENERAL REVISION		

DESIGNED	CHKD	DATE	SCALE
PLANNED	APPROVED		

PROJECT TITLE: NEW ROAD CONNECTING TSING YI ROAD AND TSING YI HONG WAN ROAD, TSING YI

GENERAL LAYOUT

DRAWING NO.	SCALE
HWDHY2111-GL0001-A	1 : 500

WORKS DIVISION

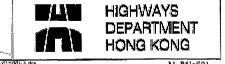


FIGURE NO.:	4.2
PROJECT NO.:	23125HK
SCALE:	N.T.S (IN A4 SIZE)
DATE:	21 MAY 2024

PROJECT TITLE:	Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP
DRAWING TITLE:	PLANNED JUNCTION LAYOUT OF NEW ROAD CONNECTING TSING YI HONG WAN ROAD AND TSING YI ROAD

CTA Consultants Limited
志達顧問有限公司

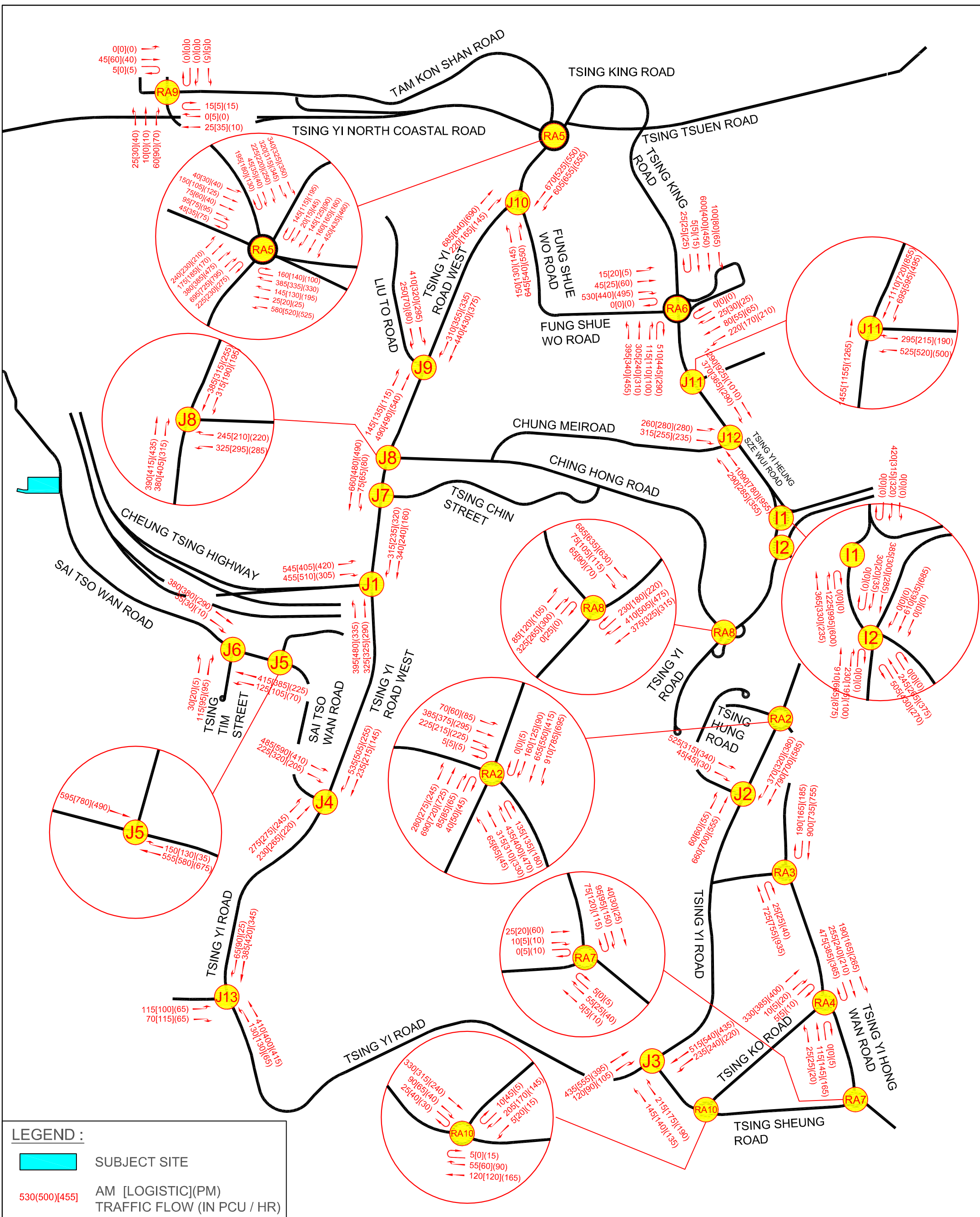


FIGURE NO.:		PROJECT TITLE:	
4.3		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		DRAWING TITLE:	
23125HK		2029 REFERENCE TRAFFIC FLOW	
SCALE:	DATE:	CTA Consultants Limited 志達顧問有限公司	
1 : 12000 @ A3	28 MAY 2024		

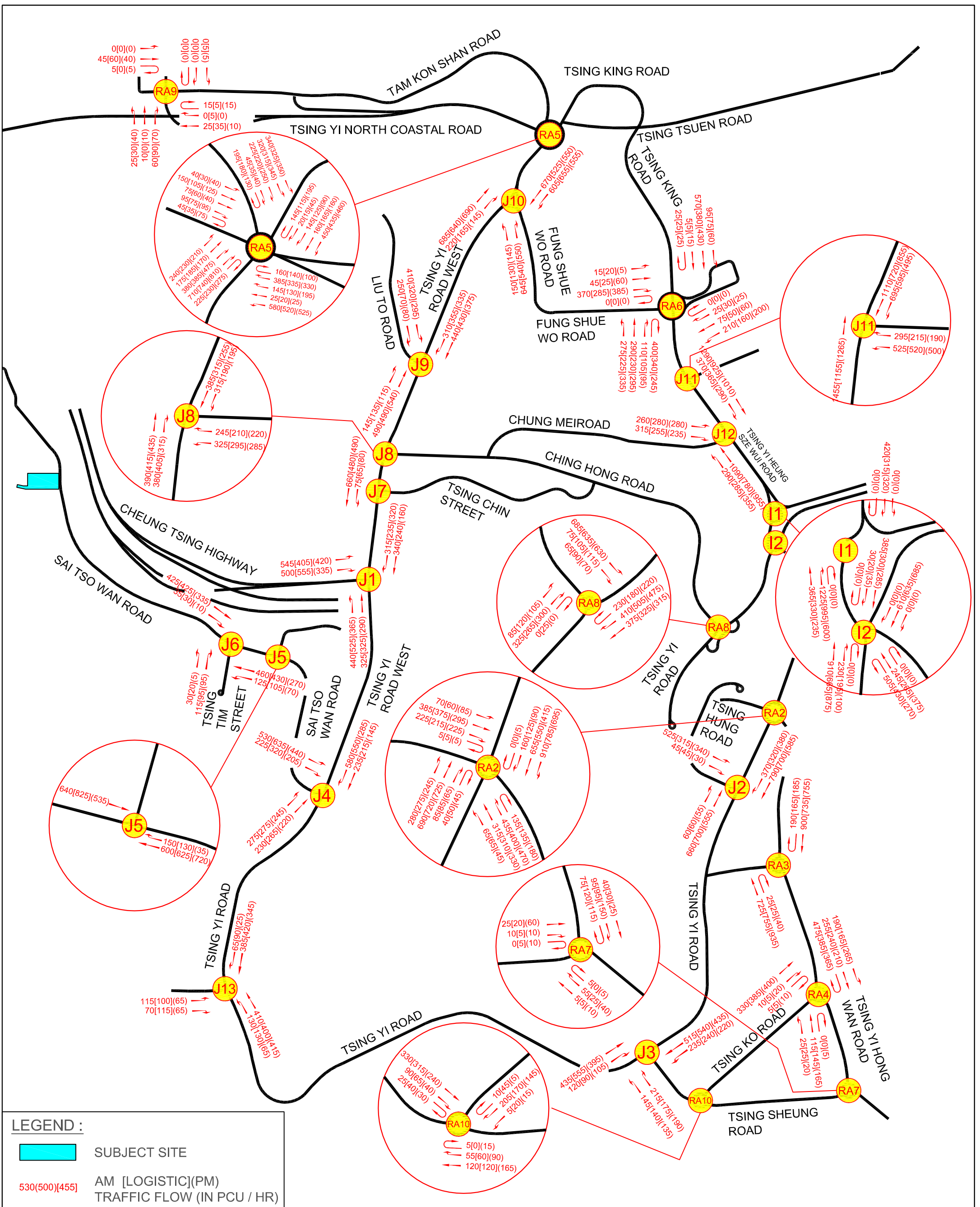


FIGURE NO.:		PROJECT TITLE:	
5.1		Planning Approval Renewal - Asphalt Plant at Sai Tso Wan Road A/TY/135, TYTL108 RP	
PROJECT NO.:		DRAWING TITLE:	
23125HK		2029 DESIGN TRAFFIC FLOW	
SCALE:	DATE:	CTA Consultants Limited 志達顧問有限公司	
1 : 12000 @ A3	28 MAY 2024		



Appendix 1

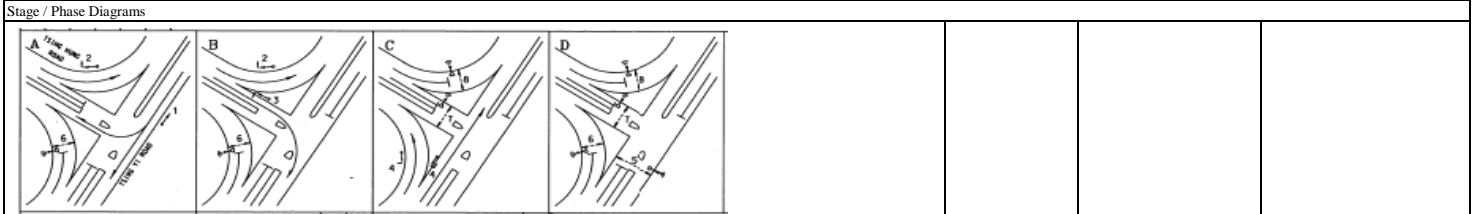
Junction Calculation Sheets

Junction: (J1) Tsing Yi Road West / Cheung Tsing Highway																																																				
Description: 2024 Observed Traffic Flow																																																				
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak																															
						Left	Right			A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y																													
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	0%	1965	6135	1965	1965	5905	5825	205	0.104	0.104	150	0.076	0.078																													
	S	↔	2	A	3.3	0	20	0	0	43%	100%	2085	0	2020	1940	0	0	210	0.104		151	0.078																														
	S	↔	2	A	3.3	0	17.5	0	0	100%	100%	2085	0	1920	1920	0	0	200	0.104		149	0.078																														
Cheung Tsing Highway	E	↑	3	A,B	3.4	20	0	0	1	100%	100%	1955	1955	1820	1820	1820	1820	435	0.239		355	0.195																														
	E	↔	4	B	3.5	0	30	0	0	100%	100%	2105	4210	2005	2005	3990	3990	211	0.105		138	0.069																														
	E	↓	4	B	3.5	0	25	0	0	100%	100%	2105	0	1985	1985	0	0	209	0.105	0.105	137	0.069	0.069																													
Tsing Yi Road West	N	↔	1	C	3.6	20	0	6.5	1	100%	100%	1702	3544	1585	1585	3425	3425	375	0.237	0.237	320	0.202	0.202																													
	N	↑	1	C	3.6	0	0	6.5	0	0%	0%	1842	0	1840	1840	0	0	310	0.168		275	0.149																														
*																																																				
Pedestrian crossing																																																				
<table border="0"> <tr> <td>↔</td> <td>5P</td> <td>C</td> <td>Min. Green time = 5GM + 10FG = 15s</td> </tr> <tr> <td>↑</td> <td>6P</td> <td>C</td> <td>Min. Green time = 5GM + 6FG = 11s</td> </tr> <tr> <td>↔</td> <td>7P</td> <td>A,B</td> <td>Min. Green time = 5GM + 9FG = 14s</td> </tr> <tr> <td>↓</td> <td>8P</td> <td>B</td> <td>Min. Green time = 5GM + 10FG = 15s</td> </tr> </table>																							↔	5P	C	Min. Green time = 5GM + 10FG = 15s	↑	6P	C	Min. Green time = 5GM + 6FG = 11s	↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s	↓	8P	B	Min. Green time = 5GM + 10FG = 15s														
↔	5P	C	Min. Green time = 5GM + 10FG = 15s																																																	
↑	6P	C	Min. Green time = 5GM + 6FG = 11s																																																	
↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s																																																	
↓	8P	B	Min. Green time = 5GM + 10FG = 15s																																																	
Notes:												Traffic Flow (pcu / hr)				A.M. Check Phase				P.M. Check Phase																																
																<table border="0"> <tr> <td>ey</td> <td>0.446</td> <td>0.476</td> <td>ey</td> <td>0.349</td> <td>0.397</td> </tr> <tr> <td>L (sec)</td> <td>13</td> <td>9</td> <td>L (sec)</td> <td>13</td> <td>9</td> </tr> <tr> <td>C (sec)</td> <td>100</td> <td>100</td> <td>C (sec)</td> <td>105</td> <td>105</td> </tr> <tr> <td>y pract.</td> <td>0.783</td> <td>0.819</td> <td>y pract.</td> <td>0.789</td> <td>0.823</td> </tr> <tr> <td>R.C. (%)</td> <td>76%</td> <td>72%</td> <td>R.C. (%)</td> <td>126%</td> <td>107%</td> </tr> </table>				ey	0.446	0.476	ey	0.349	0.397	L (sec)	13	9	L (sec)	13	9	C (sec)	100	100	C (sec)	105	105	y pract.	0.783	0.819	y pract.	0.789	0.823	R.C. (%)	76%	72%	R.C. (%)	126%	107%			
ey	0.446	0.476	ey	0.349	0.397																																															
L (sec)	13	9	L (sec)	13	9																																															
C (sec)	100	100	C (sec)	105	105																																															
y pract.	0.783	0.819	y pract.	0.789	0.823																																															
R.C. (%)	76%	72%	R.C. (%)	126%	107%																																															
Stage / Phase Diagrams																																																				
I/G = 5							I/G = 5							I/G = 6																																						

Junction: (J2) Tsing Hung Road / Tsing Yi Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	N	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
																							Width	Right
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	362	0.184		261	0.133			
	S	↓	1	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	388	0.184		279	0.133			
	S	←	1	A	3.6	0.0	18	0	100%	100%	2115	2115	1950	1950	1950	1950	350	0.179		360	0.185	0.185		
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%	100%	2015	2015	1920	1920	1920	1920	55	0.029		50	0.026			
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	315	0.150	0.150	258	0.122			
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	315	0.150		258	0.122	0.122		
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	500	0.272	0.272	325	0.177			
	E	→	3	B	4.0	0.0	22	0	100%	100%	2155	2155	2015	2015	2015	2015	45	0.022		30	0.015			
Pedestrian Crossing		↔	5P	D	Min. Green time = 5GM + 7FG = 12s																			
		↔	6P	A,B,D	Min. Green time = 5GM + 5FG = 10s																			
		↔	7P	C,D	Min. Green time = 5GM + 10FG = 15s																			
		↔	8P	C,D	Min. Green time = 5GM + 5FG = 10s																			

Notes:	Traffic Flow (pcu / hr)		Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase			
	500(325)	45(30)	350(360)	750(540)	Ëy	0.356	0.422	Ëy	0.307	0.299
					L (sec)	33	22	L (sec)	33	22
					C (sec)	120	120	C (sec)	100	100
					y pract.	0.653	0.735	y pract.	0.603	0.702
					R.C. (%)	83%	74%	R.C. (%)	96%	134%



I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12
I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		(%) uphill Gradient	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
					Left	Right	Left	Right	A.M.			P.M.	A.M.			P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%	100%	1792	1792	1630	1630	260	0.160	0.160	220	0.135	0.135		
	NE	↗	1	A	3.4	0	0	6.5	0	0%	0%	1822	1822	1820	1820	220	0.121		210	0.115			
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%	100%	1995	1995	1815	1815	460	0.253		390	0.215			
	NW	↗	4	D	3.8	0	25	0	0	100%	100%	2135	2135	2015	2015	215	0.107	0.107	180	0.089	0.089		
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%	0%	1955	1955	1955	1955	225	0.115		140	0.072			
	SE	↗	2	B,C	3.7	0	25	0	0	100%	100%	2125	2125	2005	2005	510	0.254	0.254	245	0.122	0.122		
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s																		

Notes:	<p>Traffic Flow (pcu / hr)</p>	<p>A.M. Check Phase</p> <p>Ey 0.521 L (sec) 19 C (sec) 120 y pract. 0.758 R.C. (%) 46%</p>	<p>P.M. Check Phase</p> <p>Ey 0.346 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 115%</p>
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Stage / Phase Diagrams			
<p>A</p>	<p>B</p>	<p>C</p>	<p>D</p>
I/G = 7	I/G = 10		I/G = 5

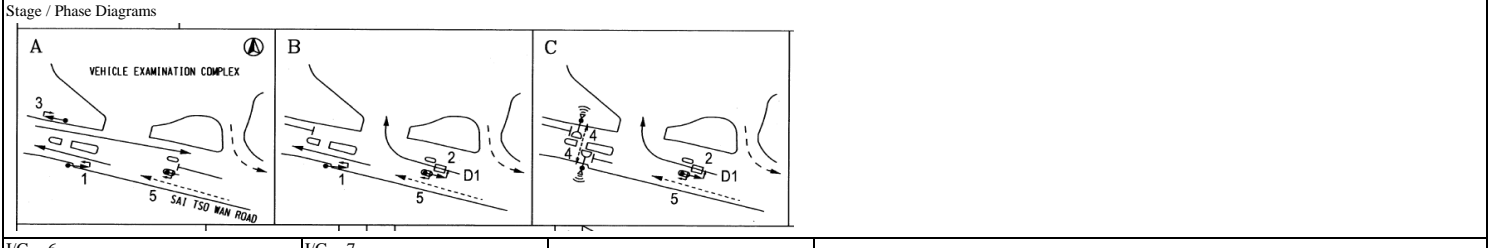
TRAFFIC SIGNALS CALCULATION

Job No: 23125HK

Junction: **(J5) Sai Tso Wan Road Near VEC**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak					
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
						Sai Tso Wan Road	EB		→	3			A	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	530	0.263		640	0.318	0.318			
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%	100%	2155	2155	1875	1875	1875	1875	145	0.077	0.077	35	0.019				

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak	A,BC		AB,C		A,BC		AB,C	
			AM Peak Check Phase		PM Peak Check Phase					
		565(465) →	εy	0.358	0.263	εy	0.249	0.318		
		↖ 145(35)	L (sec)	11	18	L (sec)	11	18		
		← 530(640)	C (sec)	91	91	C (sec)	91	91		
			y pract.	0.791	0.722	y pract.	0.791	0.722		
			R.C. (%)	121%	174%	R.C. (%)	217%	127%		

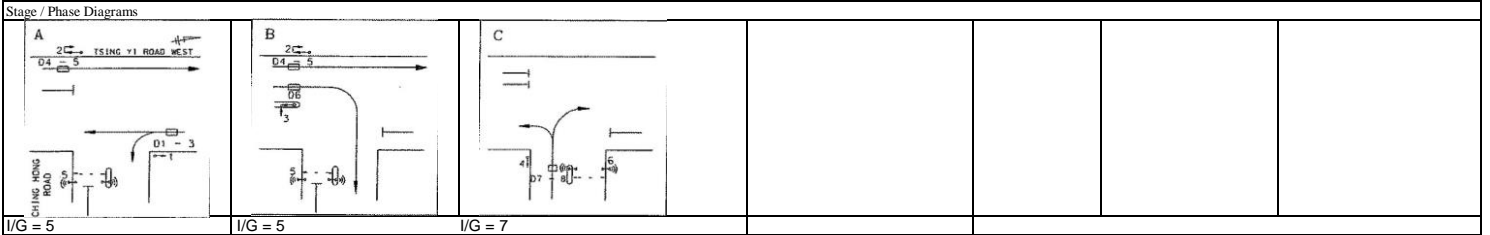


I/G = 6 I/G = 7

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	AM	PM			AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	0	5.5	0	0%	0%	1824	3698	1824	1824	3698	3698	180	0.099	0.197	121	0.066	0.121
	S	↓	1	A	3.5	0.0	0	0	5.5	0	0%	0%	1874	0	1874	1874	0	0	185	0.099		124	0.066	
	S	↘	1	A	3.7	10.0	0	0	5.5	1	100%	100%	1754	1754	1525	1525	1525	1525	300	0.197		185	0.121	
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	179	0.091		200	0.102	
	N	↑	2	A,B	3.5	0.0	0	0	0	0	0%	0%	2105	0	2105	2105	0	0	191	0.091		215	0.102	
	N	↗	3	B	3.3	0.0	18	0	0	0	100%	100%	2085	2085	1925	1925	1925	1925	275	0.143	0.143	255	0.132	0.132
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	16% / 84%	15% / 85%	2095	0	1945	1945	0	0	280	0.144	0.144	248	0.128	0.128	
	W	↓	4	C	3.4	15.0	0	0	0	1	100%	100%	1955	4050	1775	1775	3720	3720	255	0.144		227	0.128	
Pedestrian crossing		↕	5P	A,B							Min. Green time = 11s (G) + 8s (FS) = 19s													
		↕	6P	C							Min. Green time = 5s (G) + 12s (FS) = 17s													
Pedestrian Crossing																								

Notes:	Traffic Flow (pcu/hr) Weekday AM Peak 370(415) 275(255)	Weekday AM Peak 365(245) 300(185)	AM Peak Check Phase Ey 0.483 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 60%	PM Peak Check Phase Ey 0.382 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 103%



Junction: (J9) Tsing Yi Road West / Liu To Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%	0%	1735	3610	1735	1735	3610	3610	202	0.116		171	0.098	
	S	↓	2	A,B	3.3	0.0	0	5	0	0%	0%	1875	0	1875	1875	0	0	218	0.116		184	0.098	
	S	↙	3	B	3.3	0.0	22	5	0	100%	100%	1875	1875	1755	1755	1755	1755	295	0.168	0.168	320	0.182	0.182
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	51%	38%	1935	4100	1795	1830	3960	3995	274	0.153	0.153	286	0.156	0.156
	N	↑	1	A	4.1	0.0	0	0	0	0%	0%	2165	0	2165	2165	0	0	331	0.153		339	0.156	
Liu To Road	E	↗	5	B,C	3.2	10.0	0	0	1	100%	100%	1935	1935	1685	1685	1685	1685	390	0.231		280	0.166	
	E	↘	4	C	4.1	0.0	18	0	0	100%	100%	2165	2165	2000	2000	2000	2000	240	0.120	0.120	75	0.038	0.038
Pedestrian crossing		↑ ↓ ↔	6P 7P 8P	A,D C,D D																			

A,B,C,D A,B,C,D A,B,C,D A,B,C,D

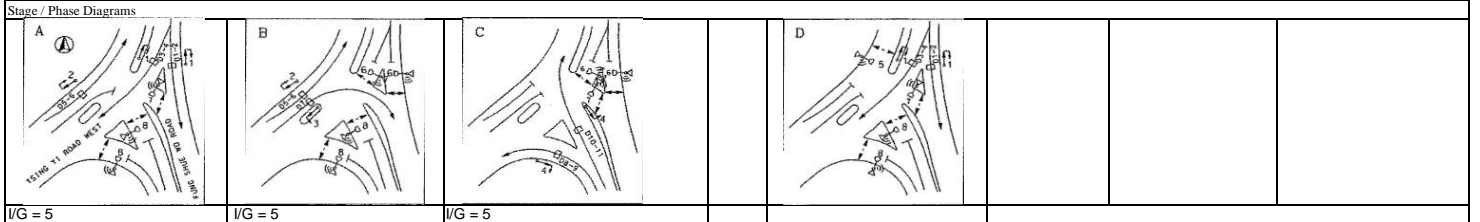
Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 	AM Peak Check Phase		PM Peak Check Phase	
		6y 0.384 0.441 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 73% 44%	6y 0.323 0.376 L (sec) 34 38 C (sec) 110 110 y pract. 0.622 0.589 R.C. (%) 93% 57%		

Stage / Phase Diagrams			
<p>L/G = 5</p>	<p>L/G = 7</p>	<p>L/G = 5</p>	<p>L/G = 11 + Ped 13</p>

Junction: **(J10) Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
						Left	Right			AM	PM				AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Fung Shue Wo Road (To Tsing Yi Road West)	S	↓	1	A,D	4.1	0.0	0	3	0	0%	0%	1	2039	4058	2039	2039	4058	4058	289	0.142	0.233	266	0.131	0.194	
	S	↓	1	A,D	3.9	0.0	0	3	0	0%	0%	1	2019	0	2019	2019	0	0	286	0.142		264	0.131		
Fung Shue Wo Road (To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	1	0%	0%	1	1889	2294.8	1889	1889	2294.8	2294.8	440	0.233		366	0.194		
	S	↓	1	A,D	4.0	0.0	0	3	0	0%	0%	0.2	405.8	0	405.8	405.8	0	0	95	0.233		79	0.194		
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1	1965	2491.3	1965	1965	2491.25	2491.25	513	0.261		517	0.263		
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	0.25	526.25	0	526.25	526.25	0	0	137	0.261		138	0.263		
	N	↗	3	B	3.6	0.0	18	0	0	100%	100%	1	2115	2115	1950	1950	1950	1950	210	0.108	0.108	140	0.072	0.072	
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%	100%	1	1869	2193.6	1790	1790	2100	2100	124	0.069		119	0.067		
	N	↖	4	C	4.0	38.0	0	3	0	100%	100%	0.16	324.64	0	310	310	0	0	21	0.069		21	0.067		
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%	100%	0.23	457.47	2446.5	440	440	2355	2355	96	0.219	0.219	79	0.180	0.180	
	N	↗	4	C	3.6	0.0	40	3	0	100%	100%	1	1989	0	1915	1915	0	0	419	0.219		346	0.180		
Pedestrian crossing		↔	5p	D																					
		↔	6P	B,C																					
		↕	7P	A,C,D																					
		↕	8P	A,B,D																					

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
			E _y 0.560 L (sec) 12 C (sec) 100 y pract. 0.792 R.C. (%) 42%	E _y 0.446 L (sec) 12 C (sec) 100 y pract. 0.792 R.C. (%) 78%



I/G = 5 I/G = 5 I/G = 5

Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	616	0.313		555	0.283	0.283	
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	659	0.313		595	0.283		
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	33% / 67%	55% / 45%	2105	0	1955	1950	0	0	374	0.191	0.191	287	0.147	0.147	
	W	↘	3	C	3.5	15.0	0	0	1	100%	100%	1965	4070	1785	1785	3740	3735	341	0.191		263	0.147		
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.5	10.0	0	0	1	100%	100%	1965	6175	1710	1710	5920	5920	575	0.336	0.336	440	0.257		
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	518	0.246		398	0.189		
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	518	0.246		398	0.189		
Pedestrian crossing		↑ ↓	4P	B																			Min. Green time = 8GM + 11FG = 19s	
		← →	5P	D																				Min. Green time = 5GM + 10FG = 15s
		← →	6P	C																				Min. Green time = 5GM + 8FG = 13s

AB,C,D AD,B,C AB,C,D AD,B,C

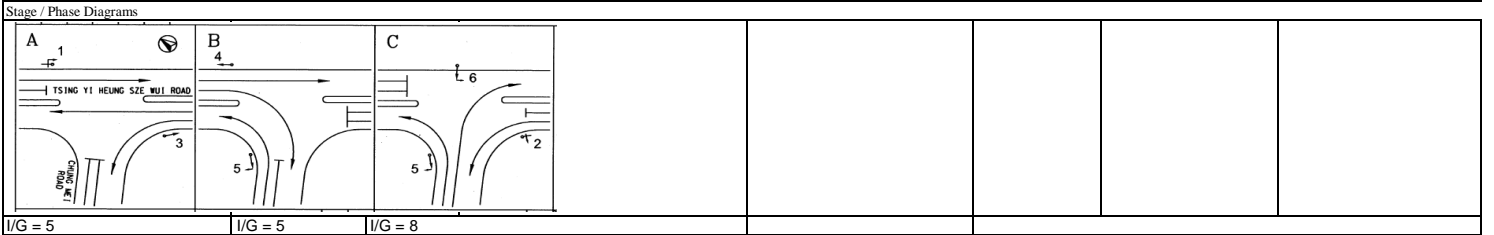
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
		1035(795) 575(440)	Ey 0.505 0.528	Ey 0.430 0.405
		↓ ↘	L (sec) 32 33	L (sec) 32 33
		↑ ↙	C (sec) 114 114	C (sec) 100 100
		250(130)	y pract. 0.647 0.639	y pract. 0.612 0.603
		1275(1150)	R.C. (%) 28% 21%	R.C. (%) 42% 49%

Stage / Phase Diagrams							
I/G = 2	I/G = 8 + Ped 19	I/G = 3 I/G = 5	I/G = 5 I/G = 12 + Ped 15				

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%	100%	1945	1945	1690	1690	1690	1690	225	0.133		250	0.148	
	E	↘	6	C	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	275	0.143	0.143	210	0.109	0.109
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	240	0.131		285	0.155	
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	513	0.243	0.243	443	0.210	0.210
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	513	0.243		443	0.210	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%	0%	1839	3818	1839	1839	3818	3818	573	0.312		455	0.248	
	S	↙	1	A,B	3.5	0.0	0	3	0	0%	0%	1979	0	1979	1979	0	0	617	0.312		490	0.248	
	S	↖	4	B	3.5	0.0	22	3	0	100%	100%	1979	1979	1855	1855	1855	1855	285	0.154	0.154	240	0.129	0.129

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
	225(250) 275(210)		Ey 0.540 L (sec) 15 C (sec) 114 y pract. 0.782 R.C. (%) 45%	Ey 0.449 L (sec) 15 C (sec) 100 y pract. 0.765 R.C. (%) 70%



Junction: (J1) Cheung Tsing Highway / Tsing Yi Road West
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Radius (m)		(% uphill Gradient)	Nesside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	1965	6135	1965	5900	148	0.075	0.075			
	S	↙	2	A	3.3	0	20	0	0	46%	2085	0	2015	0	152	0.075				
	S	↘	2	A	3.3	0	17.5	0	0	100%	2085	0	1920	0	145	0.075				
Cheung Tsing Highway	E	↗	3	A,B	3.4	20	0	0	1	100%	1955	1955	1820	1820	300	0.165				
	E	↘	4	B	3.5	0	30	0	0	100%	2105	4070	2005	3860	244	0.122				
	E	↙	4	B	3.5	0	25	0	1	100%	1965	0	1855	0	226	0.122	0.122			
Tsing Yi Road West	N	↙	1	C	3.6	20	0	6.5	1	100%	1702	3544	1585	3425	455	0.287	0.287			
	N	↘	1	C	3.6	0	0	6.5	0	0%	1842	0	1840	0	310	0.168				
Pedestrian crossing		↔	5P	C	Min. Green time = 5GM + 10FG = 15s															
		↕	6P	C	Min. Green time = 5GM + 6FG = 11s															
		↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s															
		↕	8P	B	Min. Green time = 5GM + 10FG = 15s															

A,B,C AB,C

Notes:	Traffic Flow (pcu / hr)		Logistic Peak Check Phase	
			ey	0.484 0.452
			L (sec)	13 9
			C (sec)	100 100
			y pract.	0.783 0.819
		R.C. (%)	62% 81%	

Stage / Phase Diagrams		
I/G = 5	I/G = 5	I/G = 6

Junction: (J2) Tsing Hung Road / Tsing Yi Road																										
Description: 2024 Observed Traffic Flow																										
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)			Logistic Peak								
						Left	Right		Logistic Peak				Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y				
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%		1965	4070	1965		4070	321	0.163									
	S	↓	1	A	3.5	0.0	0	0	0%		2105	0	2105		0	344	0.163									
	S	←	1	A	3.6	0.0	18	0	100%		2115	2115	1950		1950	305	0.156	0.163								
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%		2015	2015	1920		1920	55	0.029									
	N	↑	4	C	3.5	0.0	0	0	0%		2105	4210	2105		4210	333	0.158									
	N	↑	4	C	3.5	0.0	0	0	0%		2105	0	2105		0	333	0.158	0.158								
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%		1945	1945	1835		1835	300	0.163									
	E	→	3	B	4.0	0.0	22	0	100%		2155	2155	2015		2015	45	0.022									
Pedestrian Crossing		↔	5P	D																						
		↔	6P	A,B,D																						
		↔	7P	C,D																						
		↔	8P	C,D																						
											A,B,C,D		A,B,C,D													
Notes:											Traffic Flow (pcu / hr) Weekday AM Peak					Logistic Peak Check Phase										
																Ey 0.321 0.321 L (sec) 33 22 C (sec) 100 100 y pract. 0.603 0.702 R.C. (%) 88% 118%										
Stage / Phase Diagrams																										
I/G = 2				I/G = 6 + Min. G 5				I/G = 5				I/G = 5 + 12														

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%		1792	1792	1630	260	0.160	0.160			
	NE	↗	1	A	3.4	0	0	6.5	0	0%		1822	1822	1820	250	0.137				
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%		1995	1995	1815	560	0.309				
	NW	↗	4	D	3.8	0	25	0	0	100%		2135	2135	2015	305	0.151	0.151			
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%		1955	1955	1955	205	0.105				
	SE	↙	2	B,C	3.7	0	25	0	0	100%		2125	2125	2005	480	0.239	0.239			
Pedestrian crossing		↑ ↓ ↔	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s															

Notes:	<p>Traffic Flow (pcu / hr)</p>	<p>Logistic Peak Check Phase</p> <p>Ex 0.550 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 35%</p>
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Stage / Phase Diagrams			
<p>A</p>	<p>B</p>	<p>C</p>	<p>D</p>
I/G = 5	I/G = 5	I/G = 2	I/G = 5
I/G = 5	I/G = 8+12		

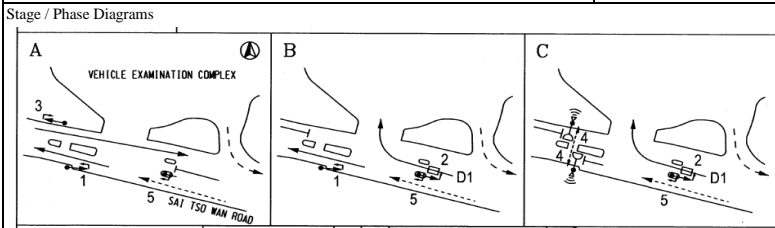
Junction: (J5) Sai Tso Wan Road Near VEC

Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right		Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%		2015	2015	2015		2015		740	0.367	0.367
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%		2015	2015	2015		2015		550	0.273	
Sai Tso Wan Road	WB	↶	2	B,C	4.0	0.0	10	0	100%		2155	2155	1875		1875		125	0.067	0.067

Pedestrian Crossing 4P C Min. green time = 6Gm + 5 FGm = 11s

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak		Logistic Peak Check Phase		
		740 →		εy	0.434	0.273
				L (sec)	11	18
				C (sec)	91	91
				y pract.	0.791	0.722
				R.C. (%)	82%	165%

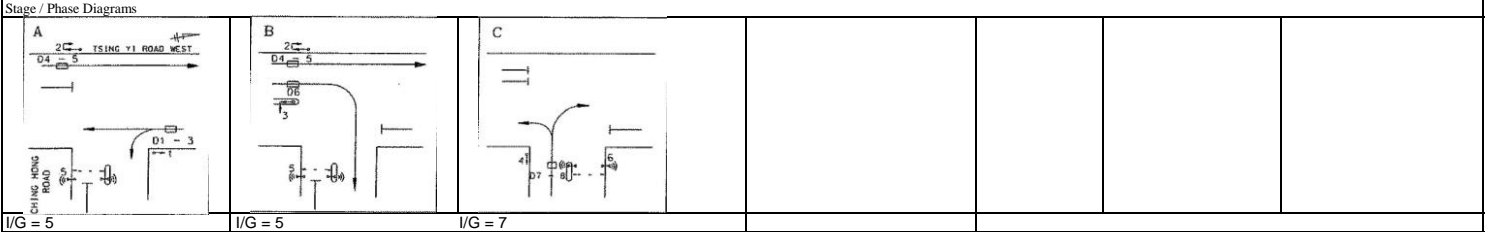


I/G = 6	I/G = 7		
I/G = 3	I/G = 7	I/G = 5 + P11s	

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		uphill Gradient (%)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak													
					Left	Right	Left	Right			Left	Right			Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y								
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	5.5	0	0	0%		1824	3698	1824	3698	148	0.081	0.118													
	S	↓	1	A	3.5	0.0	0	5.5	0	0	0%		1874	0	1874	0	152	0.081														
	S	↘	1	A	3.7	10.0	0	5.5	1	100%			1754	1754	1525	1525	180	0.118														
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1965	4070	1965	4070	191	0.097														
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			2105	0	2105	0	204	0.097														
	N	↗	3	B	3.3	0.0	18	0	0	100%			2085	2085	1925	1925	300	0.156	0.156													
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	19% / 81%			2095	0	1945	0	246	0.126	0.126													
	W	↙	4	C	3.4	15.0	0	0	1	100%			1955	4050	1775	3720	224	0.126														
Pedestrian crossing		↑ ↓	5P 6P	A,B C	Min. Green time = 11s (G) + 8s (FS) = 19s Min. Green time = 5s (G) + 12s (FS) = 17s																											
Pedestrian Crossing																																

Notes:	Traffic Flow (pcu/hr) Weekday AM Peak 	Logistic Peak Check Phase Eye 0.400 L (sec) 12 C (sec) 71 y pract. 0.748 R.C. (%) 87%
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Junction: **J9 - Tsing Yi Road West / Liu To Road**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		uphill Gradient (%)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%		1735	3610	1735		3610	197	0.114			
	S	↓	2	A,B	3.3	0.0	0	5	0	0%		1875	0	1875		0	213	0.114			
	S	↙	3	B	3.3	0.0	22	5	0	100%		1875	1875	1755		1755	340	0.194	0.194		
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	48%		1935	4100	1805		3970	271	0.150	0.150		
	N	↑	1	A	4.1	0.0	0	0	0	0%		2165	0	2165		0	324	0.150			
Liu To Road	E	↘	5	B,C	3.2	10.0	0	0	1	100%		1935	1935	1685		1685	305	0.181			
	E	↘	4	C	4.1	0.0	18	0	0	100%		2165	2165	2000		2000	65	0.033	0.033		
Pedestrian crossing		↑ ↓ ← →	6P	A,D																	
			7P	C,D																	
			8P	D																	
Pedestrian Crossing																					

A,B,C,D A,B,C,D

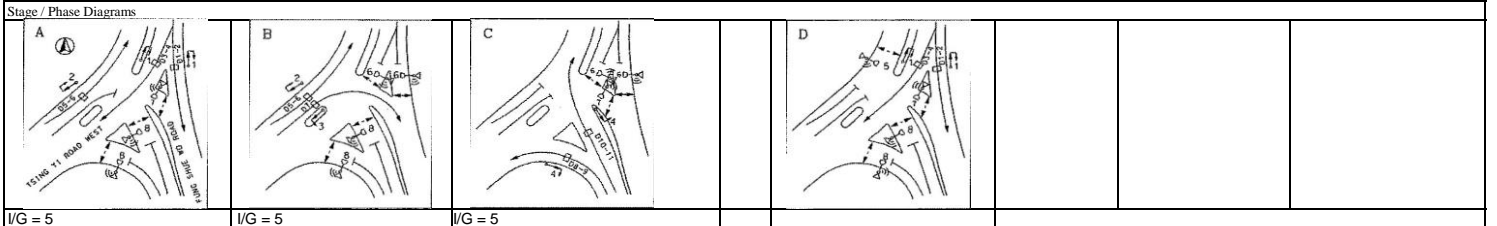
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
	305 65		Day 0.331 0.376 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 101% 69%

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: **J10 - Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2024 Observed Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak					Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road	S	↓	1	A,D	4.1	0.0	0	3	0	0%			1	2039	4058	2039	4058	314	0.154	0.172			
(To Tsing Yi Road West)	S	↓	1	A,D	3.9	0.0	0	3	0	0%			1	2019	0	2019	0	311	0.154				
Fung Shue Wo Road	S	↓	1	A,D	4.0	0.0	0	3	1	0%			1	1889	2294.8	1889	2294.8	325	0.172				
(To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	0	0%			0.2	405.8	0	405.8	0	70	0.172				
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1	1965	2491.3	1965	2491.25	481	0.245				
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			0.25	526.25	0	526.25	0	129	0.245				
	N	↗	3	B	3.6	0.0	18	0	0	100%			1	2115	2115	1950	1950	155	0.079	0.079			
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%			1	1869	2193.6	1790	2100	107	0.060				
	N	↖	4	C	4.0	38.0	0	3	0	100%			0.16	324.64	0	310	0	18	0.060				
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%			0.23	457.47	2446.5	440	2355	78	0.176	0.176			
	N	↗	4	C	3.6	0.0	40	3	0	100%			1	1989	0	1915	0	337	0.176				
Pedestrian crossing		←---→	5p	D					Min. Green time = 5s (G) + 8s (FS) = 13s														
		←---→	6P	B,C					Min. Green time = 5s (G) + 8s (FS) = 13s														
		↑	7P	A,C,D					Min. Green time = 5s (G) + 8s (FS) = 13s														
		↓	8P	A,B,D					Min. Green time = 5s (G) + 7s (FS) = 12s														

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
			Ey 0.428 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 82%



Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2024 Observed Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%		1965	4070	1965	4070	478	0.243			
	N	↑	2	A,B	3.5	0.0	0	0	0	0%		2105	0	2105	0	512	0.243			
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	47% / 53%		2105	0	1950	0	332	0.170	0.170		
	W	↘	3	C	3.5	15.0	0	0	1	100%		1965	4070	1785	3735	303	0.170			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.0	10.0	0	0	1	100%		1915	6025	1665	5775	480	0.288	0.288		
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	333	0.162			
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	333	0.162			
Pedestrian crossing		↑ ↓	4P	B						Min. Green time = 8GM + 11FG = 19s										
		← →	5P	D						Min. Green time = 5GM + 10FG = 15s										
		← →	6P	C						Min. Green time = 5GM + 8FG = 13s										

AB,C,D AD,B,C

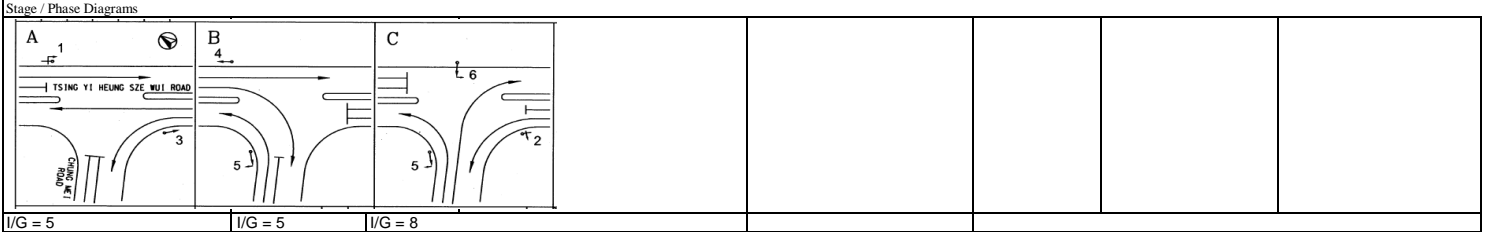
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak																		
			665	480																
			↑	↓	↘	↙									175	460				
			990																	

Stage / Phase Diagrams							
I/G = 2	I/G = 5	I/G = 12 + Ped 15					

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2024 Observed Traffic Flow

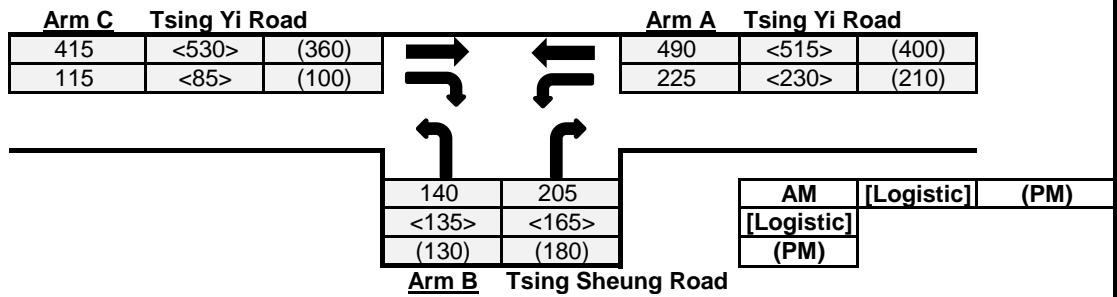
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%		1945	1945	1690		1690	245	0.145			
	E	↘	6	C	3.3	0.0	18	0	0	100%		2085	2085	1925		1925	220	0.114	0.114		
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%		1945	1945	1835		1835	235	0.128			
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	4210	2105		4210	365	0.173	0.173		
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	0	2105		0	365	0.173			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%		1839	3818	1839		3818	405	0.220			
	S	↙	1	A,B	3.5	0.0	0	3	0	0%		1979	0	1979		0	435	0.220			
	S	↖	4	B	3.5	0.0	22	3	0	100%		1979	1979	1855		1855	280	0.151	0.151		
Pedestrian crossing																					

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 245 ↗ 220 ↘ 280 ↖ 840.00 ↓ 235 ↖ 730 ↑	Logistic Peak Check Phase g _y 0.439 L (sec) 15 C (sec) 114 y _{pract.} 0.782 R.C. (%) 78%
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Priority Junction Calculation

Junction : (J3) Tsing Yi Road / Tsing Sheung Road Job No.: 23125HK
 Scenario : 2024 Observed Traffic Flow



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	14	D	0.933
W-CR	0	E	1.012
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F	0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	Y	0.517

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	415	530	360	Q-BA	409	399	435	
	q-CB	115	85	100	Q-BC	644	638	662	
	q-AB	225	230	210	Q-CB	376	372	388	
	q-AC	490	515	400	Q-CA	N/A	N/A	N/A	(If C-B blocked C-
	q-BA	205	165	180	Q-BAC	N/A	N/A	N/A	(If Minor Road Share
	q-BC	140	135	130					LT&RT)
	f	0.406	0.450	0.419					

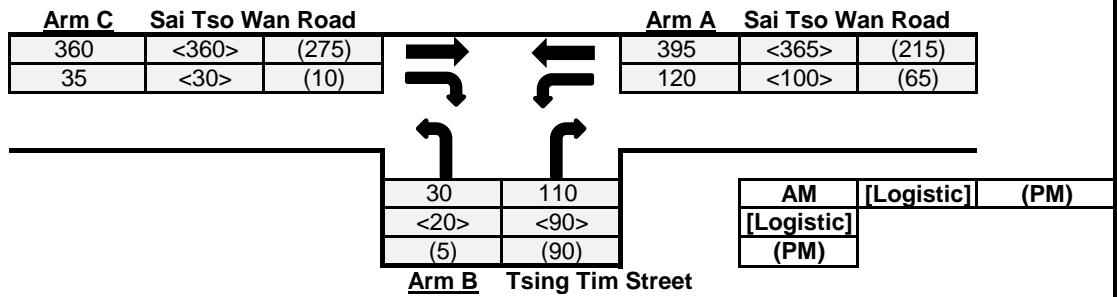
Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.50	0.41	0.41
	B-C	0.22	0.21	0.20
	C-B	0.31	0.23	0.26
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A

Critical DFC **0.50 0.41 0.41**

Priority Junction Calculation

Junction : (J6) Sai Tso Wan Road / Tsing Tim Street Job No.: 24001HK

Scenario : 2024 Observed Traffic Flow



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

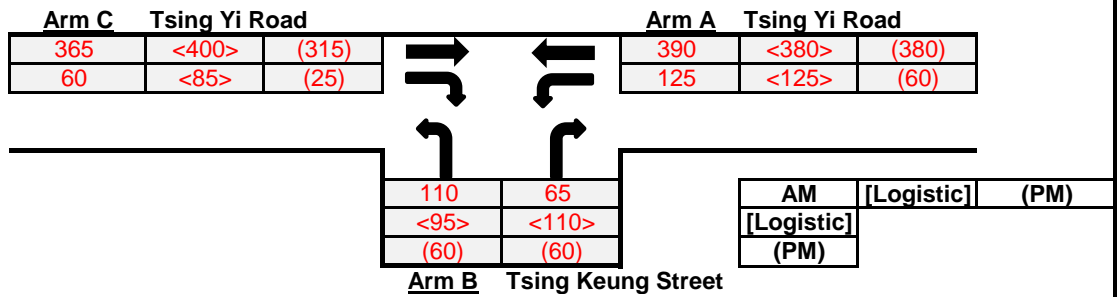
Geometry :	Input	Calculated
W	7	D 0.877
W-CR	0	E 0.933
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F 0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	Y 0.759

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	360	360	275	Q-BA	376	387	446	
	q-CB	35	30	10	Q-BC	581	591	633	
	q-AB	120	100	65	Q-CB	371	380	411	
	q-AC	395	365	215	Q-CA	N/A	N/A	N/A	(If C-B blocked C- (If Minor Road Share LT&RT)
	q-BA	110	90	90	Q-BAC	406	412	453	
	q-BC	30	20	5					
	f	0.214	0.182	0.053					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	N/A	N/A	N/A
	B-C	N/A	N/A	N/A
	C-B	0.09	0.08	0.02
	C-A	N/A	N/A	N/A
	B-AC	0.34	0.27	0.21
	Critical DFC	0.34	0.27	0.21

Priority Junction Calculation

Junction : (J13) Tsing Yi Road / Tsing Keung Street Job No.: 24001HK
 Scenario : 2024 Observed Traffic Flow



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	15	V-rBA	50	w-BA	4	D	0.910
W-CR	0	V-IBA	50	w-BC	4	E	0.968
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	4.7	F	1.029
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	V-rCB	50			Y	0.483

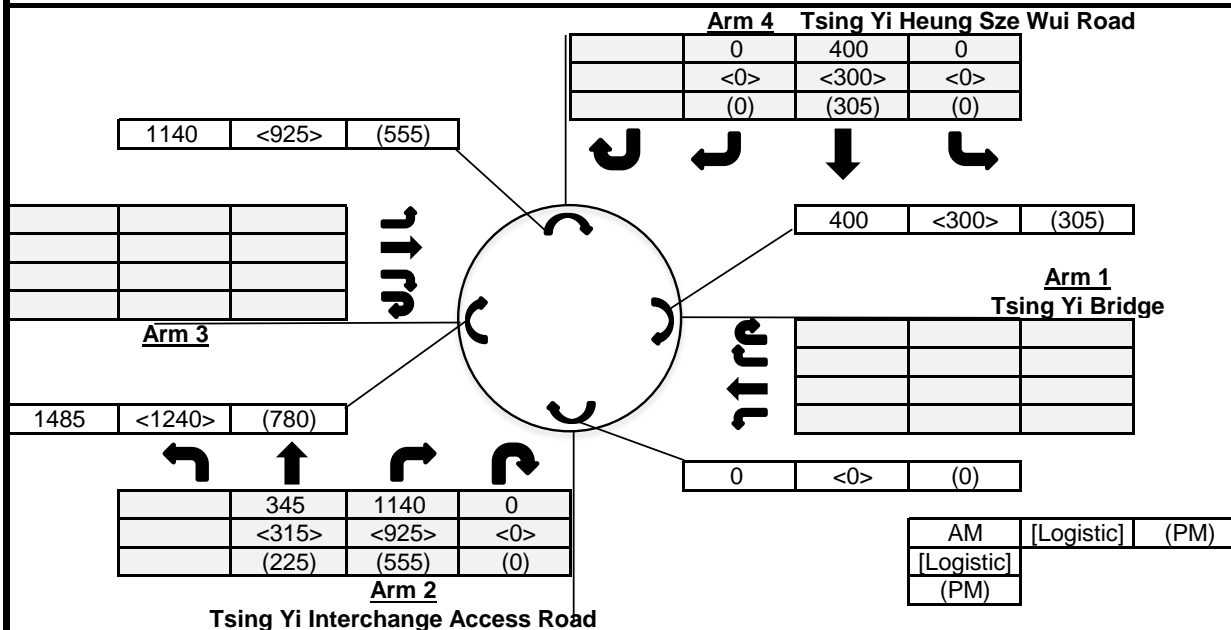
Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
q-CA	365	400	315		Q-BA	450	442	469	
q-CB	60	85	25		Q-BC	646	648	652	
q-AB	125	125	60		Q-CB	674	676	687	
q-AC	390	380	380		Q-CA	N/A	N/A	N/A	(If C-B blocked C-
q-BA	65	110	60		Q-BAC	N/A	N/A	N/A	(If Minor Road Share
q-BC	110	95	60						LT&RT)
f	0.629	0.463	0.500						

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.14	0.25	0.13
	B-C	0.17	0.15	0.09
	C-B	0.09	0.13	0.04
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A
	Critical DFC	0.17	0.25	0.13

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (North) Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6		6
E	= Entry width (m)		7		7
L	= Effective length of flare (m)		5		5
R	= Entry radius		62		41
D	= Inscribed circle diameter (m)		60		60
A	= Entry angle (degree)		27		60
Q	= Entry flow (pcu/hr)		1485		400
		AM			
		Logistic	1240		300
		PM	780		305
Qc	= Circulating flow across entry (pcu/hr)		0		1140
		AM			
		Logistic	0		925
		PM	0		555

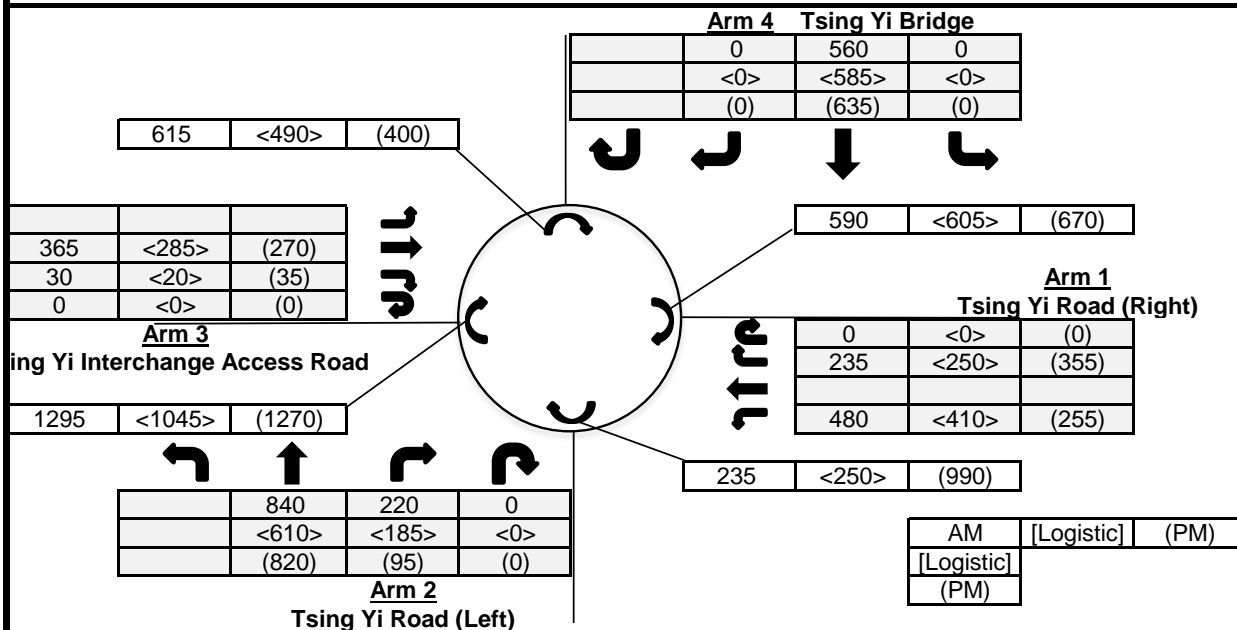
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.32		0.32
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		1.04		0.92
X2	= V+((E-V)/(1+2*S))		6.61		6.61
M	= Exp((D-60)/10)		1.00		1.00
F	= 303*X2		2003		2003
Td	= 1+(0.5/(1+M))		1.25		1.25
Fc	= 0.21*Td*(1+0.2*X2)		0.61		0.61
Qe	= Capacity = K*(F-Fc*Qc)		2090		1205
		AM			
		Logistic	2090		1325
		PM	2090		1533
DFC	= Entry Flow/Capacity = Q/Qe		0.71		0.33
		AM			
		Logistic	0.59		0.23
		PM	0.37		0.20

**DFC of Critical Approach = AM 0.71
Logistic 0.59
PM 0.37**

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (South) Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	7	6.8	7	6
E	=	Entry width (m)	7.2	7	7.3	6.3
L	=	Effective length of flare (m)	5	5	5	5
R	=	Entry radius	23	25	24	44
D	=	Inscribed circle diameter (m)	60	60	60	60
A	=	Entry angle (degree)	43	54	27	23
Q	=	Entry flow (pcu/hr)	AM 715 Logistic 660 PM 610	1060 795 915	395 305 305	560 585 635
Qc	=	Circulating flow across entry (pcu/hr)	AM 590 Logistic 605 PM 670	235 250 990	1295 1045 1270	615 490 400

Output Parameters

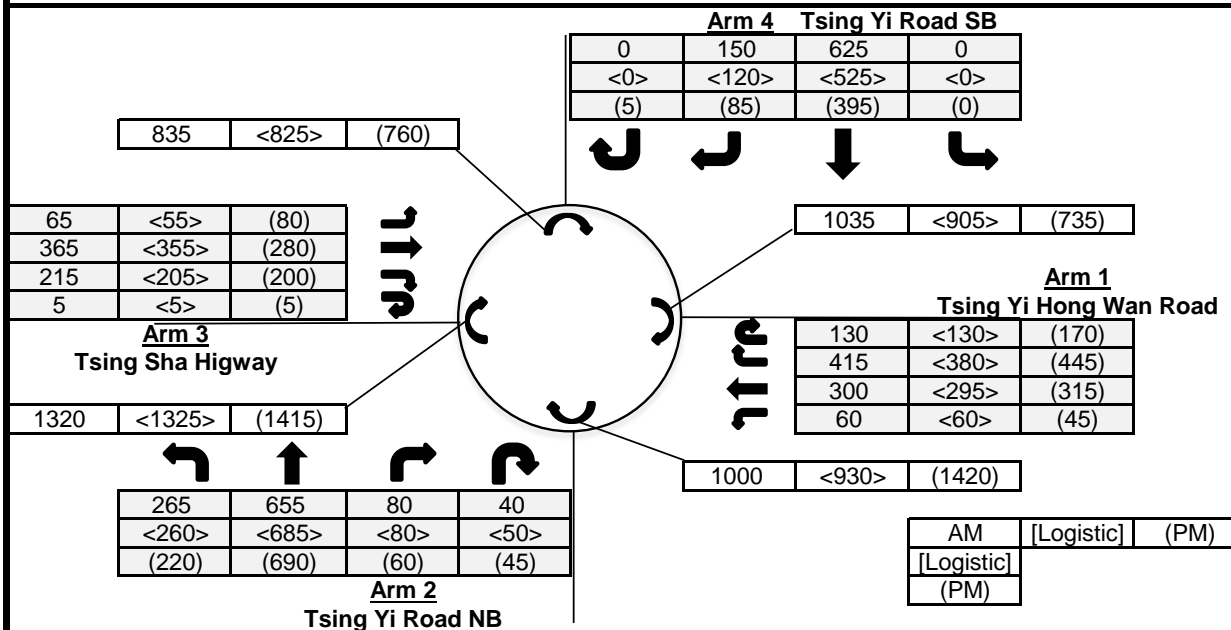
		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = 1.6*(E-V)/L	0.06	0.06	0.10	0.10
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	0.96	0.93	1.02	1.05
X2	=	V+((E-V)/(1+2*S))	7.18	6.98	7.25	6.25
M	=	Exp((D-60)/10)	1.00	1.00	1.00	1.00
F	=	303*X2	2175	2114	2197	1894
Td	=	1+(0.5/(1+M))	1.25	1.25	1.25	1.25
Fc	=	0.21*Td*(1+0.2*X2)	0.64	0.63	0.64	0.59
Qe	=	Capacity = K*(F-Fc*Qc)	AM 1728 Logistic 1719 PM 1679	1822 1813 1382	1390 1553 1406	1609 1687 1742
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.41 Logistic 0.38 PM 0.36	0.58 0.44 0.66	0.28 0.20 0.22	0.35 0.35 0.36

DFC of Critical Approach = AM 0.58
Logistic 0.44
PM 0.66

Roundabout Junction Calculation

Junction : (RA2) Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Hig Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7.3	7.1	7.3	7.3
E	= Entry width (m)	13.5	12	9.5	10
L	= Effective length of flare (m)	30	15	30	15
R	= Entry radius	45	97	52	34
D	= Inscribed circle diameter (m)	100	100	100	100
A	= Entry angle (degree)	29	32	31	46
Q	= Entry flow (pcu/hr)	AM 905 Logistic 865 PM 975	1040 1075 1015	650 620 565	775 645 485
Qc	= Circulating flow across entry (pcu/hr)	AM 1035 Logistic 905 PM 735	1000 930 1420	1320 1325 1415	835 825 760

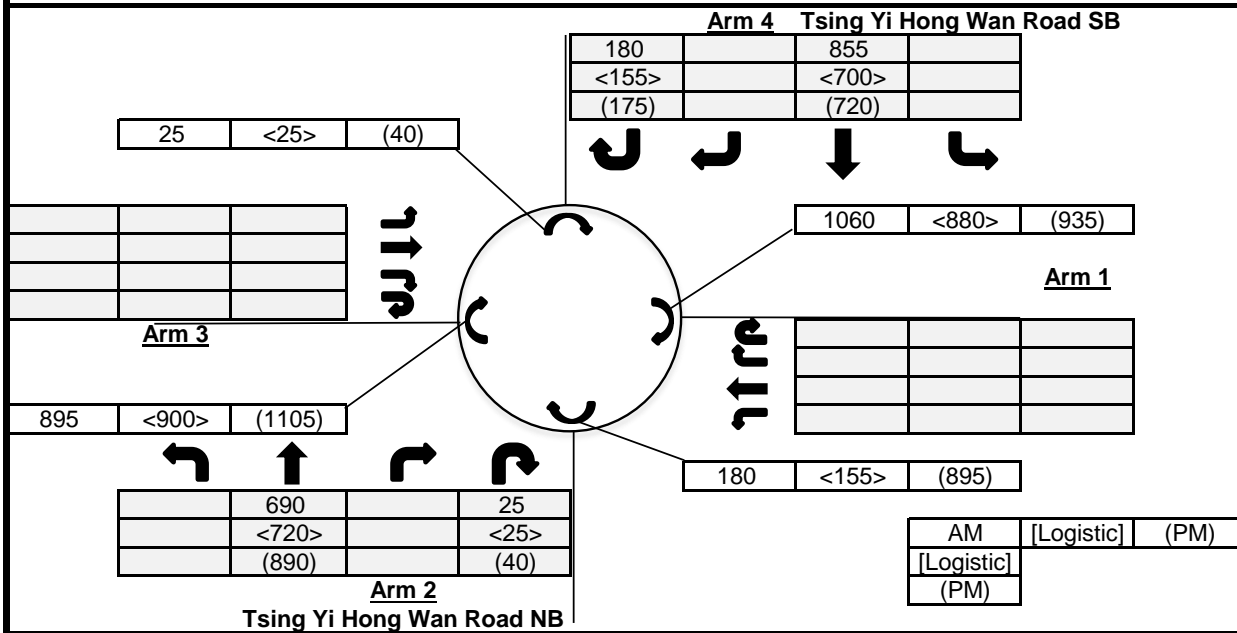
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L	0.33	0.52	0.12	0.29
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	1.03	1.03	1.03	0.96
X2	= V+((E-V)/(1+2*S))	11.03	9.50	9.08	9.01
M	= Exp((D-60)/10)	54.60	54.60	54.60	54.60
F	= 303*X2	3343	2877	2752	2731
Td	= 1+(0.5/(1+M))	1.01	1.01	1.01	1.01
Fc	= 0.21*Td*(1+0.2*X2)	0.68	0.61	0.60	0.59
Qe	= Capacity = K*(F-Fc*Qc)	AM 2720 Logistic 2811 PM 2930	2335 2379 2069	2016 2013 1958	2156 2162 2199
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.33 Logistic 0.31 PM 0.33	0.45 0.45 0.49	0.32 0.31 0.29	0.36 0.30 0.22

DFC of Critical Approach = AM 0.45
Logistic 0.45
PM 0.49

Roundabout Junction Calculation

Junction : (RA3) Tsing Yi Hong Wan Road Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		7		7.3
E	= Entry width (m)		14		12
L	= Effective length of flare (m)		20		2
R	= Entry radius		65		75
D	= Inscribed circle diameter (m)		68		68
A	= Entry angle (degree)		53		46
Q	= Entry flow (pcu/hr)		715		1035
		AM			
		Logistic	745		855
		PM	930		895
Qc	= Circulating flow across entry (pcu/hr)		180		25
		AM			
		Logistic	155		25
		PM	895		40

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.56		3.76
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		0.95		0.98
X2	= $V+((E-V)/(1+2*S))$		10.30		7.85
M	= $Exp((D-60)/10)$		2.23		2.23
F	= $303*X2$		3121		2379
Td	= $1+(0.5/(1+M))$		1.16		1.16
Fc	= $0.21*Td*(1+0.2*X2)$		0.74		0.62
Qe	= Capacity = $K*(F-Fc*Qc)$		2851		2317
		AM			
		Logistic	2868		2317
		PM	2344		2308
DFC	= Entry Flow/Capacity = Q/Qe		0.25		0.45
		AM			
		Logistic	0.26		0.37
		PM	0.40		0.39

DFC of Critical Approach = AM 0.45
 Logistic 0.37
 PM 0.40

Roundabout Junction Calculation

Junction : (RA4) Tsing Yi Hong Wan Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow

Arm 4 Tsing Yi Hong Wan Road SB

450		245	180
<365>		<230>	<155>
(345)		(200)	(250)

Arm 1 Tsing Yi Hong Wan Road

710	<1105>	(1065)	

Arm 3 Tsing Ko Road

315	<155>	(250)	
10	<5>	(20)	
5	<365>	(345)	

Arm 2 Tsing Yi Hong Wan Road NB

560	<645>	(655)	
25	110		0
<25>	<140>		<140>
(20)	(155)		(155)

Time Periods

AM	[Logistic]	(PM)
[Logistic]		
(PM)		

Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4	
V	=	Approach half width (m)	6.7	6.3	7.3	
E	=	Entry width (m)	13.5	12.5	15	
L	=	Effective length of flare (m)	18	30	30	
R	=	Entry radius	47	100	75	
D	=	Inscribed circle diameter (m)	68	68	68	
A	=	Entry angle (degree)	41	22	46	
Q	=	Entry flow (pcu/hr)	AM Logistic PM	135 305 330	330 525 615	875 750 795
Qc	=	Circulating flow across entry (pcu/hr)	AM Logistic PM	455 730 890	560 645 655	15 510 520

Output Parameters

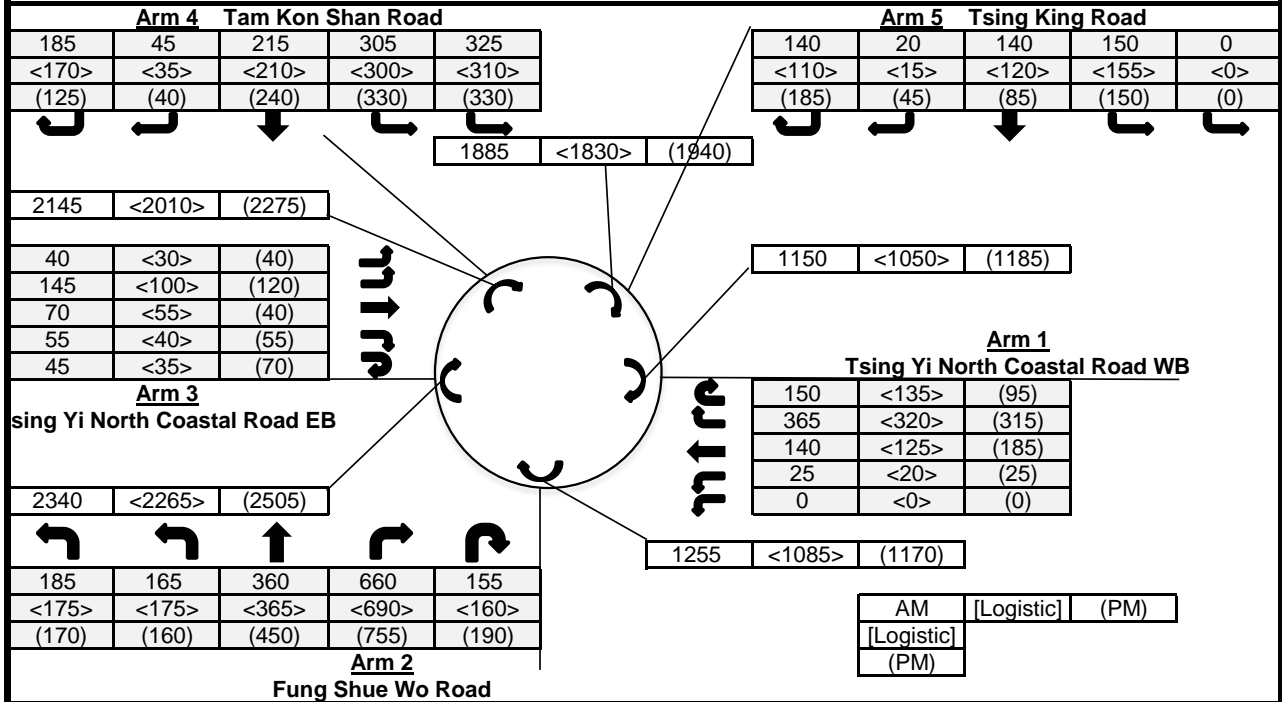
		Arm 1	Arm 2	Arm 3	Arm 4	
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.60	0.33	0.41	
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.99	1.07	0.98	
X2	=	$V+((E-V)/(1+2*S))$	9.78	10.03	11.53	
M	=	$\text{Exp}((D-60)/10)$	2.23	2.23	2.23	
F	=	$303*X2$	2963	3040	3493	
Td	=	$1+(0.5/(1+M))$	1.16	1.16	1.16	
Fc	=	$0.21*Td*(1+0.2*X2)$	0.72	0.73	0.80	
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM Logistic PM	2610 2415 2301	2807 2741 2733	3412 3023 3015
DFC	=	Entry Flow/Capacity = Q/Qe	AM Logistic PM	0.05 0.13 0.14	0.12 0.19 0.22	0.26 0.25 0.26

DFC of Critical Approach = AM **0.26**
Logistic **0.25**
PM **0.26**

Roundabout Junction Calculation

Junction : (RA5) Tam Kon Shan Interchange Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
V	=	Approach half width (m)	7	7.3	5.5	7.3	7
E	=	Entry width (m)	9	13.5	7.5	13.5	11
L	=	Effective length of flare (m)	9	20	11	50	10
R	=	Entry radius	100	35	45	35	45
D	=	Inscribed circle diameter (m)	100	100	100	100	100
A	=	Entry angle (degree)	30	25	25	45	45
Q	=	Entry flow (pcu/hr)	AM 680	1525	355	1075	450
			Logistic 600	1565	260	1025	400
			PM 620	1725	325	1065	465
Qc	=	Circulating flow across entry (pcu/hr)	AM 1150	1255	2340	2145	1885
			Logistic 1050	1085	2265	2010	1830
			PM 1185	1170	2505	2275	1940

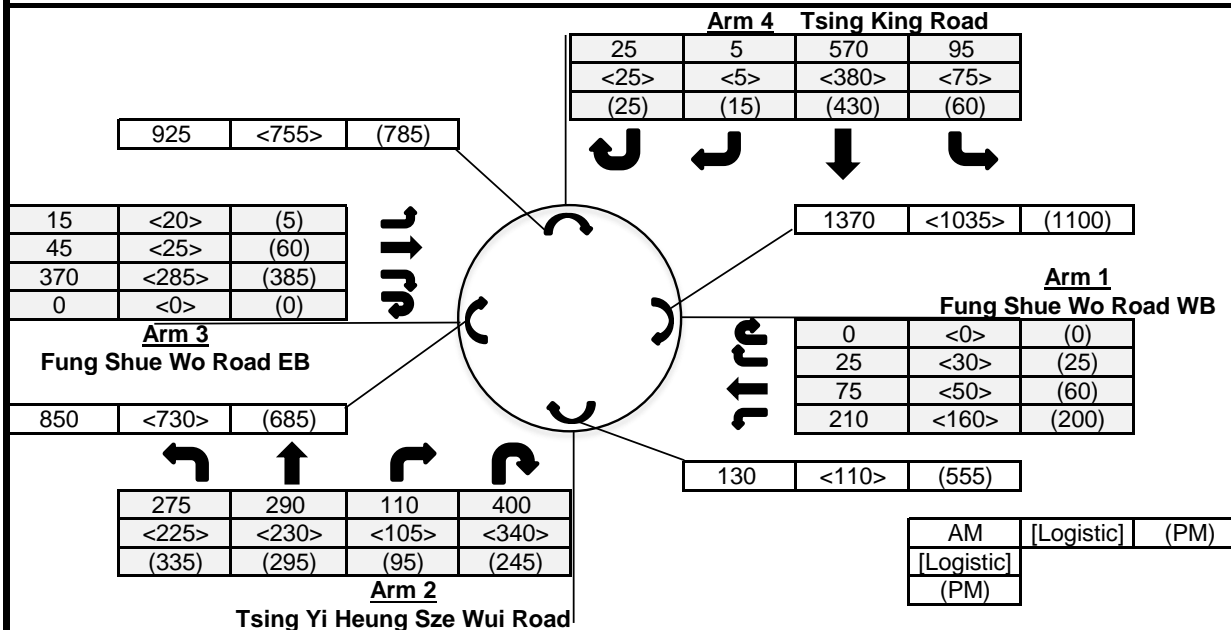
Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
S	=	Sharpness of flare = 1.6*(E-V)/L	0.36	0.50	0.29	0.20	0.64
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.04	1.04	1.04	0.97	0.98
X2	=	V+((E-V)/(1+2*S))	8.17	10.41	6.76	11.74	8.75
M	=	Exp((D-60)/10)	54.60	54.60	54.60	54.60	54.60
F	=	303*X2	2475	3155	2050	3557	2653
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01	1.01
Fc	=	0.21*Td*(1+0.2*X2)	0.56	0.65	0.50	0.71	0.58
Qe	=	Capacity = K*(F-Fc*Qc)	AM 1905	2425	922	1972	1515
			Logistic 1963	2540	961	2065	1546
			PM 1885	2482	836	1883	1484
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.36	0.63	0.38	0.55	0.30
			Logistic 0.31	0.62	0.27	0.50	0.26
			PM 0.33	0.69	0.39	0.57	0.31

DFC of Critical Approach = AM 0.63
 Logistic 0.62
 PM 0.69

Roundabout Junction Calculation

Junction : (RA6) Tsing King Road / Fung Shue Wo Road Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	6.7	7.3	7.3	6.9
E	=	Entry width (m)	9.7	10	9.2	8.9
L	=	Effective length of flare (m)	16	20	14	16
R	=	Entry radius	55	71	60	62
D	=	Inscribed circle diameter (m)	100	100	100	100
A	=	Entry angle (degree)	36	30	18	25
Q	=	Entry flow (pcu/hr)	310	1075	430	695
		AM	310	1075	430	695
		Logistic	240	900	330	485
		PM	285	970	450	530
Qc	=	Circulating flow across entry (pcu/hr)	1370	130	850	925
		AM	1370	130	850	925
		Logistic	1035	110	730	755
		PM	1100	555	685	785

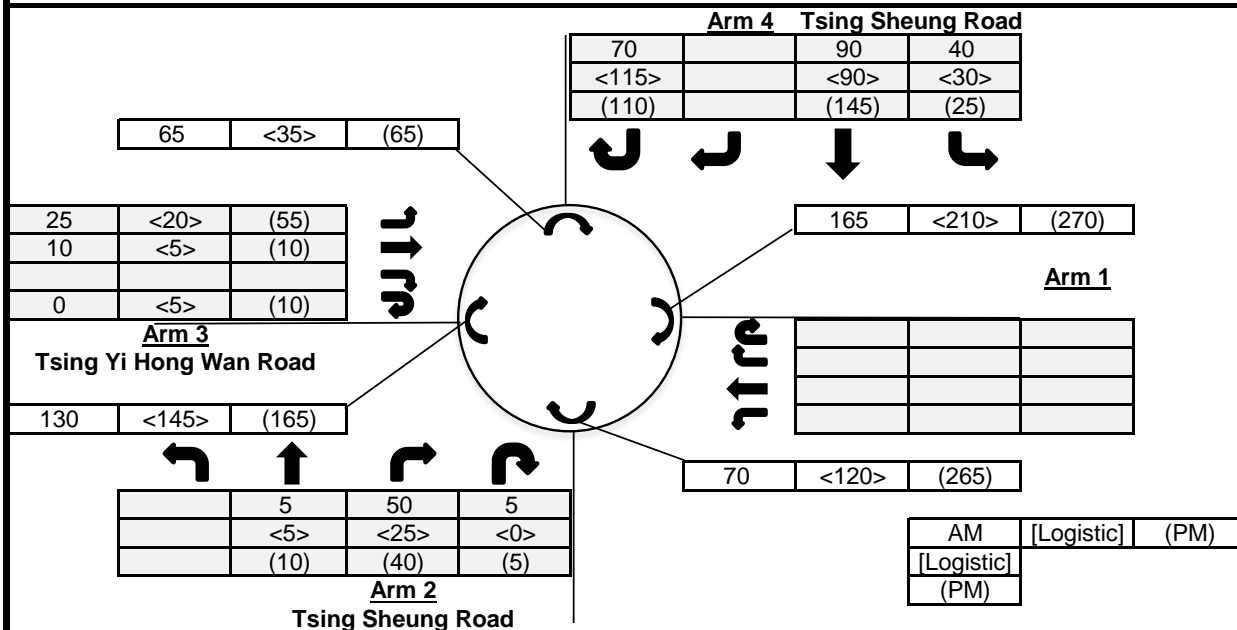
Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.30	0.22	0.22	0.20
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.01	1.04	1.07	1.05
X2	=	$V+((E-V)/(1+2*S))$	8.58	9.19	8.62	8.33
M	=	$Exp((D-60)/10)$	54.60	54.60	54.60	54.60
F	=	$303*X2$	2598	2783	2613	2524
Td	=	$1+(0.5/(1+M))$	1.01	1.01	1.01	1.01
Fc	=	$0.21*Td*(1+0.2*X2)$	0.58	0.60	0.58	0.56
Qe	=	Capacity = $K*(F-Fc*Qc)$	1829	2800	2280	2102
		AM	1829	2800	2280	2102
		Logistic	2023	2813	2355	2203
		PM	1986	2536	2382	2185
DFC	=	Entry Flow/Capacity = Q/Qe	0.17	0.38	0.19	0.33
		AM	0.17	0.38	0.19	0.33
		Logistic	0.12	0.32	0.14	0.22
		PM	0.14	0.38	0.19	0.24

DFC of Critical Approach = AM 0.38
 Logistic 0.32
 PM 0.38

Roundabout Junction Calculation

Junction : (RA7) Tsing Yi Hong Wan Road / Tsing Sheung Road Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		5.2	3	6.7
E	= Entry width (m)		9	8.4	12
L	= Effective length of flare (m)		25	15	23
R	= Entry radius		63	55	11.6
D	= Inscribed circle diameter (m)		53	53	53
A	= Entry angle (degree)		33	48	38
Q	= Entry flow (pcu/hr)	AM	60	35	200
		Logistic	30	30	235
		PM	55	75	280
Qc	= Circulating flow across entry (pcu/hr)	AM	70	130	65
		Logistic	120	145	35
		PM	265	165	65

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.24	0.58	0.37
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		1.02	0.97	0.94
X2	= $V+((E-V)/(1+2*S))$		7.76	5.51	9.75
M	= $Exp((D-60)/10)$		0.50	0.50	0.50
F	= $303*X2$		2350	1669	2954
Td	= $1+(0.5/(1+M))$		1.33	1.33	1.33
Fc	= $0.21*Td*(1+0.2*X2)$		0.71	0.59	0.83
Qe	= Capacity = $K*(F-Fc*Qc)$	AM	2353	1543	2717
		Logistic	2316	1534	2741
		PM	2210	1523	2717
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.03	0.02	0.07
		Logistic	0.01	0.02	0.09
		PM	0.02	0.05	0.10

DFC of Critical Approach = AM 0.07
 Logistic 0.09
 PM 0.10

Roundabout Junction Calculation

Junction : (RA8) Tsing Yi Road / Ching Hong Road Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow

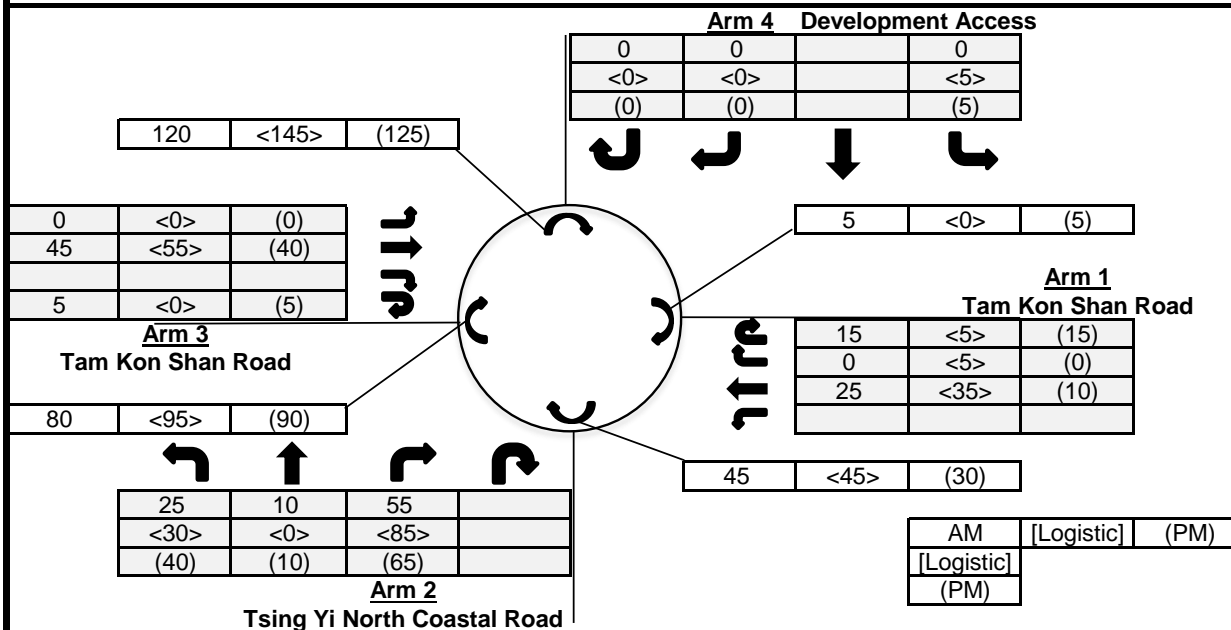
Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		4.5	7.3	7
E	= Entry width (m)		9	8.5	8.5
L	= Effective length of flare (m)		25	4	16
R	= Entry radius		24.5	30	100
D	= Inscribed circle diameter (m)		30	30	30
A	= Entry angle (degree)		44	40	27
Q	= Entry flow (pcu/hr)		390	760	945
		AM	390	760	945
		Logistic	390	765	940
		PM	385	760	945
Qc	= Circulating flow across entry (pcu/hr)		650	530	440
		AM	650	530	440
		Logistic	715	445	460
		PM	1010	495	460

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.29	0.48	0.15
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		0.96	0.98	1.05
X2	= $V+((E-V)/(1+2*S))$		7.36	7.91	8.15
M	= $Exp((D-60)/10)$		0.05	0.05	0.05
F	= $303*X2$		2229	2397	2471
Td	= $1+(0.5/(1+M))$		1.48	1.48	1.48
Fc	= $0.21*Td*(1+0.2*X2)$		0.77	0.80	0.82
Qe	= Capacity = $K*(F-Fc*Qc)$		1662	1937	2216
		AM	1662	1937	2216
		Logistic	1614	2004	2199
		PM	1397	1964	2199
DFC	= Entry Flow/Capacity = Q/Qe		0.23	0.39	0.43
		AM	0.23	0.39	0.43
		Logistic	0.24	0.38	0.43
		PM	0.28	0.39	0.43

DFC of Critical Approach	=				
		AM	0.43		
		Logistic	0.43		
		PM	0.43		

Roundabout Junction Calculation

Junction : (RA9) Tam Kon Shan Road Job No.: 23125HK
 Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	3.3	4	3.4	4.2
E	= Entry width (m)	6.7	4.9	5.8	5.4
L	= Effective length of flare (m)	10	10	10	10
R	= Entry radius	32	97	52	34
D	= Inscribed circle diameter (m)	30	30	30	30
A	= Entry angle (degree)	34	32	31	46
Q	= Entry flow (pcu/hr)	AM 40 Logistic 45 PM 25	90 115 115	50 55 45	0 5 5
Qc	= Circulating flow across entry (pcu/hr)	AM 5 Logistic 0 PM 5	45 45 30	80 95 90	120 145 125

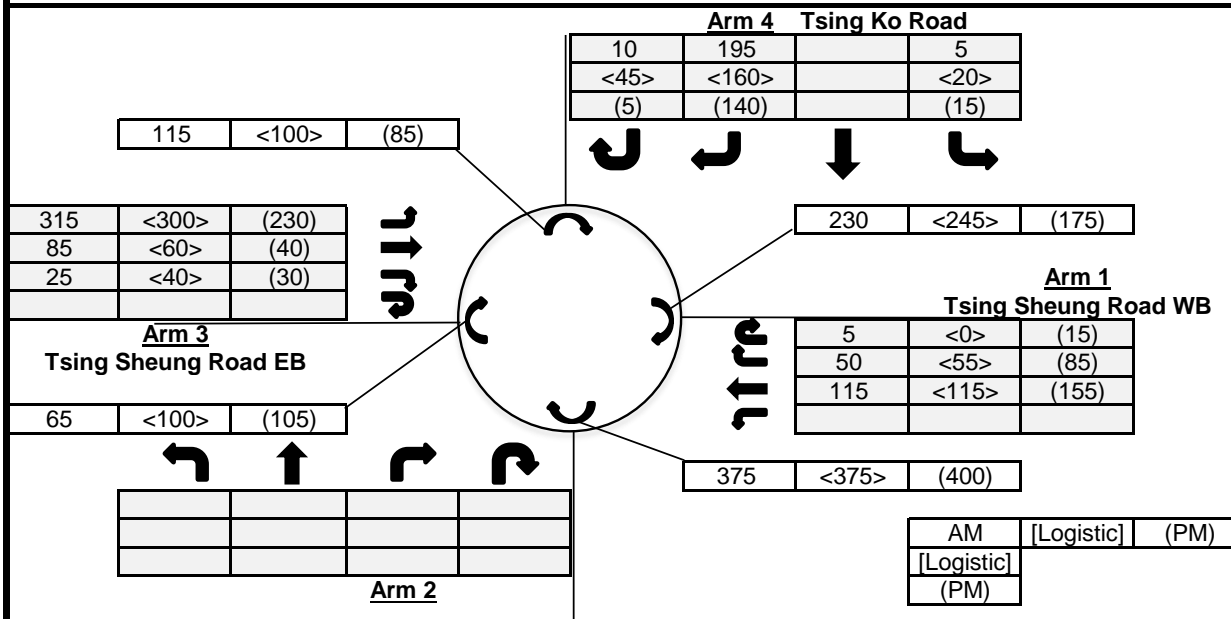
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.54	0.14	0.38	0.19
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.00	1.03	1.03	0.96
X2	= $V+((E-V)/(1+2*S))$	4.93	4.70	4.76	5.07
M	= $Exp((D-60)/10)$	0.05	0.05	0.05	0.05
F	= $303*X2$	1493	1424	1442	1535
Td	= $1+(0.5/(1+M))$	1.48	1.48	1.48	1.48
Fc	= $0.21*Td*(1+0.2*X2)$	0.62	0.60	0.61	0.62
Qe	= Capacity = $K*(F-Fc*Qc)$	AM 1497 Logistic 1500 PM 1497	1441 1441 1450	1430 1421 1424	1409 1394 1406
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.03 Logistic 0.03 PM 0.02	0.06 0.08 0.08	0.03 0.04 0.03	0.00 0.00 0.00

**DFC of Critical Approach = AM 0.06
Logistic 0.08
PM 0.08**

Roundabout Junction Calculation

Junction : (RA10) Tsing Sheung Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2024 Observed Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	6.6		5.6	6.4
E	= Entry width (m)	12.9		5.1	11.6
L	= Effective length of flare (m)	18		30	30
R	= Entry radius	47		67.3	75
D	= Inscribed circle diameter (m)	50		50	50
A	= Entry angle (degree)	41		22	46
Q	= Entry flow (pcu/hr)	AM 170		425	210
		Logistic 170		400	225
		PM 255		300	160
Qc	= Circulating flow across entry (pcu/hr)	AM 230		65	115
		Logistic 245		100	100
		PM 175		105	85

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.56		-0.03	0.28
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.99		1.06	0.98
X2	= $V+((E-V)/(1+2*S))$	9.57		5.07	9.74
M	= $Exp((D-60)/10)$	0.37		0.37	0.37
F	= $303*X2$	2900		1537	2953
Td	= $1+(0.5/(1+M))$	1.37		1.37	1.37
Fc	= $0.21*Td*(1+0.2*X2)$	0.84		0.58	0.85
Qe	= Capacity = $K*(F-Fc*Qc)$	AM 2681		1592	2799
		Logistic 2668		1571	2812
		PM 2726		1568	2824
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.06		0.27	0.08
		Logistic 0.06		0.25	0.08
		PM 0.09		0.19	0.06

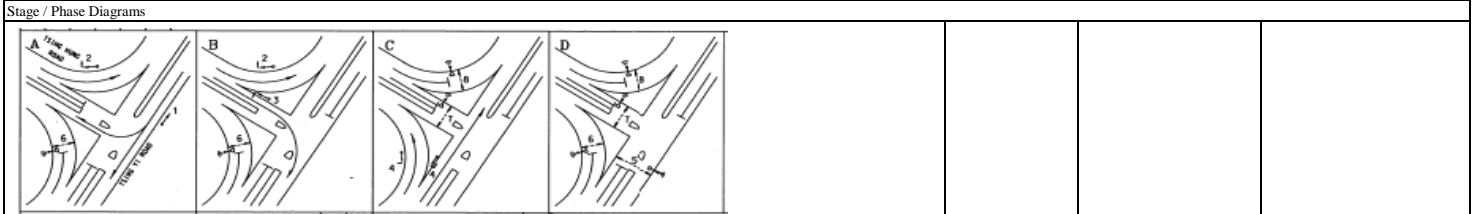
DFC of Critical Approach = AM 0.27
 Logistic 0.25
 PM 0.19

Junction: (J1) Tsing Yi Road West / Cheung Tsing Highway																								
Description: 2029 Reference Traffic Flow																								
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside O/D	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak			
						Left	Right			A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	0%	1965	6135	1965	1965	5900	5825	218	0.111	0.111	160	0.081	0.083	
	S	↔	2	A	3.3	0	20	0	0	46%	100%	2085	0	2015	1940	0	0	224	0.111		161	0.083		
	S	↔	2	A	3.3	0	17.5	0	0	100%	100%	2085	0	1920	1920	0	0	213	0.111		159	0.083		
Cheung Tsing Highway	E	↑	3	A,B	3.4	20	0	0	1	100%	100%	1955	1955	1820	1820	1820	1820	545	0.299		420	0.231		
	E	↔	4	B	3.5	0	30	0	0	100%	100%	2105	4210	2005	2005	3990	3990	229	0.114		153	0.076		
	E	↓	4	B	3.5	0	25	0	0	100%	100%	2105	0	1985	1985	0	0	226	0.114	0.114	152	0.076	0.076	
Tsing Yi Road West	N	↔	1	C	3.6	20	0	6.5	1	100%	100%	1702	3544	1585	1585	3425	3425	410	0.259	0.259	350	0.221	0.221	
	N	↑	1	C	3.6	0	0	6.5	0	0%	0%	1842	0	1840	1840	0	0	325	0.177		290	0.158		
*																								
Pedestrian crossing			↔	5P	C	Min. Green time = 5GM + 10FG = 15s																		
			↕	6P	C	Min. Green time = 5GM + 6FG = 11s																		
			↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s																		
			↕	8P	B	Min. Green time = 5GM + 10FG = 15s																		
Notes:												Traffic Flow (pcu / hr)				A.M. Check Phase		P.M. Check Phase						
																ey 0.484 0.558 L (sec) 13 9 C (sec) 100 100 y pract. 0.783 0.819 R.C. (%) 62% 47%		ey 0.380 0.452 L (sec) 13 9 C (sec) 105 105 y pract. 0.789 0.823 R.C. (%) 107% 82%						
Stage / Phase Diagrams																								
I/G = 5							I/G = 5							I/G = 6										

Junction: (J2) Tsing Hung Road / Tsing Yi Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right	N	AM	PM		AM	PM			AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
																							Width	Radius
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	381	0.194		275	0.140			
	S	↓	1	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	409	0.194		295	0.140			
	S	←	1	A	3.6	0.0	18	0	100%	100%	2115	2115	1950	1950	1950	1950	370	0.190		380	0.195	0.195		
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%	100%	2015	2015	1920	1920	1920	1920	60	0.031		55	0.029			
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	330	0.157	0.157	270	0.128			
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	330	0.157		270	0.128	0.128		
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	525	0.286	0.286	340	0.185			
	E	→	3	B	4.0	0.0	22	0	100%	100%	2155	2155	2015	2015	2015	2015	45	0.022		30	0.015			
Pedestrian Crossing		↔	5P	D	Min. Green time = 5GM + 7FG = 12s																			
		↔	6P	A,B,D	Min. Green time = 5GM + 5FG = 10s																			
		↔	7P	C,D	Min. Green time = 5GM + 10FG = 15s																			
		↔	8P	C,D	Min. Green time = 5GM + 5FG = 10s																			

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	A,B,C,D		A,B,C,D	
			AM Peak Check Phase	PM Peak Check Phase	A,B,C,D	AB,C,D
	525(340) 45(30)		Ey 0.373 L (sec) 33 C (sec) 120 y pract. 0.653 R.C. (%) 75%	Ey 0.443 L (sec) 22 C (sec) 120 y pract. 0.735 R.C. (%) 66%	Ey 0.323 L (sec) 33 C (sec) 100 y pract. 0.603 R.C. (%) 87%	AB,C,D 0.314 L (sec) 22 C (sec) 100 y pract. 0.702 R.C. (%) 124%



I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12		
I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12		

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		(%) uphill Gradient	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
					Left	Right	Left	Right	A.M.			P.M.	A.M.			P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%	100%	1792	1792	1630	1630	275	0.169	0.169	230	0.141	0.141		
	NE	↗	1	A	3.4	0	0	6.5	0	0%	0%	1822	1822	1820	1820	230	0.126		220	0.121			
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%	100%	1995	1995	1815	1815	485	0.267		410	0.226			
	NW	↗	4	D	3.8	0	25	0	0	100%	100%	2135	2135	2015	2015	225	0.112	0.112	190	0.094	0.094		
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%	0%	1955	1955	1955	1955	235	0.120		145	0.074			
	SE	↙	2	B,C	3.7	0	25	0	0	100%	100%	2125	2125	2005	2005	535	0.267	0.267	255	0.127	0.127		
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s																		

Notes:	<p>Traffic Flow (pcu / hr)</p>	<p>A.M. Check Phase</p> <p>Ey 0.547 L (sec) 19 C (sec) 120 y pract. 0.758 R.C. (%) 38%</p>	<p>P.M. Check Phase</p> <p>Ey 0.363 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 105%</p>
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Stage / Phase Diagrams			
<p>A</p>	<p>B</p>	<p>C</p>	<p>D</p>
I/G = 7	I/G = 10		I/G = 5

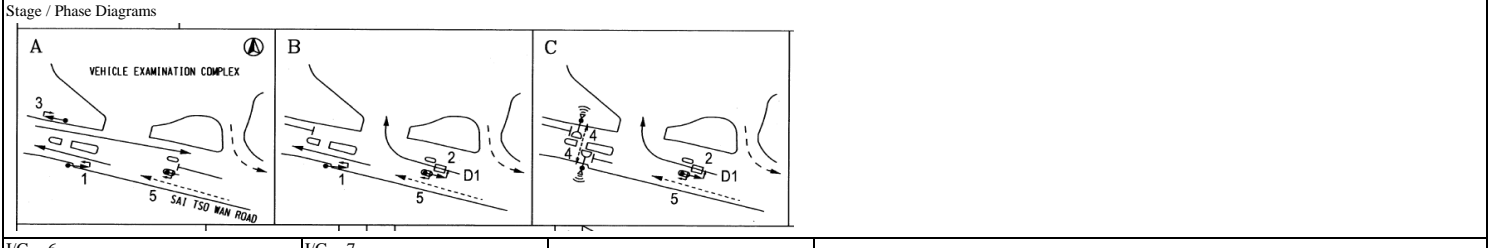
TRAFFIC SIGNALS CALCULATION

Job No: 23125HK

Junction: **(J5) Sai Tso Wan Road Near VEC**
 Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Radius (m)			Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak				
					Left	Right	AM		PM	AM			PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
																						Width (m)	Width (m)	Width (m)
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	595	0.295	0.295	490	0.243			
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	555	0.275		675	0.335	0.335		
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%	100%	2155	2155	1875	1875	1875	1875	150	0.080	0.080	35	0.019			

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak	A,BC	AB,C	A,BC	AB,C
			AM Peak Check Phase	PM Peak Check Phase		
		595(490) →	εy 0.375 0.275	εy 0.262 0.335		
		↖ 150(35)	L (sec) 11 18	L (sec) 11 18		
		← 555(675)	C (sec) 91 91	C (sec) 91 91		
			y pract. 0.791 0.722	y pract. 0.791 0.722		
			R.C. (%) 111% 162%	R.C. (%) 202% 116%		

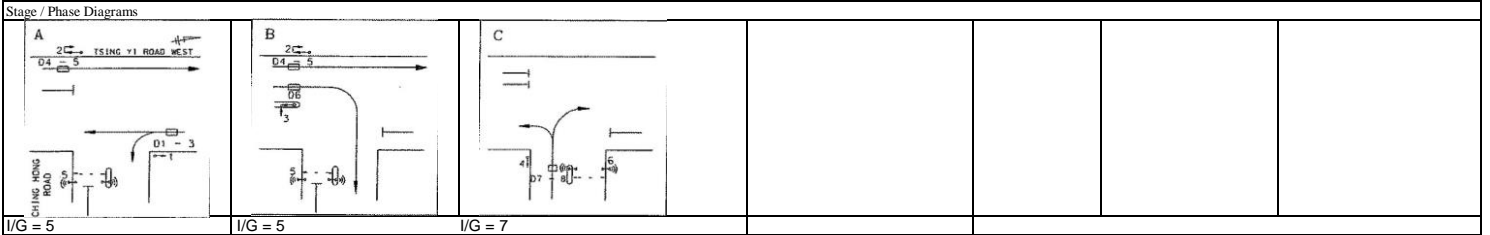


I/G = 6 I/G = 7

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	5.5	0	0%	0%	1824	3698	1824	1824	3698	3698	190	0.104	0.207	126	0.069	0.128
	S	↓	1	A	3.5	0.0	0	5.5	0	0%	0%	1874	0	1874	1874	0	0	195	0.104		129	0.069	
	S	↘	1	A	3.7	10.0	0	5.5	1	100%	100%	1754	1754	1525	1525	1525	1525	315	0.207		195	0.128	
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	188	0.096		210	0.107	
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	202	0.096		225	0.107	
	N	↗	3	B	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	380	0.197	0.197	315	0.164	0.164
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	18% / 82%	17% / 83%	2095	0	1945	1945	0	0	298	0.153	0.153	264	0.136	0.136
	W	↙	4	C	3.4	15.0	0	0	1	100%	100%	1955	4050	1775	1775	3720	3720	272	0.153		241	0.136	
Pedestrian crossing		↕	5P	A,B																			
		↕	6P	C																			
Min. Green time = 11s (G) + 8s (FS) = 19s Min. Green time = 5s (G) + 12s (FS) = 17s																							
Pedestrian Crossing																							

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 390(435) 380(315)	Weekday AM Peak 385(255) 315(195)	AM Peak Check Phase Ey 0.557 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 39%	PM Peak Check Phase Ey 0.427 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 81%



Junction: (J9) Tsing Yi Road West / Liu To Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
						Tsing Yi Road West	S			↓	2			A,B	3.3	0.0	0	5	1	0%	0%	1735	3610
	S	↓	2	A,B	3.3	0.0	0	5	0	0%	0%	1875	0	1875	1875	0	0	229	0.122		195	0.104	
	S	↙	3	B	3.3	0.0	22	5	0	100%	100%	1875	1875	1755	1755	1755	1755	310	0.177	0.177	335	0.191	0.191
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	50%	38%	1935	4100	1800	1830	3965	3995	288	0.160	0.160	300	0.164	0.164
	N	↑	1	A	4.1	0.0	0	0	0	0%	0%	2165	0	2165	2165	0	0	347	0.160		355	0.164	
Liu To Road	E	↗	5	B,C	3.2	10.0	0	0	1	100%	100%	1935	1935	1685	1685	1685	1685	410	0.243		295	0.175	
	E	↘	4	C	4.1	0.0	18	0	0	100%	100%	2165	2165	2000	2000	2000	2000	250	0.125	0.125	80	0.040	0.040
Pedestrian crossing		↑ ↓ ↔	6P 7P 8P	A,D C,D D																			

A,B,C,D A,B,C,D A,B,C,D A,B,C,D

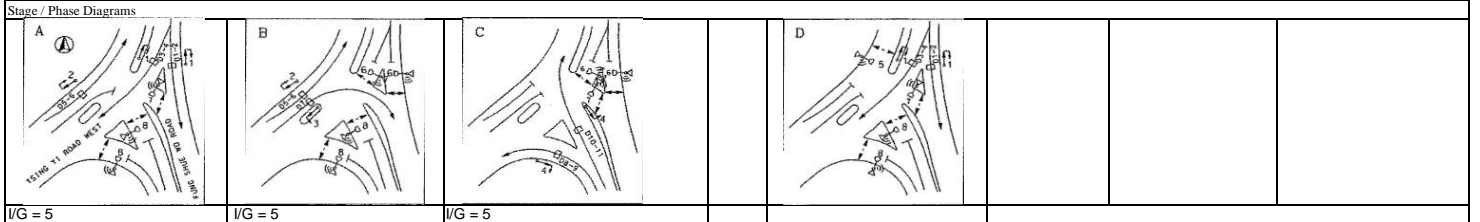
Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 	AM Peak Check Phase		PM Peak Check Phase	
		6y 0.404 0.462 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 65% 38%	6y 0.339 0.395 L (sec) 34 38 C (sec) 110 110 y pract. 0.622 0.589 R.C. (%) 83% 49%		

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: **(J10) Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		% uphill Gradient	Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM				AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road (To Tsing Yi Road West)	S	↓	1	A,D	4.1	0.0	0	3	0	0%	0%	1	2039	4058	2039	2039	4058	4058	304	0.149	0.292	279	0.137	0.240
	S	↓	1	A,D	3.9	0.0	0	3	0	0%	0%	1	2019	0	2019	2019	0	0	301	0.149		276	0.137	
Fung Shue Wo Road (To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	1	0%	0%	1	1889	2294.8	1889	1889	2294.8	2294.8	552	0.292		453	0.240	
	S	↓	1	A,D	4.0	0.0	0	3	0	0%	0%	0.2	405.8	0	405.8	405.8	0	0	118	0.292		97	0.240	
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1	1965	2491.3	1965	1965	2491.25	2491.25	540	0.275		544	0.277	
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	0.25	526.25	0	526.25	526.25	0	0	145	0.275		146	0.277	
	N	↗	3	B	3.6	0.0	18	0	0	100%	100%	1	2115	2115	1950	1950	1950	1950	220	0.113	0.113	145	0.074	0.074
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%	100%	1	1869	2193.6	1790	1790	2100	2100	128	0.071		124	0.069	
	N	↖	4	C	4.0	38.0	0	3	0	100%	100%	0.16	324.64	0	310	310	0	0	22	0.071		21	0.069	
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%	100%	0.23	457.47	2446.5	440	440	2355	2355	121	0.274	0.274	103	0.234	0.234
	N	↗	4	C	3.6	0.0	40	3	0	100%	100%	1	1989	0	1915	1915	0	0	524	0.274		447	0.234	
Pedestrian crossing		↔	5P	D																				
		↔	6P	B,C																				
		↕	7P	A,C,D																				
		↕	8P	A,B,D																				

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
		605(555) 670(550) ↓ ↑ ↗ ↖ 685(690) 220(145) 150(145) 645(550)	E _y 0.679 L (sec) 12 C (sec) 100 y pract. 0.792 R.C. (%) 17%	E _y 0.548 L (sec) 12 C (sec) 100 y pract. 0.792 R.C. (%) 45%



Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	702	0.357		611	0.311	0.311
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	753	0.357		654	0.311	
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	31% / 69%	47% / 53%	2105	0	1955	1950	0	0	428	0.219	0.219	360	0.185	0.185
	W	↘	3	C	3.5	15.0	0	0	1	100%	100%	1965	4070	1785	1785	3740	3735	392	0.219		330	0.185	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.5	10.0	0	0	1	100%	100%	1965	6175	1710	1710	5920	5920	695	0.406	0.406	495	0.289	
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	555	0.264		428	0.203	
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	555	0.264		428	0.203	
Pedestrian crossing		↑ ↓	4P	B																			Min. Green time = 8GM + 11FG = 19s
		← →	5P	D																			Min. Green time = 5GM + 10FG = 15s
		← →	6P	C																			Min. Green time = 5GM + 8FG = 13s

AB,C,D AD,B,C AB,C,D AD,B,C

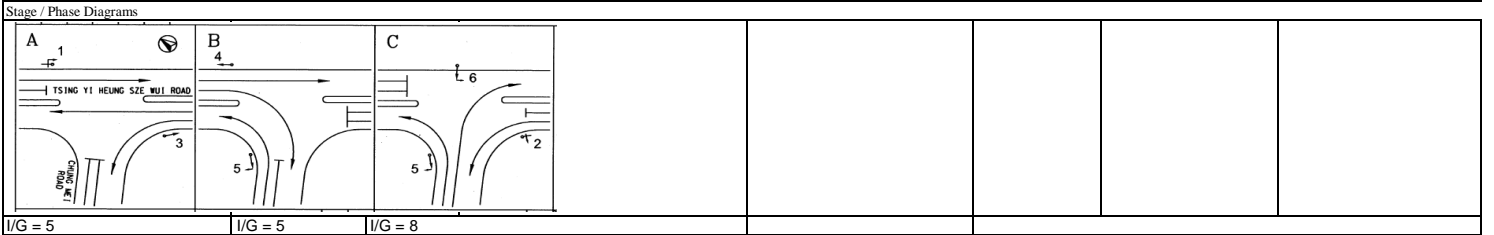
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase		
		1455(1265)	1110(855)	695(495)	Ey 0.577	0.626	Ey 0.496	0.474
			↓	↘	L (sec) 32	33	L (sec) 32	33
					C (sec) 114	114	C (sec) 100	100
					y pract. 0.647	0.639	y pract. 0.612	0.603
					R.C. (%) 12%	2%	R.C. (%) 23%	27%

Stage / Phase Diagrams			
I/G = 2	I/G = 8 + Ped 19	I/G = 3 I/G = 5	I/G = 5 I/G = 12 + Ped 15

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
						Chung Mei Road	E			↗	5			B,C	3.3	10.0	0	0	1	100%	100%	1945	1945
	E	↘	6	C	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	315	0.164	0.164	235	0.122	0.122
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	290	0.158		355	0.193	
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	545	0.259	0.259	478	0.227	0.227
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	545	0.259		478	0.227	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%	0%	1839	3818	1839	1839	3818	3818	621	0.338		486	0.265	
	S	↘	1	A,B	3.5	0.0	0	3	0	0%	0%	1979	0	1979	1979	0	0	669	0.338		524	0.265	
	S	↖	4	B	3.5	0.0	22	3	0	100%	100%	1979	1979	1855	1855	1855	1855	370	0.199	0.199	290	0.156	0.156

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
	260(280) 315(235)		Ey 0.622 L (sec) 15 C (sec) 114 y pract. 0.782 R.C. (%) 26%	Ey 0.505 L (sec) 15 C (sec) 100 y pract. 0.765 R.C. (%) 51%



Junction: (J14) Tsing Yi Road / Planned New Road
 Description: 2029 Reference Traffic Flow (With Planned New Road)

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road	N	↑	A	1	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4065	4065	554	0.282	0.282	539	0.274	0.274
	N	↗	A	1	3.5	0.0	40	0	0	8%	9%	2105	0	2100	2100	0	0	591	0.282		576	0.274	
Planned New Road	W	↖	C	3	3.5	0.0	18	0	0	100%	100%	2105	2105	1945	1945	1945	1945	50	0.026		50	0.026	
	W	↘	C	3	3.5	10.0	0	0	1	100%	100%	1965	1965	1710	1710	1710	1710	50	0.029	0.029	50	0.029	0.029
Tsing Yi Road	S	↘	B	2	3.5	10.0	0	0	1	10%	14%	1965	4070	1935	1925	4040	4030	496	0.256	0.256	365	0.190	0.190
	S	↓	B	2	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	539	0.256		400	0.190	
Pedestrian crossing		↔	Dp	1		Min. Green time = 5GM + 7FG = 12s																	
		↑	EP	1,2		Min. Green time = 5GM + 7FG = 12s																	
		↔	Fp	2,3		Min. Green time = 5GM + 7FG = 12s																	
		↓	Gp	3		Min. Green time = 5GM + 7FG = 12s																	
		↔	Hp	1,3		Min. Green time = 5GM + 7FG = 12s																	
		↔	Ip	2		Min. Green time = 5GM + 7FG = 12s																	

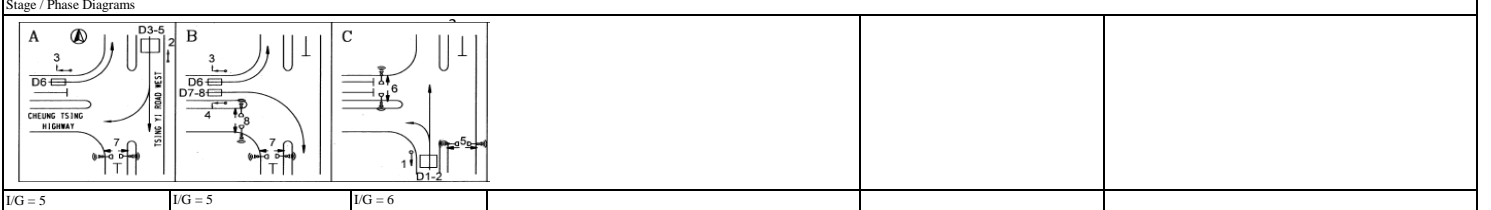
Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 1095(1065) 50(50) 985(715) 50(50) 	AM Peak Check Phase Ey 0.311 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 146%	PM Peak Check Phase Ey 0.304 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 152%
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Stage / Phase Diagrams			
1.	2.	3.	
I/G = 5	I/G = 10	I/G = 6	

Junction: (J1) Cheung Tsing Highway / Tsing Yi Road West
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	0	1	0%		1965	6135	1965	5895	158	0.081	0.081			
	S	↙	2	A	3.3	0	20	0	0	50%		2085	0	2010	0	162	0.081					
	S	↘	2	A	3.3	0	17.5	0	0	100%		2085	0	1920	0	155	0.081					
Cheung Tsing Highway	E	↗	3	A,B	3.4	20	0	0	1	100%		1955	1955	1820	1820	405	0.223					
	E	↘	4	B	3.5	0	30	0	0	100%		2105	4070	2005	3860	265	0.132					
	E	↙	4	B	3.5	0	25	0	1	100%		1965	0	1855	0	245	0.132	0.132				
Tsing Yi Road West	N	↙	1	C	3.6	20	0	6.5	1	100%		1702	3544	1585	3425	495	0.312	0.312				
	N	↘	1	C	3.6	0	0	6.5	0	0%		1842	0	1840	0	325	0.177					
Pedestrian crossing		↕	5P	C	Min. Green time = 5GM + 10FG = 15s																	
		↕	6P	C	Min. Green time = 5GM + 6FG = 11s																	
		↕	7P	A,B	Min. Green time = 5GM + 9FG = 14s																	
		↕	8P	B	Min. Green time = 5GM + 10FG = 15s																	

Notes:	Traffic Flow (pcu / hr)		Logistic Peak Check Phase														
			<table border="1"> <tr> <td>ey</td> <td>0.525</td> <td>0.535</td> </tr> <tr> <td>L (sec)</td> <td>13</td> <td>9</td> </tr> <tr> <td>C (sec)</td> <td>100</td> <td>100</td> </tr> <tr> <td>y pract.</td> <td>0.783</td> <td>0.819</td> </tr> <tr> <td>R.C. (%)</td> <td>49%</td> <td>53%</td> </tr> </table>	ey	0.525	0.535	L (sec)	13	9	C (sec)	100	100	y pract.	0.783	0.819	R.C. (%)	49%
ey	0.525	0.535															
L (sec)	13	9															
C (sec)	100	100															
y pract.	0.783	0.819															
R.C. (%)	49%	53%															



Junction: (J2) Tsing Hung Road / Tsing Yi Road																									
Description: 2029 Reference Traffic Flow																									
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)			Logistic Peak							
						Left	Right		Logistic Peak				Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y			
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%		1965	4070	1965		4070	338	0.172								
	S	↓	1	A	3.5	0.0	0	0	0%		2105	0	2105		0	362	0.172								
	S	←	1	A	3.6	0.0	18	0	100%		2115	2115	1950		1950	320	0.164	0.172							
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%		2015	2015	1920		1920	60	0.031								
	N	↑	4	C	3.5	0.0	0	0	0%		2105	4210	2105		4210	350	0.166								
	N	↑	4	C	3.5	0.0	0	0	0%		2105	0	2105		0	350	0.166	0.166							
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%		1945	1945	1835		1835	315	0.172								
	E	→	3	B	4.0	0.0	22	0	100%		2155	2155	2015		2015	45	0.022								
Pedestrian Crossing		↔	5P	D																					
		↔	6P	A,B,D																					
		↔	7P	C,D																					
		↔	8P	C,D																					
											A,B,C,D		A,B,C,D												
Notes:											Traffic Flow (pcu / hr) Weekday AM Peak					Logistic Peak Check Phase									
																Ey 0.338 0.338 L (sec) 33 22 C (sec) 100 100 y pract. 0.603 0.702 R.C. (%) 78% 108%									
Stage / Phase Diagrams																									
I/G = 2				I/G = 6 + Min. G 5				I/G = 5				I/G = 5 + 12													

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	NE	↶	1	A	4.5	15	0	6.5	1	100%		1792	1792	1630	275	0.169	0.169			
	NE	↷	1	A	3.4	0	0	6.5	0	0%		1822	1822	1820	265	0.146				
Sai Tso Wan Road	NW	↶	3	C,D	3.8	15	0	0	1	100%		1995	1995	1815	590	0.325				
	NW	↷	4	D	3.8	0	25	0	0	100%		2135	2135	2015	320	0.159	0.159			
Tsing Yi Road West	SE	↷	2	B,C	3.4	0	0	0	1	0%		1955	1955	1955	215	0.110				
	SE	↶	2	B,C	3.7	0	25	0	0	100%		2125	2125	2005	505	0.252	0.252			
Pedestrian crossing		↕	5p	A,B	Min. Green time = 5GM + 8FG = 13s															
		↕	6p	D	Min. Green time = 5GM + 10FG = 15s															
		↔	7p	B,C	Min. Green time = 5GM + 9FG = 14s															
		↔	8p	A,D	Min. Green time = 5GM + 7FG = 12s															

Notes:	Traffic Flow (pcu / hr)	Logistic Peak Check Phase E _y 0.579 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 29%
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Stage / Phase Diagrams			
A 	B 	C 	D
I/G = 5	I/G = 5	I/G = 2	I/G = 5
I/G = 5	I/G = 8+12	I/G = 2	

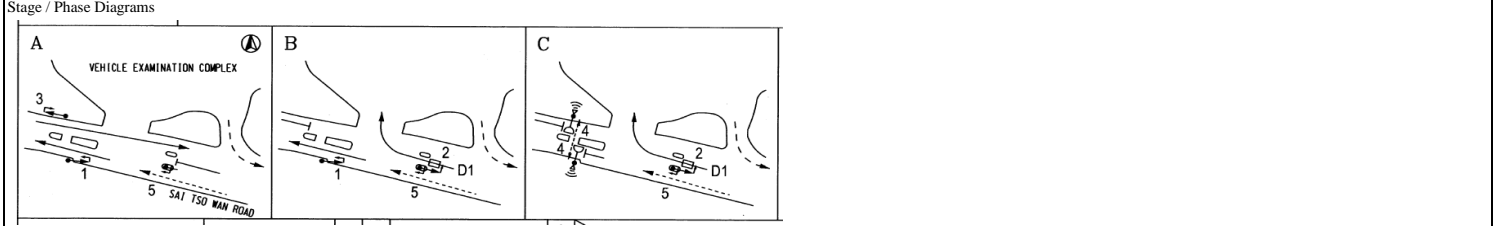
Junction: (J5) Sai Tso Wan Road Near VEC

Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right		Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%		2015	2015	2015		2015		780	0.387	0.387
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%		2015	2015	2015		2015		580	0.288	
Sai Tso Wan Road	WB	↶	2	B,C	4.0	0.0	10	0	100%		2155	2155	1875		1875		130	0.069	0.069

Pedestrian Crossing 4P C Min. green time = 6Gm + 5 FGm = 11s

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak		Logistic Peak Check Phase		
		780	→	εy	0.456	0.288
			↶	L (sec)	11	18
			←	C (sec)	91	91
				y pract.	0.791	0.722
				R.C. (%)	73%	151%

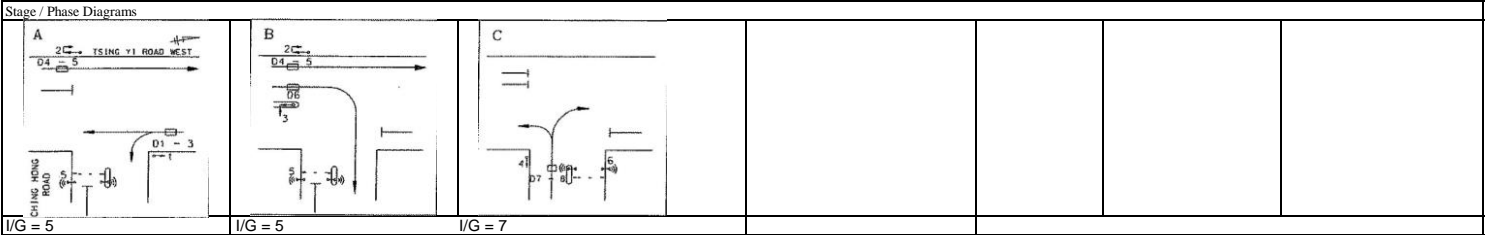


I/G = 6	I/G = 7		
I/G = 3	I/G = 7	I/G = 5 + P11s	

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Left	Right			Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	5.5	0	0	0%		1824	3698	1824	3698	155	0.085	0.125			
	S	↓	1	A	3.5	0.0	0	5.5	0	0	0%		1874	0	1874	0	160	0.085				
	S	↘	1	A	3.7	10.0	0	5.5	1	100%			1754	1754	1525	1525	190	0.125				
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1965	4070	1965	4070	200	0.102				
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			2105	0	2105	0	215	0.102				
	N	↗	3	B	3.3	0.0	18	0	0	100%			2085	2085	1925	1925	405	0.210	0.210			
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	20% / 80%			2095	0	1945	0	264	0.136	0.136			
	W	↙	4	C	3.4	15.0	0	0	1	100%			1955	4050	1775	3720	241	0.136				
Pedestrian crossing		↑	5P	A,B	Min. Green time = 11s (G) + 8s (FS) = 19s																	
		↓	6P	C	Min. Green time = 5s (G) + 12s (FS) = 17s																	
Pedestrian Crossing																						

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 	Logistic Peak Check Phase Eye 0.471 L (sec) 12 C (sec) 71 y pract. 0.748 R.C. (%) 59%
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Junction: **J9 - Tsing Yi Road West / Liu To Road**
 Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		uphill Gradient (%)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%		1735	3610	1735	3610	207	0.119			
	S	↓	2	A,B	3.3	0.0	0	5	0	0%		1875	0	1875	0	223	0.119			
	S	↙	3	B	3.3	0.0	22	5	0	100%		1875	1875	1755	1755	355	0.202	0.202		
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	47%		1935	4100	1805	3970	284	0.157	0.157		
	N	↑	1	A	4.1	0.0	0	0	0	0%		2165	0	2165	0	341	0.157			
Liu To Road	E	↘	5	B,C	3.2	10.0	0	0	1	100%		1935	1935	1685	1685	320	0.190			
	E	↘	4	C	4.1	0.0	18	0	0	100%		2165	2165	2000	2000	70	0.035	0.035		
Pedestrian crossing		↑ ↓ ← →	6P 7P 8P	A,D C,D D																

A,B,C,D A,B,C,D

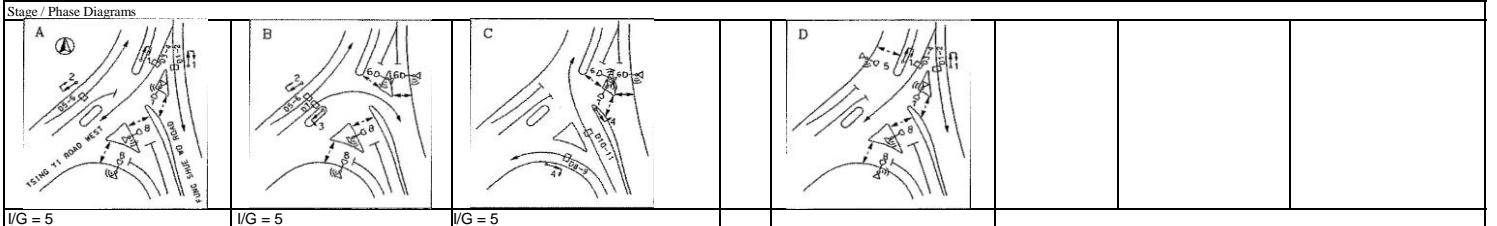
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
	320 70		Day 0.347 0.395 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 91% 61%
		135 490	

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: **J10 - Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Logistic Peak				Logistic Peak					Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road	S	↓	1	A,D	4.1	0.0	0	3	0	0%			1	2039	4058	2039	4058	329	0.161	0.229			
(To Tsing Yi Road West)	S	↓	1	A,D	3.9	0.0	0	3	0	0%			1	2019	0	2019	0	326	0.161				
Fung Shue Wo Road	S	↓	1	A,D	4.0	0.0	0	3	1	0%			1	1889	2294.8	1889	2294.8	432	0.229				
(To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	0	0%			0.2	405.8	0	405.8	0	93	0.229				
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1	1965	2491.3	1965	2491.25	505	0.257				
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			0.25	526.25	0	526.25	0	135	0.257				
	N	↗	3	B	3.6	0.0	18	0	0	100%			1	2115	2115	1950	1950	165	0.085	0.085			
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%			1	1869	2193.6	1790	2100	111	0.062				
	N	↖	4	C	4.0	38.0	0	3	0	100%			0.16	324.64	0	310	0	19	0.062				
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%			0.23	457.47	2446.5	440	2355	101	0.229	0.229			
	N	↗	4	C	3.6	0.0	40	3	0	100%			1	1989	0	1915	0	439	0.229				
Pedestrian crossing		←---→	5p	D																			
		←---→	6P	B,C																			
		↑	7P	A,C,D																			
		↓	8P	A,B,D																			

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
			Ey 0.543 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 44%



I/G = 5 I/G = 5 I/G = 5

TRAFFIC SIGNALS CALCULATION

Job No: 23125HK

CTA Consultants Ltd.

Junction: **(J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street**
Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(%) uphill Gradient	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%		1965	4070	1965	4070	558	0.284			
	N	↑	2	A,B	3.5	0.0	0	0	0	0%		2105	0	2105	0	597	0.284			
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	44% / 56%		2105	0	1950	0	384	0.197	0.197		
	W	↘	3	C	3.5	15.0	0	0	1	100%		1965	4070	1785	3735	351	0.197			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.0	10.0	0	0	1	100%		1915	6025	1665	5775	595	0.357	0.357		
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	360	0.175			
	S	↘	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	360	0.175			
Pedestrian crossing		↑↓	4P	B				Min. Green time = 8GM + 11FG = 19s												
		↔	5P	D				Min. Green time = 5GM + 10FG = 15s												
		↔	6P	C				Min. Green time = 5GM + 8FG = 13s												

AB,C,D AD,B,C

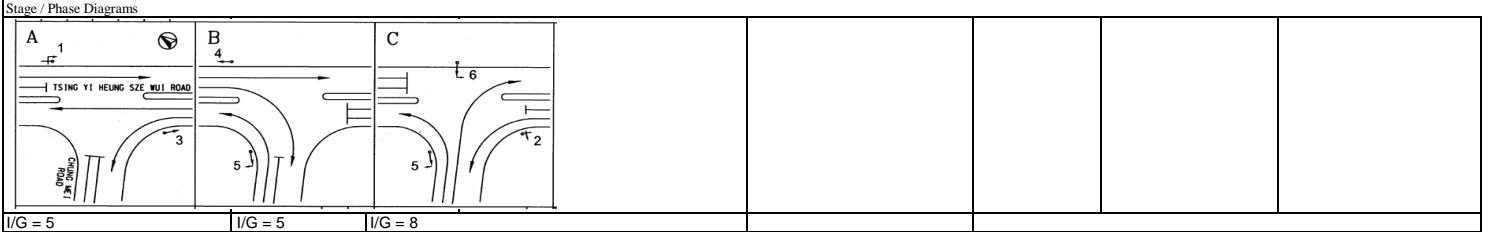
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak						Logistic Peak Check Phase
		720	595					Ey 0.481 0.554
	↑ 1155	↓	↙				L (sec) 32 33	
			↘		↕	215	C (sec) 114 114	
					↓	520	y pract. 0.647 0.639	
							R.C. (%) 35% 15%	

Stage / Phase Diagrams				
<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> A </div> <div style="text-align: center;"> B </div> <div style="text-align: center;"> C </div> <div style="text-align: center;"> D </div> </div>				
I/G = 2	I/G = 5	I/G = 12 + Ped 15		

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2029 Reference Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%		1945	1945	1690	1690	280	0.166			
	E	↘	6	C	3.3	0.0	18	0	0	100%		2085	2085	1925	1925	255	0.132	0.132		
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%		1945	1945	1835	1835	285	0.155			
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	4210	2105	4210	390	0.185	0.185		
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	0	2105	0	390	0.185			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%		1839	3818	1839	3818	446	0.242			
	S	↙	1	A,B	3.5	0.0	0	3	0	0%		1979	0	1979	0	479	0.242			
	S	↖	4	B	3.5	0.0	22	3	0	100%		1979	1979	1855	1855	365	0.197	0.197		
Pedestrian crossing																				

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 280 ↗ 255 ↘ 365 ↖ 925.00 ↓ 285 ↖ 780 ↑	Logistic Peak Check Phase g _y 0.515 L (sec) 15 C (sec) 114 y _{pract.} 0.782 R.C. (%) 52%
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Junction: (J14) Tsing Yi Road / Planned New Road
 Description: 2029 Reference Traffic Flow (With Planned New Road)

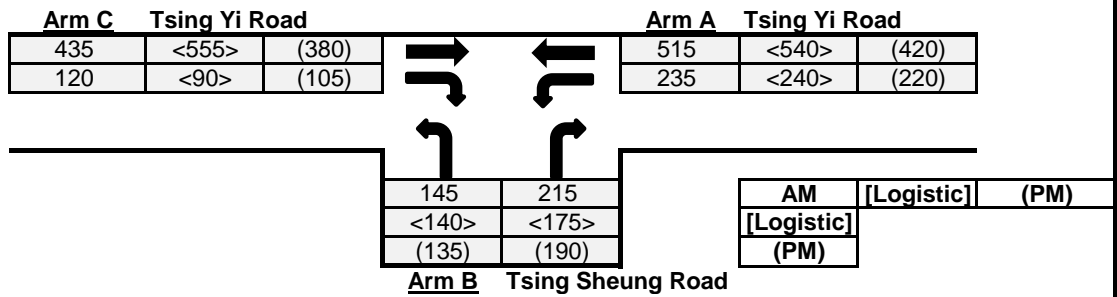
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road	N	↑	A	1	3.5	0.0	0	0	1	0%		1965	4070	1965		4065		573	0.292	0.292	
	N	↗	A	1	3.5	0.0	40	0	0	8%		2105	0	2100		0		612	0.291		
Planned New Road	W	↖	C	3	3.5	0.0	18	0	0	100%		2105	2105	1945		1945		50	0.026		
	W	↘	C	3	3.5	10.0	0	0	1	100%		1965	1965	1710		1710		50	0.029	0.029	
Tsing Yi Road	S	↓	B	2	3.5	10.0	0	0	1	11%		1965	4070	1935		4040		448	0.231	0.232	
	S	↙	B	2	3.5	0.0	0	0	0	0%		2105	0	2105		0		487	0.232		
Pedestrian crossing		↔	Dp	1		Min. Green time = 5GM + 7FG = 12s															
		↑	EP	1,2		Min. Green time = 5GM + 7FG = 12s															
		↔	Fp	2,3		Min. Green time = 5GM + 7FG = 12s															
		↓	Gp	3		Min. Green time = 5GM + 7FG = 12s															
		↔	Hp	1,3		Min. Green time = 5GM + 7FG = 12s															
		↔	Ip	2		Min. Green time = 5GM + 7FG = 12s															

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 1095(1065) 50(50) 985(715) 50(50) 	AM Peak Check Phase Ey 0.321 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 138%
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Stage / Phase Diagrams		
1.	2.	3.
I/G = 5	I/G = 10	I/G = 6

Priority Junction Calculation

Junction : (J3) Tsing Yi Road / Tsing Sheung Road Job No.: 23125HK
 Scenario : 2029 Reference Traffic Flow



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	14	D	0.933
W-CR	0	E	1.012
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F	0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	Y	0.517

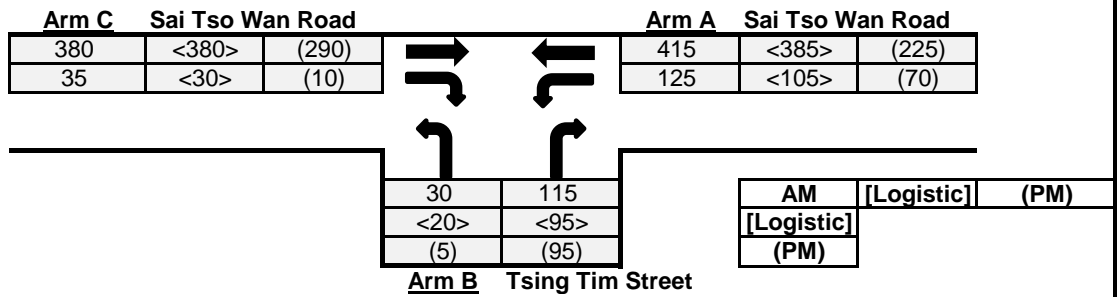
Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	435	555	380	Q-BA	400	390	428	
	q-CB	120	90	105	Q-BC	638	633	657	
	q-AB	235	240	220	Q-CB	372	368	384	
	q-AC	515	540	420	Q-CA	N/A	N/A	N/A	(If C-B blocked C-
	q-BA	215	175	190	Q-BAC	N/A	N/A	N/A	(If Minor Road Share
	q-BC	145	140	135					LT&RT)
	f	0.403	0.444	0.415					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.54	0.45	0.44
	B-C	0.23	0.22	0.21
	C-B	0.32	0.24	0.27
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A
	Critical DFC	0.54	0.45	0.44

Priority Junction Calculation

Junction : (J6) Sai Tso Wan Road / Tsing Tim Street Job No.: 24001HK

Scenario : 2029 Reference Traffic Flow



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	D 0.877
W-CR	0	E 0.933
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F 0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	Y 0.759

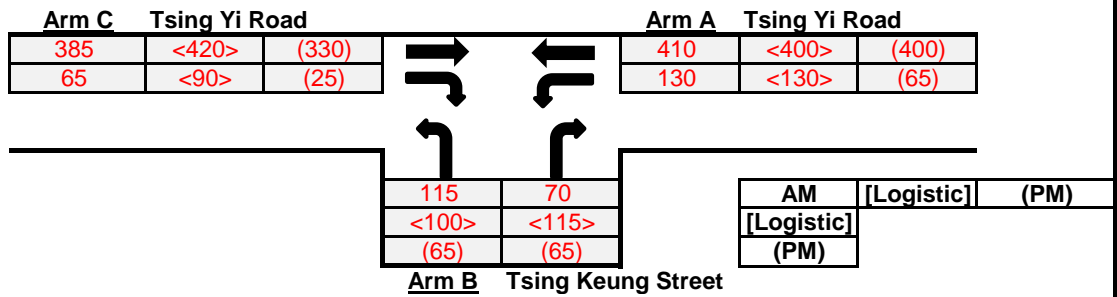
Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM
	pcu/hr				pcu/hr			
	q-CA	380	380	290	Q-BA	367	378	441
	q-CB	35	30	10	Q-BC	575	585	630
	q-AB	125	105	70	Q-CB	367	375	408
	q-AC	415	385	225	Q-CA	N/A	N/A	N/A
	q-BA	115	95	95	Q-BAC	397	403	448
	q-BC	30	20	5				
	f	0.207	0.174	0.050				

(If C-B blocked C-
(If Minor Road Share LT&RT)

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	N/A	N/A	N/A
	B-C	N/A	N/A	N/A
	C-B	0.10	0.08	0.02
	C-A	N/A	N/A	N/A
	B-AC	0.37	0.29	0.22
	Critical DFC	0.37	0.29	0.22

Priority Junction Calculation

Junction : (J13) Tsing Yi Road / Tsing Keung Street Job No.: 24001HK
 Scenario : 2029 Reference Traffic Flow



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	15	V-rBA	50	w-BA	4	D	0.910
W-CR	0	V-IBA	50	w-BC	4	E	0.968
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	V-rBC	50	w-CB	4.7	F	1.029
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	V-rCB	50			Y	0.483

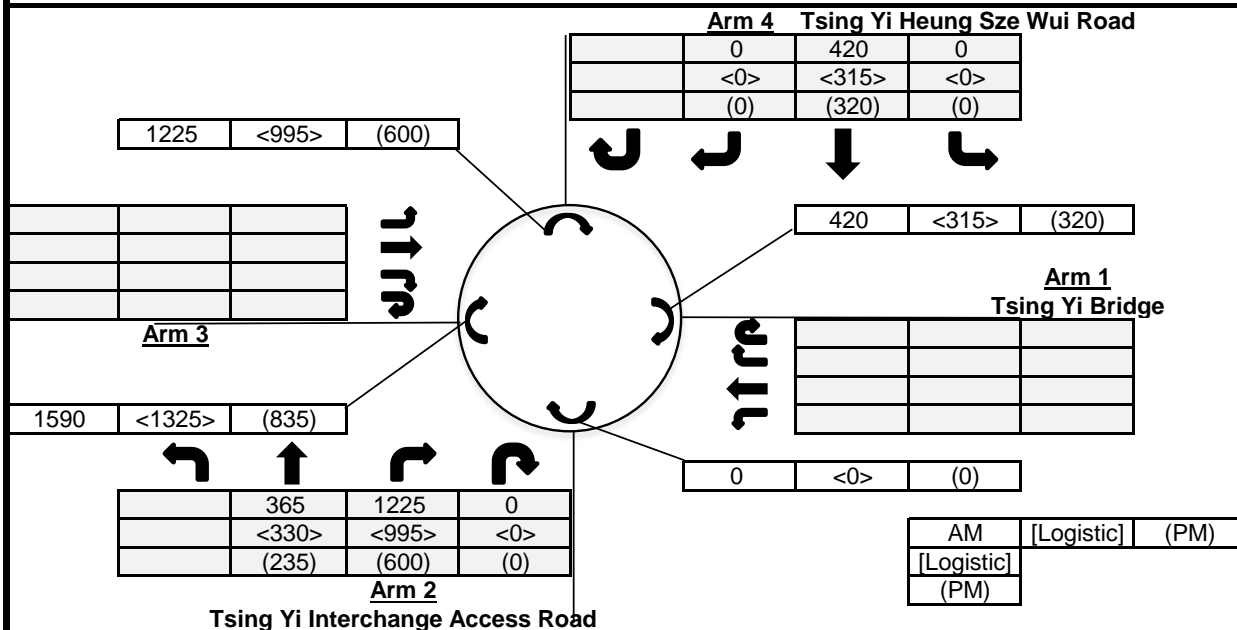
Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
q-CA	385	420	330	Q-BA	443	436	464		
q-CB	65	90	25	Q-BC	643	644	649		
q-AB	130	130	65	Q-CB	669	671	683		
q-AC	410	400	400	Q-CA	N/A	N/A	N/A	(If C-B blocked C-	
q-BA	70	115	65	Q-BAC	N/A	N/A	N/A	(If Minor Road Share	
q-BC	115	100	65					LT&RT)	
f	0.622	0.465	0.500						

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.16	0.26	0.14
	B-C	0.18	0.16	0.10
	C-B	0.10	0.13	0.04
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A
	Critical DFC	0.18	0.26	0.14

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (North) Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6		6
E	= Entry width (m)		7		7
L	= Effective length of flare (m)		5		5
R	= Entry radius		62		41
D	= Inscribed circle diameter (m)		60		60
A	= Entry angle (degree)		27		60
Q	= Entry flow (pcu/hr)		1590		420
		AM	1590		420
		Logistic	1325		315
		PM	835		320
Qc	= Circulating flow across entry (pcu/hr)		0		1225
		AM	0		1225
		Logistic	0		995
		PM	0		600

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.32		0.32
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		1.04		0.92
X2	= V+((E-V)/(1+2*S))		6.61		6.61
M	= Exp((D-60)/10)		1.00		1.00
F	= 303*X2		2003		2003
Td	= 1+(0.5/(1+M))		1.25		1.25
Fc	= 0.21*Td*(1+0.2*X2)		0.61		0.61
Qe	= Capacity = K*(F-Fc*Qc)		2090		1157
		AM	2090		1157
		Logistic	2090		1286
		PM	2090		1508
DFC	= Entry Flow/Capacity = Q/Qe		0.76		0.36
		AM	0.76		0.36
		Logistic	0.63		0.24
		PM	0.40		0.21

**DFC of Critical Approach = AM 0.76
Logistic 0.63
PM 0.40**

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (South) Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow

645	<515>	(420)
-----	-------	-------

0	610	0
<0>	<635>	<0>
(0)	(685)	(0)

640	<655>	(720)
-----	-------	-------

0	<0>	(0)
245	<265>	(375)
505	<430>	(270)

1385	<1125>	(1350)
------	--------	--------

910	230	0
<665>	<195>	<0>
(875)	(100)	(0)

245	<265>	(1060)
-----	-------	--------

AM	[Logistic]	(PM)
[Logistic]		
(PM)		

Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7	6.8	7	6
E	= Entry width (m)	7.2	7	7.3	6.3
L	= Effective length of flare (m)	5	5	5	5
R	= Entry radius	23	25	24	44
D	= Inscribed circle diameter (m)	60	60	60	60
A	= Entry angle (degree)	43	54	27	23
Q	= Entry flow (pcu/hr)	AM 750 Logistic 695 PM 645	1140 860 975	415 320 320	610 635 685
Qc	= Circulating flow across entry (pcu/hr)	AM 640 Logistic 655 PM 720	245 265 1060	1385 1125 1350	645 515 420

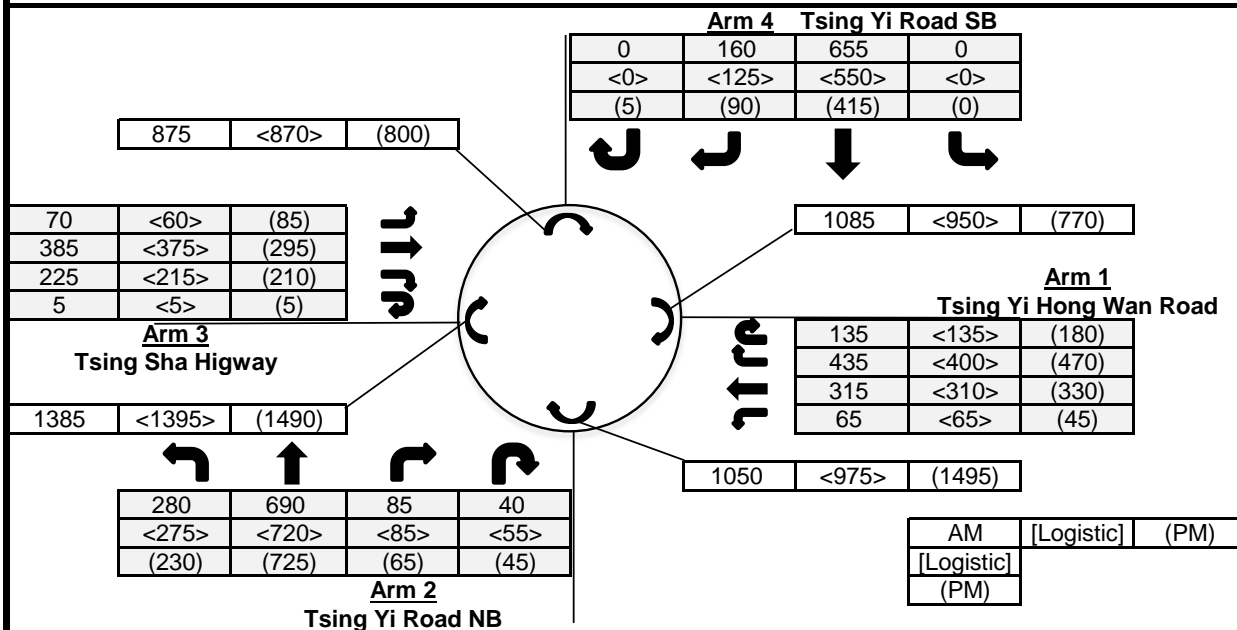
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L	0.06	0.06	0.10	0.10
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	0.96	0.93	1.02	1.05
X2	= V+((E-V)/(1+2*S))	7.18	6.98	7.25	6.25
M	= Exp((D-60)/10)	1.00	1.00	1.00	1.00
F	= 303*X2	2175	2114	2197	1894
Td	= 1+(0.5/(1+M))	1.25	1.25	1.25	1.25
Fc	= 0.21*Td*(1+0.2*X2)	0.64	0.63	0.64	0.59
Qe	= Capacity = K*(F-Fc*Qc)	AM 1697 Logistic 1688 PM 1648	1816 1804 1341	1331 1501 1354	1590 1671 1730
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.44 Logistic 0.41 PM 0.39	0.63 0.48 0.73	0.31 0.21 0.24	0.38 0.38 0.40

DFC of Critical Approach	=	AM	0.63	
		Logistic	0.48	
		PM	0.73	

Roundabout Junction Calculation

Junction : (RA2) Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Hig Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7.3	7.1	7.3	7.3
E	= Entry width (m)	13.5	12	9.5	10
L	= Effective length of flare (m)	30	15	30	15
R	= Entry radius	45	97	52	34
D	= Inscribed circle diameter (m)	100	100	100	100
A	= Entry angle (degree)	29	32	31	46
Q	= Entry flow (pcu/hr)	AM 950 Logistic 910 PM 1025	AM 1095 Logistic 1135 PM 1065	AM 685 Logistic 655 PM 595	AM 815 Logistic 675 PM 510
Qc	= Circulating flow across entry (pcu/hr)	AM 1085 Logistic 950 PM 770	AM 1050 Logistic 975 PM 1495	AM 1385 Logistic 1395 PM 1490	AM 875 Logistic 870 PM 800

Output Parameters

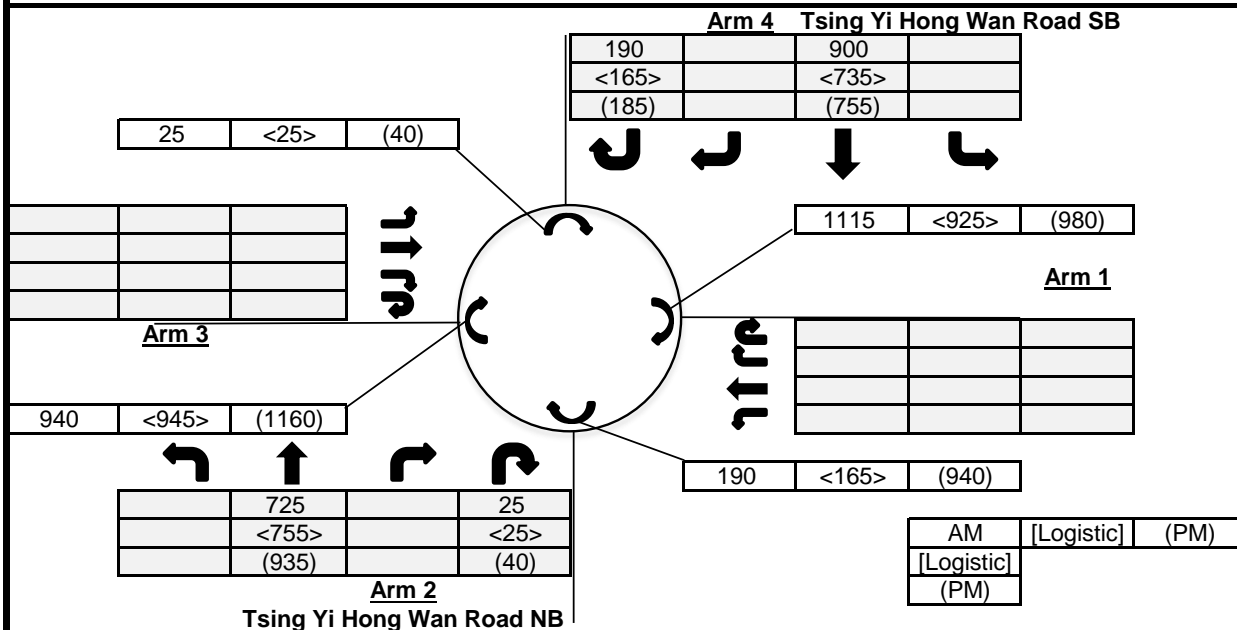
		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.33	0.52	0.12	0.29
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.03	1.03	1.03	0.96
X2	= $V+((E-V)/(1+2*S))$	11.03	9.50	9.08	9.01
M	= $Exp((D-60)/10)$	54.60	54.60	54.60	54.60
F	= $303*X2$	3343	2877	2752	2731
Td	= $1+(0.5/(1+M))$	1.01	1.01	1.01	1.01
Fc	= $0.21*Td*(1+0.2*X2)$	0.68	0.61	0.60	0.59
Qe	= Capacity = $K*(F-Fc*Qc)$	AM 2685 Logistic 2780 PM 2906	AM 2303 Logistic 2351 PM 2021	AM 1977 Logistic 1970 PM 1912	AM 2133 Logistic 2136 PM 2176
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.35 Logistic 0.33 PM 0.35	AM 0.48 Logistic 0.48 PM 0.53	AM 0.35 Logistic 0.33 PM 0.31	AM 0.38 Logistic 0.32 PM 0.23

DFC of Critical Approach = AM 0.48
Logistic 0.48
PM 0.53

Roundabout Junction Calculation

Junction : (RA3) Tsing Yi Hong Wan Road Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow (With Planned New Road)



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	7		7.3
E	=	Entry width (m)	14		12
L	=	Effective length of flare (m)	20		2
R	=	Entry radius	65		75
D	=	Inscribed circle diameter (m)	68		68
A	=	Entry angle (degree)	53		46
Q	=	Entry flow (pcu/hr)	AM	750	1090
			Logistic	780	900
			PM	975	940
Qc	=	Circulating flow across entry (pcu/hr)	AM	190	25
			Logistic	165	25
			PM	940	40

Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.56		3.76
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.95		0.98
X2	=	$V+((E-V)/(1+2*S))$	10.30		7.85
M	=	$Exp((D-60)/10)$	2.23		2.23
F	=	$303*X2$	3121		2379
Td	=	$1+(0.5/(1+M))$	1.16		1.16
Fc	=	$0.21*Td*(1+0.2*X2)$	0.74		0.62
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM	2843	2317
			Logistic	2861	2317
			PM	2312	2308
DFC	=	Entry Flow/Capacity = Q/Qe	AM	0.26	0.47
			Logistic	0.27	0.39
			PM	0.42	0.41

DFC of Critical Approach =

AM	0.47
Logistic	0.39
PM	0.42

Roundabout Junction Calculation

Junction : (RA4) Tsing Yi Hong Wan Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow

Arm 4 Tsing Yi Hong Wan Road SB			
475		255	190
<385>		<240>	<165>
(365)		(210)	(265)

Arm 1 Tsing Yi Hong Wan Road		
745	<1160>	(1125)

Arm 3 Tsing Ko Road			
590	<675>	(695)	
25	115		0
<25>	<145>		<145>
(20)	(165)		(165)

Arm 2 Tsing Yi Hong Wan Road NB		
480	<770>	(940)

	AM	[Logistic]	(PM)
	[Logistic]		
	(PM)		

Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6.7	6.3	7.3
E	= Entry width (m)		13.5	12.5	15
L	= Effective length of flare (m)		18	30	30
R	= Entry radius		47	100	75
D	= Inscribed circle diameter (m)		68	68	68
A	= Entry angle (degree)		41	22	46
Q	= Entry flow (pcu/hr)	AM	140	345	920
		Logistic	315	555	790
		PM	350	650	840
Qc	= Circulating flow across entry (pcu/hr)	AM	480	590	15
		Logistic	770	675	535
		PM	940	695	550

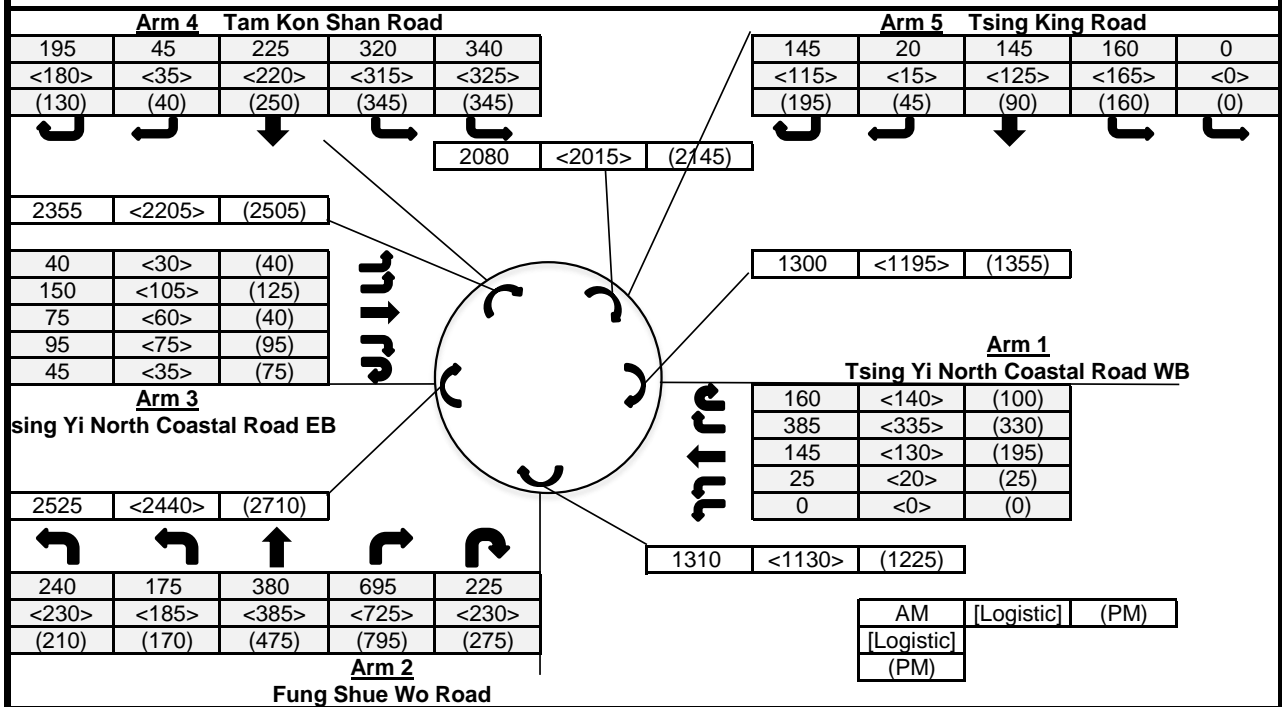
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.60	0.33	0.41
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		0.99	1.07	0.98
X2	= V+((E-V)/(1+2*S))		9.78	10.03	11.53
M	= Exp((D-60)/10)		2.23	2.23	2.23
F	= 303*X2		2963	3040	3493
Td	= 1+(0.5/(1+M))		1.16	1.16	1.16
Fc	= 0.21*Td*(1+0.2*X2)		0.72	0.73	0.80
Qe	= Capacity = K*(F-Fc*Qc)	AM	2592	2784	3412
		Logistic	2387	2718	3004
		PM	2266	2702	2992
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.05	0.12	0.27
		Logistic	0.13	0.20	0.26
		PM	0.15	0.24	0.28

DFC of Critical Approach	=	AM	0.27
		Logistic	0.26
		PM	0.28

Roundabout Junction Calculation

Junction : (RA5) Tam Kon Shan Interchange Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
V	=	Approach half width (m)	7	7.3	5.5	7.3	7
E	=	Entry width (m)	9	13.5	7.5	13.5	11
L	=	Effective length of flare (m)	9	20	11	50	10
R	=	Entry radius	100	35	45	35	45
D	=	Inscribed circle diameter (m)	100	100	100	100	100
A	=	Entry angle (degree)	30	25	25	45	45
Q	=	Entry flow (pcu/hr)					
		AM	715	1715	405	1125	470
		Logistic	625	1755	305	1075	420
		PM	650	1925	375	1110	490
Qc	=	Circulating flow across entry (pcu/hr)					
		AM	1300	1310	2525	2355	2080
		Logistic	1195	1130	2440	2205	2015
		PM	1355	1225	2710	2505	2145

Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
S	=	Sharpness of flare = 1.6*(E-V)/L	0.36	0.50	0.29	0.20	0.64
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.04	1.04	1.04	0.97	0.98
X2	=	V+((E-V)/(1+2*S))	8.17	10.41	6.76	11.74	8.75
M	=	Exp((D-60)/10)	54.60	54.60	54.60	54.60	54.60
F	=	303*X2	2475	3155	2050	3557	2653
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01	1.01
Fc	=	0.21*Td*(1+0.2*X2)	0.56	0.65	0.50	0.71	0.58
Qe	=	Capacity = K*(F-Fc*Qc)					
		AM	1818	2387	826	1828	1404
		Logistic	1879	2510	870	1931	1441
		PM	1786	2445	730	1725	1367
DFC	=	Entry Flow/Capacity = Q/Qe					
		AM	0.39	0.72	0.49	0.62	0.33
		Logistic	0.33	0.70	0.35	0.56	0.29
		PM	0.36	0.79	0.51	0.64	0.36

DFC of Critical Approach	=	AM	0.72
		Logistic	0.70
		PM	0.79

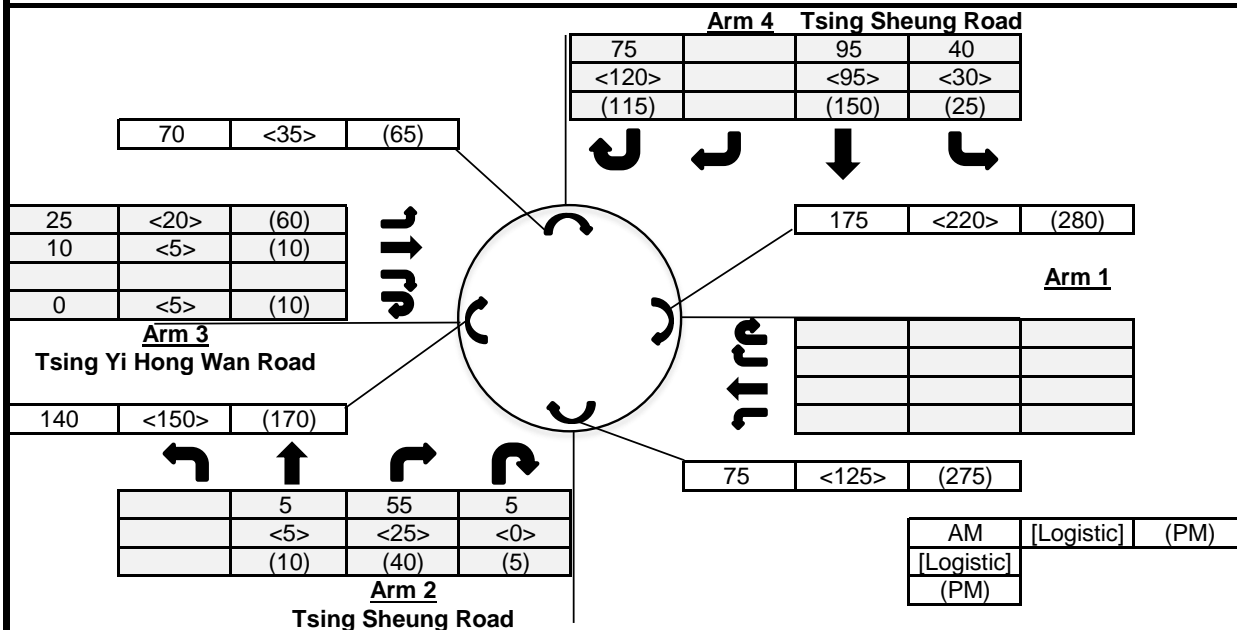
Roundabout Junction Calculation

Junction : <u>(RA6) Tsing King Road / Fung Shue Wo Road</u>		Job No.: <u>23125HK</u>																																																																																			
Scenario : <u>2029 Reference Traffic Flow</u>																																																																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Input Parameters</th> <th>Arm 1</th> <th>Arm 2</th> <th>Arm 3</th> <th>Arm 4</th> </tr> </thead> <tbody> <tr> <td>V</td> <td>= Approach half width (m)</td> <td>6.7</td> <td>7.3</td> <td>7.3</td> <td>6.9</td> </tr> <tr> <td>E</td> <td>= Entry width (m)</td> <td>9.7</td> <td>10</td> <td>9.2</td> <td>8.9</td> </tr> <tr> <td>L</td> <td>= Effective length of flare (m)</td> <td>16</td> <td>20</td> <td>14</td> <td>16</td> </tr> <tr> <td>R</td> <td>= Entry radius</td> <td>55</td> <td>71</td> <td>60</td> <td>62</td> </tr> <tr> <td>D</td> <td>= Inscribed circle diameter (m)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> <tr> <td>A</td> <td>= Entry angle (degree)</td> <td>36</td> <td>30</td> <td>18</td> <td>25</td> </tr> <tr> <td rowspan="3">Q</td> <td rowspan="3">= Entry flow (pcu/hr)</td> <td>AM</td> <td>325</td> <td>1325</td> <td>590</td> <td>730</td> </tr> <tr> <td>Logistic</td> <td>255</td> <td>1135</td> <td>485</td> <td>510</td> </tr> <tr> <td>PM</td> <td>300</td> <td>1155</td> <td>565</td> <td>555</td> </tr> <tr> <td rowspan="3">Qc</td> <td rowspan="3">= Circulating flow across entry (pcu/hr)</td> <td>AM</td> <td>1670</td> <td>135</td> <td>980</td> <td>1200</td> </tr> <tr> <td>Logistic</td> <td>1315</td> <td>115</td> <td>850</td> <td>1020</td> </tr> <tr> <td>PM</td> <td>1275</td> <td>580</td> <td>750</td> <td>950</td> </tr> </tbody> </table>				Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4	V	= Approach half width (m)	6.7	7.3	7.3	6.9	E	= Entry width (m)	9.7	10	9.2	8.9	L	= Effective length of flare (m)	16	20	14	16	R	= Entry radius	55	71	60	62	D	= Inscribed circle diameter (m)	100	100	100	100	A	= Entry angle (degree)	36	30	18	25	Q	= Entry flow (pcu/hr)	AM	325	1325	590	730	Logistic	255	1135	485	510	PM	300	1155	565	555	Qc	= Circulating flow across entry (pcu/hr)	AM	1670	135	980	1200	Logistic	1315	115	850	1020	PM	1275	580	750	950						
Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4																																																																																
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R	= Entry radius	55	71	60	62																																																																																
D	= Inscribed circle diameter (m)	100	100	100	100																																																																																
A	= Entry angle (degree)	36	30	18	25																																																																																
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		Logistic	1315	115	850	1020																																																																															
		PM	1275	580	750	950																																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Output Parameters</th> <th>Arm 1</th> <th>Arm 2</th> <th>Arm 3</th> <th>Arm 4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>= Sharpness of flare = $1.6*(E-V)/L$</td> <td>0.30</td> <td>0.22</td> <td>0.22</td> <td>0.20</td> </tr> <tr> <td>K</td> <td>= $1-0.00347*(A-30)-0.978*(1/R-0.05)$</td> <td>1.01</td> <td>1.04</td> <td>1.07</td> <td>1.05</td> </tr> <tr> <td>X2</td> <td>= $V+((E-V)/(1+2*S))$</td> <td>8.58</td> <td>9.19</td> <td>8.62</td> <td>8.33</td> </tr> <tr> <td>M</td> <td>= $Exp((D-60)/10)$</td> <td>54.60</td> <td>54.60</td> <td>54.60</td> <td>54.60</td> </tr> <tr> <td>F</td> <td>= $303*X2$</td> <td>2598</td> <td>2783</td> <td>2613</td> <td>2524</td> </tr> <tr> <td>Td</td> <td>= $1+(0.5/(1+M))$</td> <td>1.01</td> <td>1.01</td> <td>1.01</td> <td>1.01</td> </tr> <tr> <td>Fc</td> <td>= $0.21*Td*(1+0.2*X2)$</td> <td>0.58</td> <td>0.60</td> <td>0.58</td> <td>0.56</td> </tr> <tr> <td rowspan="3">Qe</td> <td rowspan="3">= Capacity = $K*(F-Fc*Qc)$</td> <td>AM</td> <td>1654</td> <td>2797</td> <td>2199</td> <td>1939</td> </tr> <tr> <td>Logistic</td> <td>1861</td> <td>2809</td> <td>2280</td> <td>2046</td> </tr> <tr> <td>PM</td> <td>1884</td> <td>2520</td> <td>2342</td> <td>2087</td> </tr> <tr> <td rowspan="3">DFC</td> <td rowspan="3">= Entry Flow/Capacity = Q/Qe</td> <td>AM</td> <td>0.20</td> <td>0.47</td> <td>0.27</td> <td>0.38</td> </tr> <tr> <td>Logistic</td> <td>0.14</td> <td>0.40</td> <td>0.21</td> <td>0.25</td> </tr> <tr> <td>PM</td> <td>0.16</td> <td>0.46</td> <td>0.24</td> <td>0.27</td> </tr> </tbody> </table>				Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4	S	= Sharpness of flare = $1.6*(E-V)/L$	0.30	0.22	0.22	0.20	K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.01	1.04	1.07	1.05	X2	= $V+((E-V)/(1+2*S))$	8.58	9.19	8.62	8.33	M	= $Exp((D-60)/10)$	54.60	54.60	54.60	54.60	F	= $303*X2$	2598	2783	2613	2524	Td	= $1+(0.5/(1+M))$	1.01	1.01	1.01	1.01	Fc	= $0.21*Td*(1+0.2*X2)$	0.58	0.60	0.58	0.56	Qe	= Capacity = $K*(F-Fc*Qc)$	AM	1654	2797	2199	1939	Logistic	1861	2809	2280	2046	PM	1884	2520	2342	2087	DFC	= Entry Flow/Capacity = Q/Qe	AM	0.20	0.47	0.27	0.38	Logistic	0.14	0.40	0.21	0.25	PM	0.16	0.46	0.24	0.27
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Roundabout Junction Calculation

Junction : (RA7) Tsing Yi Hong Wan Road / Tsing Sheung Road Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		5.2	3	6.7
E	= Entry width (m)		9	8.4	12
L	= Effective length of flare (m)		25	15	23
R	= Entry radius		63	55	11.6
D	= Inscribed circle diameter (m)		53	53	53
A	= Entry angle (degree)		33	48	38
Q	= Entry flow (pcu/hr)	AM	65	35	210
		Logistic	30	30	245
		PM	55	80	290
Qc	= Circulating flow across entry (pcu/hr)	AM	75	140	70
		Logistic	125	150	35
		PM	275	170	65

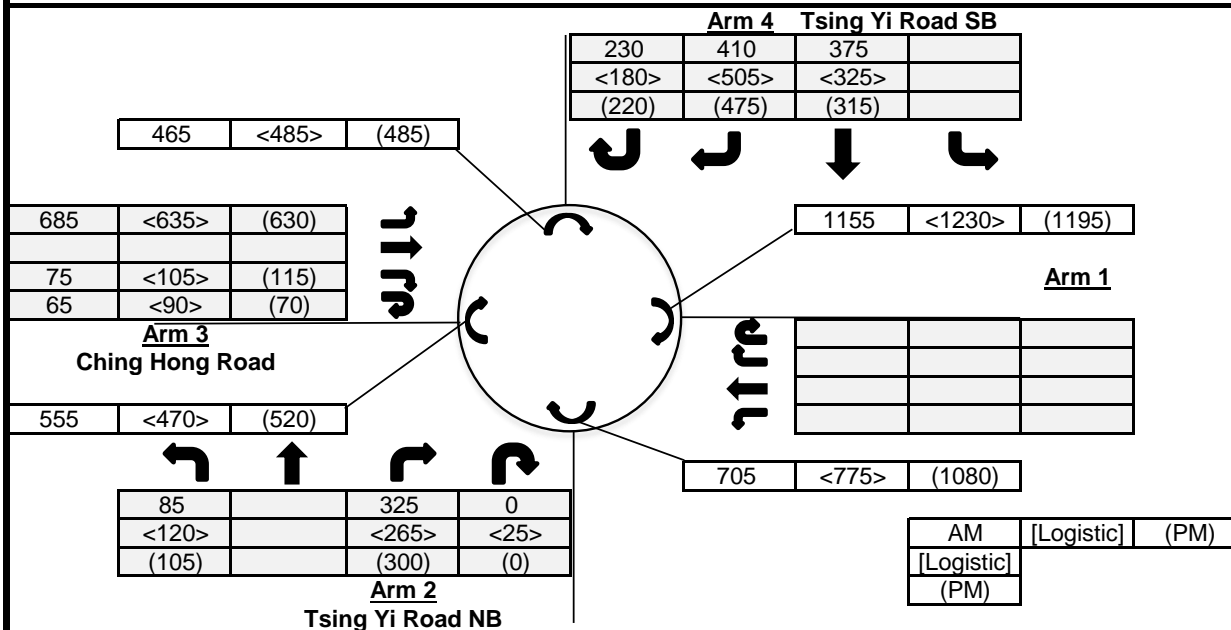
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.24	0.58	0.37
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		1.02	0.97	0.94
X2	= V+((E-V)/(1+2*S))		7.76	5.51	9.75
M	= Exp((D-60)/10)		0.50	0.50	0.50
F	= 303*X2		2350	1669	2954
Td	= 1+(0.5/(1+M))		1.33	1.33	1.33
Fc	= 0.21*Td*(1+0.2*X2)		0.71	0.59	0.83
Qe	= Capacity = K*(F-Fc*Qc)	AM	2349	1537	2714
		Logistic	2313	1531	2741
		PM	2203	1520	2717
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.03	0.02	0.08
		Logistic	0.01	0.02	0.09
		PM	0.02	0.05	0.11

DFC of Critical Approach = AM 0.08
Logistic 0.09
PM 0.11

Roundabout Junction Calculation

Junction : (RA8) Tsing Yi Road / Ching Hong Road Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		4.5	7.3	7
E	= Entry width (m)		9	8.5	8.5
L	= Effective length of flare (m)		25	4	16
R	= Entry radius		24.5	30	100
D	= Inscribed circle diameter (m)		30	30	30
A	= Entry angle (degree)		44	40	27
Q	= Entry flow (pcu/hr)		410	825	1015
		AM	410	825	1015
		Logistic	410	830	1010
		PM	405	815	1010
Qc	= Circulating flow across entry (pcu/hr)		705	555	465
		AM	705	555	465
		Logistic	775	470	485
		PM	1080	520	485

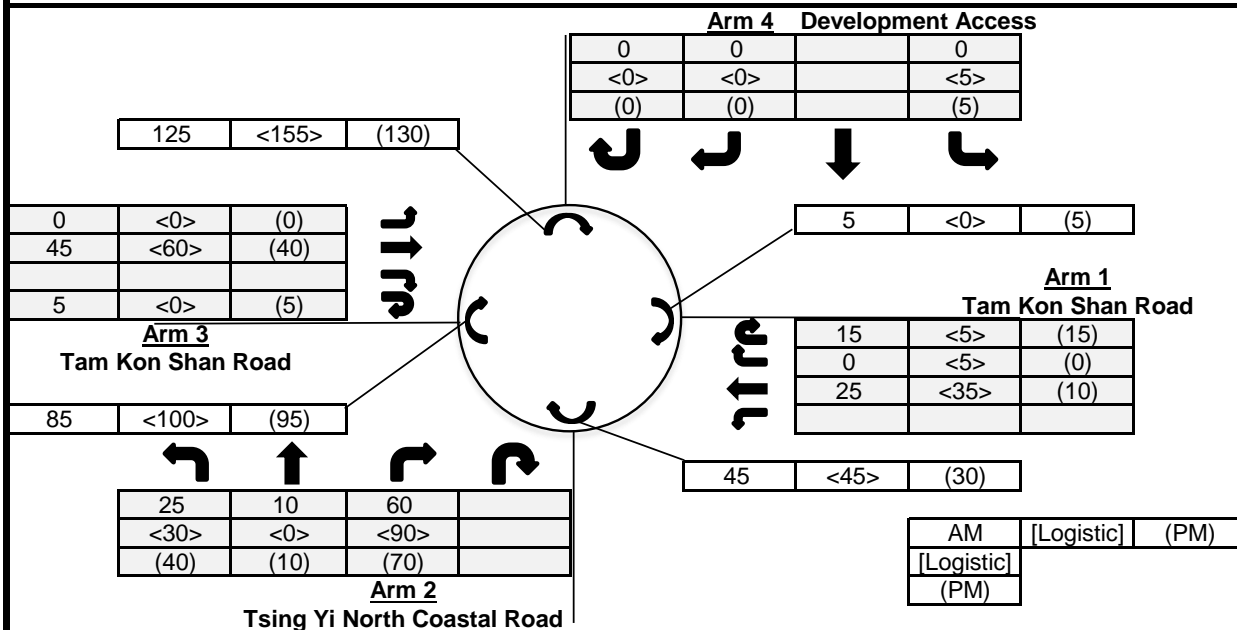
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.29	0.48	0.15
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		0.96	0.98	1.05
X2	= V+((E-V)/(1+2*S))		7.36	7.91	8.15
M	= Exp((D-60)/10)		0.05	0.05	0.05
F	= 303*X2		2229	2397	2471
Td	= 1+(0.5/(1+M))		1.48	1.48	1.48
Fc	= 0.21*Td*(1+0.2*X2)		0.77	0.80	0.82
Qe	= Capacity = K*(F-Fc*Qc)		1622	1917	2195
		AM	1622	1917	2195
		Logistic	1570	1984	2178
		PM	1346	1945	2178
DFC	= Entry Flow/Capacity = Q/Qe		0.25	0.43	0.46
		AM	0.25	0.43	0.46
		Logistic	0.26	0.42	0.46
		PM	0.30	0.42	0.46

**DFC of Critical Approach = AM 0.46
Logistic 0.46
PM 0.46**

Roundabout Junction Calculation

Junction : (RA9) Tam Kon Shan Road Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	3.3	4	3.4	4.2
E	= Entry width (m)	6.7	4.9	5.8	5.4
L	= Effective length of flare (m)	10	10	10	10
R	= Entry radius	32	97	52	34
D	= Inscribed circle diameter (m)	30	30	30	30
A	= Entry angle (degree)	34	32	31	46
Q	= Entry flow (pcu/hr)	40	95	50	0
		AM			
		Logistic	45	60	5
		PM	25	45	5
Qc	= Circulating flow across entry (pcu/hr)	5	45	85	125
		AM			
		Logistic	0	100	155
		PM	5	95	130

Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L	0.54	0.14	0.38	0.19
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	1.00	1.03	1.03	0.96
X2	= V+((E-V)/(1+2*S))	4.93	4.70	4.76	5.07
M	= Exp((D-60)/10)	0.05	0.05	0.05	0.05
F	= 303*X2	1493	1424	1442	1535
Td	= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48
Fc	= 0.21*Td*(1+0.2*X2)	0.62	0.60	0.61	0.62
Qe	= Capacity = K*(F-Fc*Qc)	1497	1441	1427	1406
		AM			
		Logistic	1500	1418	1388
		PM	1497	1421	1403
DFC	= Entry Flow/Capacity = Q/Qe	0.03	0.07	0.04	0.00
		AM			
		Logistic	0.03	0.04	0.00
		PM	0.02	0.03	0.00

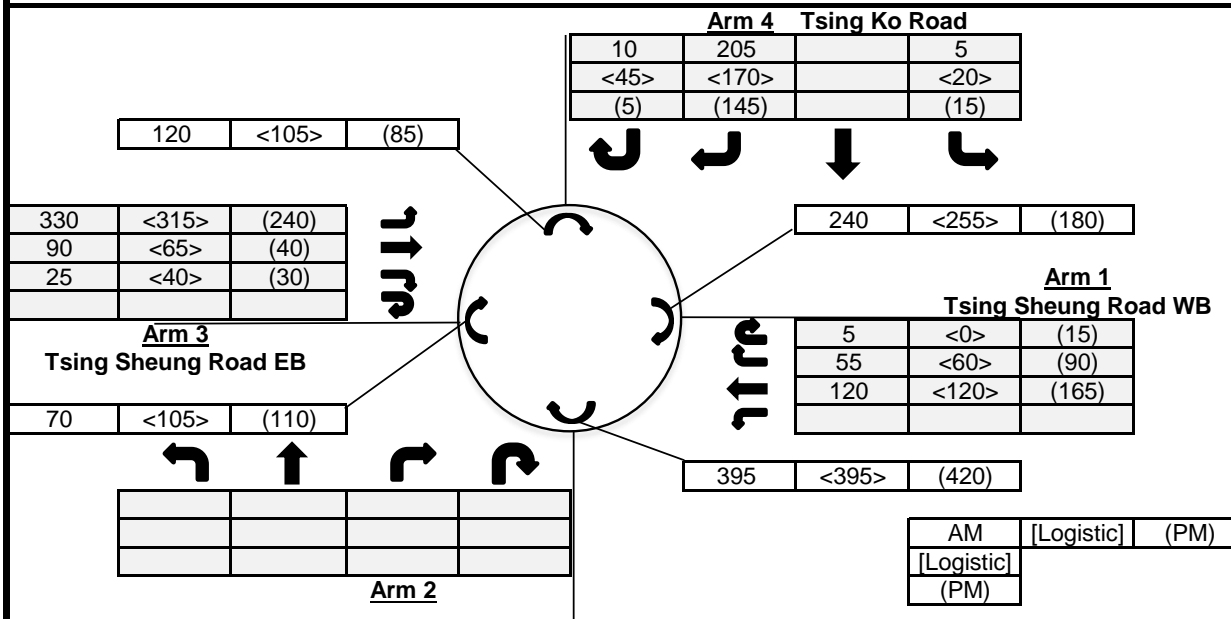
DFC of Critical Approach =

AM	0.07
Logistic	0.08
PM	0.08

Roundabout Junction Calculation

Junction : (RA10) Tsing Sheung Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2029 Reference Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	6.6		5.6	6.4
E	= Entry width (m)	12.9		5.1	11.6
L	= Effective length of flare (m)	18		30	30
R	= Entry radius	47		67.3	75
D	= Inscribed circle diameter (m)	50		50	50
A	= Entry angle (degree)	41		22	46
Q	= Entry flow (pcu/hr)	AM 180		445	220
		Logistic 180		420	235
		PM 270		310	165
Qc	= Circulating flow across entry (pcu/hr)	AM 240		70	120
		Logistic 255		105	105
		PM 180		110	85

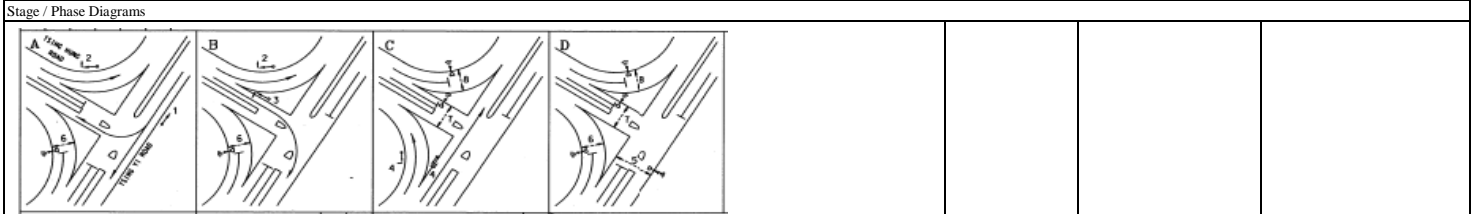
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.56		-0.03	0.28
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.99		1.06	0.98
X2	= $V+((E-V)/(1+2*S))$	9.57		5.07	9.74
M	= $Exp((D-60)/10)$	0.37		0.37	0.37
F	= $303*X2$	2900		1537	2953
Td	= $1+(0.5/(1+M))$	1.37		1.37	1.37
Fc	= $0.21*Td*(1+0.2*X2)$	0.84		0.58	0.85
Qe	= Capacity = $K*(F-Fc*Qc)$	AM 2672		1589	2795
		Logistic 2660		1568	2808
		PM 2722		1565	2824
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.07		0.28	0.08
		Logistic 0.07		0.27	0.08
		PM 0.10		0.20	0.06

DFC of Critical Approach = AM 0.28
 Logistic 0.27
 PM 0.20

Junction: (J1) Tsing Yi Road West / Cheung Tsing Highway																																																				
Description: 2029 Design Traffic Flow																																																				
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak																															
						Left	Right			A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y																													
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	0%	1965	6135	1965	1965	5900	5825	218	0.111	0.111	160	0.081	0.083																													
	S	↔	2	A	3.3	0	20	0	0	46%	100%	2085	0	2015	1940	0	0	224	0.111		161	0.083																														
	S	↔	2	A	3.3	0	17.5	0	0	100%	100%	2085	0	1920	1920	0	0	213	0.111		159	0.083																														
Cheung Tsing Highway	E	↑	3	A,B	3.4	20	0	0	1	100%	100%	1955	1955	1820	1820	1820	1820	545	0.299		420	0.231																														
	E	↔	4	B	3.5	0	30	0	0	100%	100%	2105	4210	2005	2005	3990	3990	251	0.125		168	0.084																														
	E	↓	4	B	3.5	0	25	0	0	100%	100%	2105	0	1985	1985	0	0	249	0.125	0.125	167	0.084	0.084																													
Tsing Yi Road West	N	↔	1	C	3.6	20	0	6.5	1	100%	100%	1702	3544	1585	1585	3425	3425	455	0.287	0.287	380	0.240	0.240																													
	N	↑	1	C	3.6	0	0	6.5	0	0%	0%	1842	0	1840	1840	0	0	325	0.177		290	0.158																														
*																																																				
Pedestrian crossing			↔	5P	C	Min. Green time = 5GM + 10FG = 15s																																														
			↕	6P	C	Min. Green time = 5GM + 6FG = 11s																																														
			↔	7P	A,B	Min. Green time = 5GM + 9FG = 14s																																														
			↕	8P	B	Min. Green time = 5GM + 10FG = 15s																																														
Notes:												Traffic Flow (pcu / hr)				A.M. Check Phase				P.M. Check Phase																																
																<table border="1"> <tr><td>ey</td><td>0.523</td><td>0.587</td><td>ey</td><td>0.407</td><td>0.471</td></tr> <tr><td>L (sec)</td><td>13</td><td>9</td><td>L (sec)</td><td>13</td><td>9</td></tr> <tr><td>C (sec)</td><td>100</td><td>100</td><td>C (sec)</td><td>105</td><td>105</td></tr> <tr><td>y pract.</td><td>0.783</td><td>0.819</td><td>y pract.</td><td>0.789</td><td>0.823</td></tr> <tr><td>R.C. (%)</td><td>50%</td><td>40%</td><td>R.C. (%)</td><td>94%</td><td>75%</td></tr> </table>				ey	0.523	0.587	ey	0.407	0.471	L (sec)	13	9	L (sec)	13	9	C (sec)	100	100	C (sec)	105	105	y pract.	0.783	0.819	y pract.	0.789	0.823	R.C. (%)	50%	40%	R.C. (%)	94%	75%			
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Stage / Phase Diagrams																																																				
I/G = 5							I/G = 5							I/G = 6																																						

Junction: (J2) Tsing Hung Road / Tsing Yi Road																								
Description: 2029 Design Traffic Flow																								
Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
					Left	Right		Left	Right		AM	PM			AM	PM	AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	381	0.194		282	0.144	
	S	↓	1	A	3.5	0.0	0	0	0	0	0%	0%	2105	0	2105	2105	0	0	409	0.194		303	0.144	
	S	←	1	A	3.6	0.0	18	0	100%	100%	2115	2115	1950	1950	1950	1950	370	0.190		380	0.195	0.195		
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%	100%	2015	2015	1920	1920	1920	1920	1920	1920	60	0.031		55	0.029	
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	4210	4210	330	0.157	0.157	278	0.132	
	N	↑	4	C	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	0	0	330	0.157		278	0.132	0.132
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	1835	1835	525	0.286	0.286	340	0.185	
	E	→	3	B	4.0	0.0	22	0	100%	100%	2155	2155	2015	2015	2015	2015	2015	2015	45	0.022		30	0.015	
Pedestrian Crossing		↔	5P	D	Min. Green time = 5GM + 7FG = 12s																			
		↔	6P	A,B,D	Min. Green time = 5GM + 5FG = 10s																			
		↔	7P	C,D	Min. Green time = 5GM + 10FG = 15s																			
		↔	8P	C,D	Min. Green time = 5GM + 5FG = 10s																			

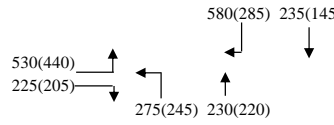
Notes:	Traffic Flow (pcu / hr)		Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase		
	A,B,C,D	AB,C,D	A,B,C,D	AB,C,D	ey	L (sec)	ey	L (sec)	
			525(340)	370(380)	0.373	33	0.443	33	
			45(30)	790(585)		120		120	
					0.653	0.735	0.603	0.702	
					R.C. (%)	75%	66%	85%	121%

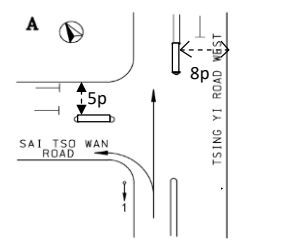
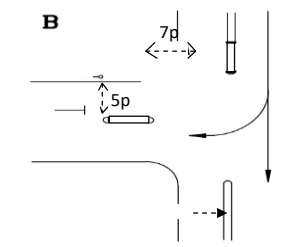
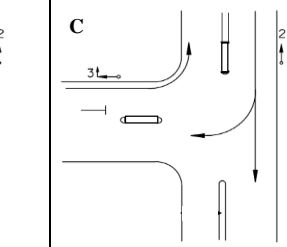
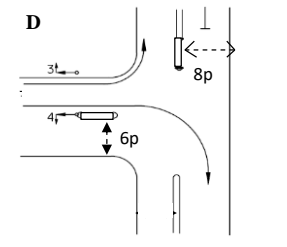


I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12
I/G = 2	I/G = 6 + Min. G 5	I/G = 5	I/G = 5 + 12

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(%) uphill Gradient	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		A.M. Peak			P.M. Peak		
					Left	Right	A.M.	P.M.			A.M.	P.M.			Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%	100%	1792	1792	1630	1630	275	0.169	0.169	245	0.150	0.150	
	NE	↗	1	A	3.4	0	0	6.5	0	0%	0%	1822	1822	1820	1820	230	0.126		220	0.121		
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%	100%	1995	1995	1815	1815	530	0.292		440	0.242		
	NW	↗	4	D	3.8	0	25	0	0	100%	100%	2135	2135	2015	2015	225	0.112	0.112	205	0.102	0.102	
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%	0%	1955	1955	1955	1955	235	0.120		145	0.074		
	SE	↙	2	B,C	3.7	0	25	0	0	100%	100%	2125	2125	2005	2005	580	0.289	0.289	285	0.142	0.142	
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s																	

Notes:	Traffic Flow (pcu / hr) 	A.M. Check Phase E _y 0.570 L (sec) 19 C (sec) 120 y pract. 0.758 R.C. (%) 33%	P.M. Check Phase E _y 0.394 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 89%
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Stage / Phase Diagrams			
A 	B 	C 	D 
I/G = 7	I/G = 10		I/G = 5

TRAFFIC SIGNALS CALCULATION

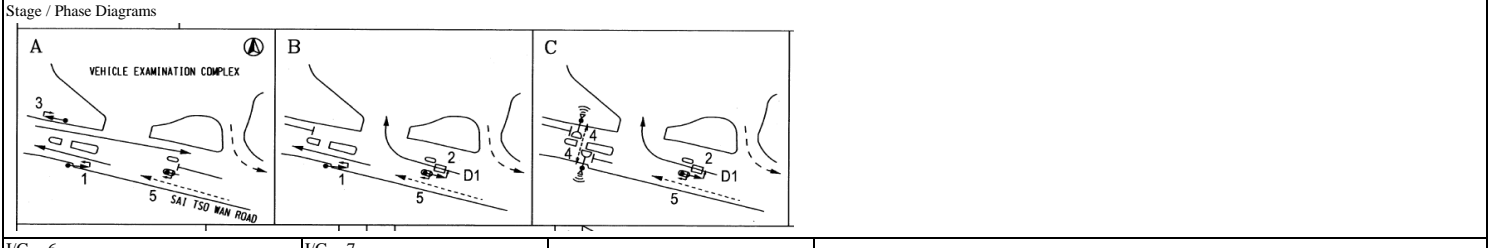
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CTA Consultants Ltd.

Junction: **(J5) Sai Tso Wan Road Near VEC**
 Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak			
					Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	640	0.318	0.318	535	0.266	
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%	0%	2015	2015	2015	2015	2015	2015	600	0.298		720	0.357	0.357
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%	100%	2155	2155	1875	1875	1875	1875	150	0.080	0.080	35	0.019	

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak	A,BC		AB,C		A,BC		AB,C	
			AM Peak Check Phase	PM Peak Check Phase	εy	0.398	0.298	εy	0.284	0.357
		640(535) →			L (sec)	11	18	L (sec)	11	18
		↖ 150(35)			C (sec)	91	91	C (sec)	91	91
		← 600(720)			y pract.	0.791	0.722	y pract.	0.791	0.722
					R.C. (%)	99%	142%	R.C. (%)	178%	102%

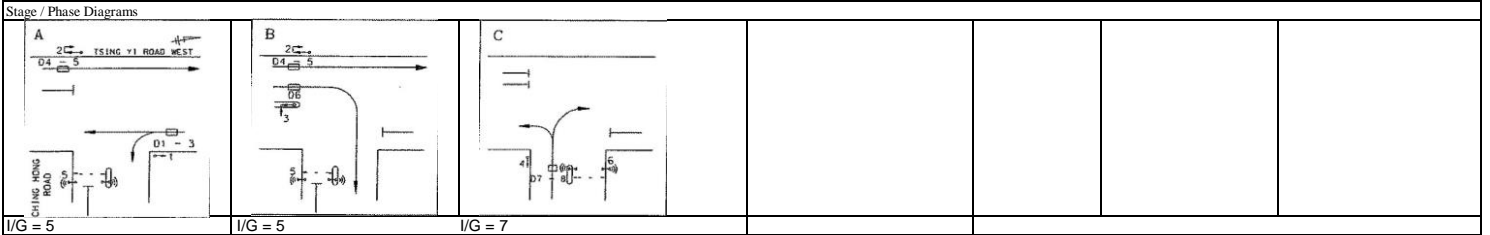


I/G = 6 I/G = 7

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)			Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak					
					Left	Right	0.0	0.0	0			0	0			0	AM	PM	AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	5.5	0	0%	0%	1824	3698	1824	1824	3698	3698	190	0.104	0.207	126	0.069	0.128					
	S	↓	1	A	3.5	0.0	0	5.5	0	0%	0%	1874	0	1874	1874	0	0	195	0.104		129	0.069						
	S	↘	1	A	3.7	10.0	0	5.5	1	100%	100%	1754	1754	1525	1525	1525	1525	315	0.207		195	0.128						
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	188	0.096		210	0.107						
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	202	0.096		225	0.107						
	N	↗	3	B	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	380	0.197	0.197	315	0.164	0.164					
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	18% / 82%	17% / 83%	2095	0	1945	1945	0	0	298	0.153	0.153	264	0.136	0.136					
	W	↓	4	C	3.4	15.0	0	0	1	100%	100%	1955	4050	1775	1775	3720	3720	272	0.153		241	0.136						
Pedestrian crossing		↕	5P	A,B						Min. Green time = 11s (G) + 8s (FS) = 19s																		
		↕	6P	C						Min. Green time = 5s (G) + 12s (FS) = 17s																		
Pedestrian Crossing																												

Notes:	Traffic Flow (pcu/hr) Weekday AM Peak 390(435) 380(315)	Weekday AM Peak 385(255) 315(195)	AM Peak Check Phase E _y 0.557 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 39%	PM Peak Check Phase E _y 0.427 L (sec) 14 C (sec) 100 y pract. 0.774 R.C. (%) 81%



Junction: (J9) Tsing Yi Road West / Liu To Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
						Tsing Yi Road West	S			↓	2			A,B	3.3	0.0	0	5	1	0%	0%	1735	3610
	S	↓	2	A,B	3.3	0.0	0	5	0	0%	0%	1875	0	1875	1875	0	0	229	0.122		195	0.104	
	S	↙	3	B	3.3	0.0	22	5	0	100%	100%	1875	1875	1755	1755	1755	1755	310	0.177	0.177	335	0.191	0.191
Tsing Yi Road West	N	↕	1	A	3.2	10.0	0	0	1	50%	38%	1935	4100	1800	1830	3965	3995	288	0.160	0.160	300	0.164	0.164
	N	↑	1	A	4.1	0.0	0	0	0	0%	0%	2165	0	2165	2165	0	0	347	0.160		355	0.164	
Liu To Road	E	↗	5	B,C	3.2	10.0	0	0	1	100%	100%	1935	1935	1685	1685	1685	1685	410	0.243		295	0.175	
	E	↘	4	C	4.1	0.0	18	0	0	100%	100%	2165	2165	2000	2000	2000	2000	250	0.125	0.125	80	0.040	0.040
Pedestrian crossing		↕	6P	A,D																			
		↕	7P	C,D																			
		↔	8P	D																			
Pedestrian Crossing																							

A,B,C,D A,B,C,D A,B,C,D A,B,C,D

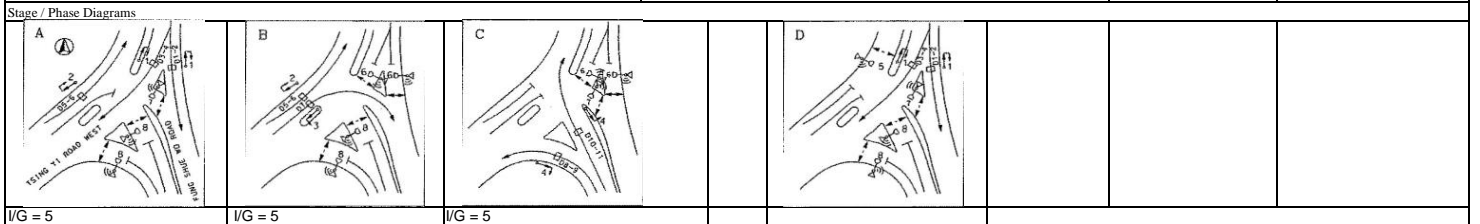
Notes:	Traffic Flow (pcu / hr) Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
		e _y 0.404 0.462 L (sec) 34 38 C (sec) 130 130 y pract. 0.665 0.637 R.C. (%) 65% 38%	e _y 0.339 0.395 L (sec) 34 38 C (sec) 110 110 y pract. 0.622 0.589 R.C. (%) 83% 49%

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: (J10) Tsing Yi Road West / Fung Shue Wo Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM				AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road (To Tsing Yi Road West)	S	↓	1	A,D	4.1	0.0	0	3	0	0%	0%	1	2039	4058	2039	2039	4058	4058	304	0.149	0.292	279	0.137	0.240
	S	↓	1	A,D	3.9	0.0	0	3	0	0%	0%	1	2019	0	2019	2019	0	0	301	0.149		276	0.137	
Fung Shue Wo Road (To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	1	0%	0%	1	1889	2294.8	1889	1889	2294.8	2294.8	552	0.292		453	0.240	
	S	↓	1	A,D	4.0	0.0	0	3	0	0%	0%	0.2	405.8	0	405.8	405.8	0	0	118	0.292		97	0.240	
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1	1965	2491.3	1965	1965	2491.25	2491.25	540	0.275		544	0.277	
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	0.25	526.25	0	526.25	526.25	0	0	145	0.275		146	0.277	
	N	↗	3	B	3.6	0.0	18	0	0	100%	100%	1	2115	2115	1950	1950	1950	1950	220	0.113	0.113	145	0.074	0.074
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%	100%	1	1869	2193.6	1790	1790	2100	2100	128	0.071		124	0.069	
	N	↖	4	C	4.0	38.0	0	3	0	100%	100%	0.16	324.64	0	310	310	0	0	22	0.071		21	0.069	
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%	100%	0.23	457.47	2446.5	440	440	2355	2355	121	0.274	0.274	103	0.234	0.234
	N	↗	4	C	3.6	0.0	40	3	0	100%	100%	1	1989	0	1915	1915	0	0	524	0.274		447	0.234	
Pedestrian crossing		↔	5p	D																				
		↔	6P	B,C																				
		↕	7P	A,C,D																				
		↕	8P	A,B,D																				

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase	
		605(555)	670(550)	εy 0.679	0.548	εy 0.548	0.548
		↑	↗	L (sec) 12	12	L (sec) 12	12
			↖	C (sec) 100	100	C (sec) 100	100
			↘	y pract. 0.792	0.792	y pract. 0.792	0.792
			↙	R.C. (%) 17%	17%	R.C. (%) 45%	45%
		685(690)	220(145)				
				150(145)	645(550)		



Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4070	4070	702	0.357		611	0.311	0.311
	N	↑	2	A,B	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	753	0.357		654	0.311	
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	31% / 69%	47% / 53%	2105	0	1955	1950	0	0	428	0.219	0.219	360	0.185	0.185
	W	↘	3	C	3.5	15.0	0	0	1	100%	100%	1965	4070	1785	1785	3740	3735	392	0.219		330	0.185	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.5	10.0	0	0	1	100%	100%	1965	6175	1710	1710	5920	5920	695	0.406	0.406	495	0.289	
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	555	0.264		428	0.203	
	S	↓	1	A,D	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	555	0.264		428	0.203	
Pedestrian crossing		↑ ↓	4P	B																			Min. Green time = 8GM + 11FG = 19s
		← →	5P	D																			Min. Green time = 5GM + 10FG = 15s
		← →	6P	C																			Min. Green time = 5GM + 8FG = 13s

AB,C,D AD,B,C AB,C,D AD,B,C

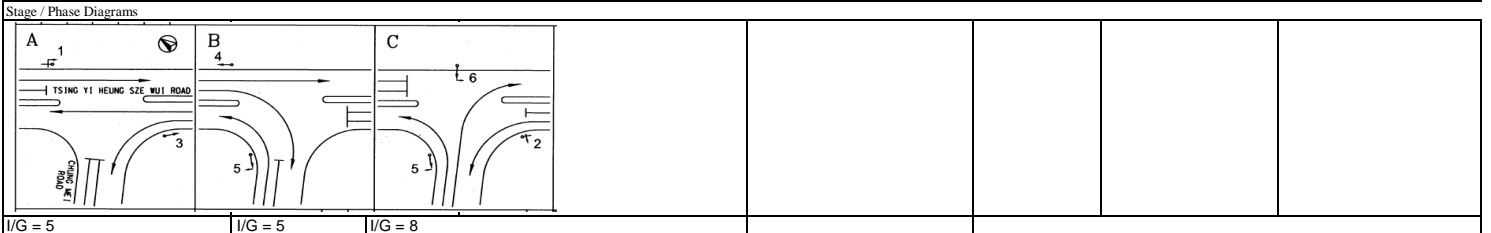
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak		AM Peak Check Phase		PM Peak Check Phase		
		1455(1265)	1110(855)	695(495)	Ey 0.577	0.626	Ey 0.496	0.474
			↓	↘	L (sec) 32	33	L (sec) 32	33
					C (sec) 114	114	C (sec) 100	100
					y pract. 0.647	0.639	y pract. 0.612	0.603
					R.C. (%) 12%	2%	R.C. (%) 23%	27%

Stage / Phase Diagrams							
I/G = 2	I/G = 8 + Ped 19	I/G = 3 I/G = 5	I/G = 5 I/G = 12 + Ped 15				

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%	100%	1945	1945	1690	1690	1690	1690	260	0.154		280	0.166	
	E	↘	6	C	3.3	0.0	18	0	0	100%	100%	2085	2085	1925	1925	1925	1925	315	0.164	0.164	235	0.122	0.122
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%	100%	1945	1945	1835	1835	1835	1835	290	0.158		355	0.193	
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	4210	2105	2105	4210	4210	545	0.259	0.259	478	0.227	0.227
	N	↑	3	A	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	545	0.259		478	0.227	
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%	0%	1839	3818	1839	1839	3818	3818	621	0.338		486	0.265	
	S	↙	1	A,B	3.5	0.0	0	3	0	0%	0%	1979	0	1979	1979	0	0	669	0.338		524	0.265	
	S	↖	4	B	3.5	0.0	22	3	0	100%	100%	1979	1979	1855	1855	1855	1855	370	0.199	0.199	290	0.156	0.156

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	AM Peak Check Phase	PM Peak Check Phase
	260(280) 315(235)		370(290) 1290(1010) Ey 0.622 L (sec) 15 C (sec) 114 y pract. 0.782 R.C. (%) 26%	Ey 0.505 L (sec) 15 C (sec) 100 y pract. 0.765 R.C. (%) 51%



Junction: (J14) Tsing Yi Road / Planned New Road
 Description: 2029 Design Traffic Flow (With Planned New Road)

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right			AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road	N	↑	A	1	3.5	0.0	0	0	1	0%	0%	1965	4070	1965	1965	4065	4065	554	0.282	0.282	546	0.278	0.278
	N	↗	A	1	3.5	0.0	40	0	0	8%	9%	2105	0	2100	2100	0	0	591	0.282		584	0.278	
Planned New Road	W	↖	C	3	3.5	0.0	18	0	0	100%	100%	2105	2105	1945	1945	1945	1945	50	0.026		50	0.026	
	W	↘	C	3	3.5	10.0	0	0	1	100%	100%	1965	1965	1710	1710	1710	1710	50	0.029	0.029	50	0.029	0.029
Tsing Yi Road	S	↘	B	2	3.5	10.0	0	0	1	10%	13%	1965	4070	1935	1925	4040	4030	496	0.256	0.256	373	0.194	0.194
	S	↓	B	2	3.5	0.0	0	0	0	0%	0%	2105	0	2105	2105	0	0	539	0.256		407	0.193	
Pedestrian crossing		↔	Dp	1		Min. Green time = 5GM + 7FG = 12s																	
		↑	EP	1,2		Min. Green time = 5GM + 7FG = 12s																	
		↔	Fp	2,3		Min. Green time = 5GM + 7FG = 12s																	
		↓	Gp	3		Min. Green time = 5GM + 7FG = 12s																	
		↔	Hp	1,3		Min. Green time = 5GM + 7FG = 12s																	
		↔	Ip	2		Min. Green time = 5GM + 7FG = 12s																	

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 1095(1080) 50(50) 985(730) 50(50)	AM Peak Check Phase Ey 0.311 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 146%	PM Peak Check Phase Ey 0.307 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 149%
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Stage / Phase Diagrams			
<p>1. I/G = 5</p>	<p>2. I/G = 10</p>	<p>3. I/G = 6</p>	

Junction: (J1) Cheung Tsing Highway / Tsing Yi Road West
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak					
					Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Tsing Yi Road West	S	↓	2	A	3.5	0	0	0	1	0%	1965	6135	1965		5895	158	0.081	0.081				
	S	↙	2	A	3.3	0	20	0	0	50%	2085	0	2010		0	162	0.081					
	S	↘	2	A	3.3	0	17.5	0	0	100%	2085	0	1920		0	155	0.081					
Cheung Tsing Highway	E	↗	3	A,B	3.4	20	0	0	1	100%	1955	1955	1820		1820	405	0.223					
	E	↘	4	B	3.5	0	30	0	0	100%	2105	4070	2005		3860	288	0.144					
	E	↙	4	B	3.5	0	25	0	1	100%	1965	0	1855		0	267	0.144	0.144				
Tsing Yi Road West	N	↙	1	C	3.6	20	0	6.5	1	100%	1702	3544	1585		3425	540	0.341	0.341				
	N	↘	1	C	3.6	0	0	6.5	0	0%	1842	0	1840		0	325	0.177					
Pedestrian crossing		↕	5P	C	Min. Green time = 5GM + 10FG = 15s																	
		↕	6P	C	Min. Green time = 5GM + 6FG = 11s																	
		↕	7P	A,B	Min. Green time = 5GM + 9FG = 14s																	
		↕	8P	B	Min. Green time = 5GM + 10FG = 15s																	

Notes:	Traffic Flow (pcu / hr)		Logistic Peak Check Phase		
			A,B,C	AB,C	
			ey	0.565	0.563
			L (sec)	13	9
			C (sec)	100	100
			y pract.	0.783	0.819
			R.C. (%)	39%	45%

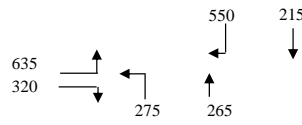


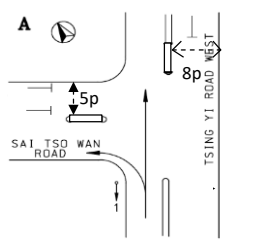
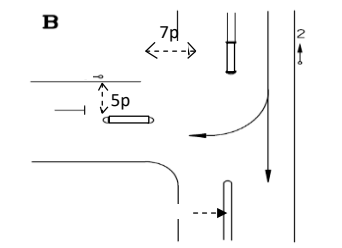
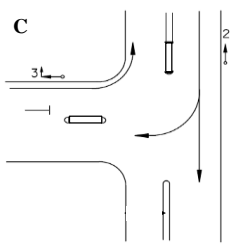
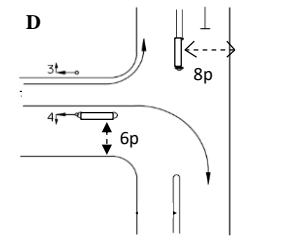
I/G = 5 I/G = 5 I/G = 6

Junction: (J2) Tsing Hung Road / Tsing Yi Road																					
Description: 2029 Design Traffic Flow																					
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak				
						Left	Right		Logistic Peak				Logistic Peak		Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Tsing Yi Road	S	↓	1	A	3.5	0.0	0	1	0%		1965	4070	1965		4070	338	0.172				
	S	↓	1	A	3.5	0.0	0	0	0%		2105	0	2105		0	362	0.172				
	S	←	1	A	3.6	0.0	18	0	100%		2115	2115	1950		1950	320	0.164	0.172			
Tsing Yi Road	N	↑	4	C	4.0	30.0	0	1	100%		2015	2015	1920		1920	60	0.031				
	N	↑	4	C	3.5	0.0	0	0	0%		2105	4210	2105		4210	350	0.166				
	N	↑	4	C	3.5	0.0	0	0	0%		2105	0	2105		0	350	0.166	0.166			
Tsing Hung Road	E	→	2	A,B	3.3	25.0	0	1	100%		1945	1945	1835		1835	315	0.172				
	E	→	3	B	4.0	0.0	22	0	100%		2155	2155	2015		2015	45	0.022				
Pedestrian Crossing		↔	5P	D	Min. Green time = 5GM + 7FG = 12s																
		↔	6P	A,B,D	Min. Green time = 5GM + 5FG = 10s																
		↔	7P	C,D	Min. Green time = 5GM + 10FG = 15s																
		↔	8P	C,D	Min. Green time = 5GM + 5FG = 10s																
Notes:										Traffic Flow (pcu / hr) Weekday AM Peak 					Logistic Peak Check Phase Ey 0.338 0.338 L (sec) 33 22 C (sec) 100 100 y pract. 0.603 0.702 R.C. (%) 78% 108%						
Stage / Phase Diagrams																					
I/G = 2					I/G = 6 + Min. G 5					I/G = 5					I/G = 5 + 12						

Junction: (J4) Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)
Tsing Yi Road	NE	↖	1	A	4.5	15	0	6.5	1	100%		1792	1792	1630	275	0.169	0.169			
	NE	↗	1	A	3.4	0	0	6.5	0	0%		1822	1822	1820	265	0.146				
Sai Tso Wan Road	NW	↖	3	C,D	3.8	15	0	0	1	100%		1995	1995	1815	635	0.350				
	NW	↗	4	D	3.8	0	25	0	0	100%		2135	2135	2015	320	0.159	0.159			
Tsing Yi Road West	SE	↘	2	B,C	3.4	0	0	0	1	0%		1955	1955	1955	215	0.110				
	SE	↙	2	B,C	3.7	0	25	0	0	100%		2125	2125	2005	550	0.274	0.274			
Pedestrian crossing		↑ ↓ ← →	5p 6p 7p 8p	A,B D B,C A,D	Min. Green time = 5GM + 8FG = 13s Min. Green time = 5GM + 10FG = 15s Min. Green time = 5GM + 9FG = 14s Min. Green time = 5GM + 7FG = 12s															

Notes:	Traffic Flow (pcu / hr) 	Logistic Peak Check Phase E _y 0.602 L (sec) 19 C (sec) 110 y pract. 0.745 R.C. (%) 24%
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Stage / Phase Diagrams			
A 	B 	C 	D 
I/G = 5	I/G = 5	I/G = 2	I/G = 5
I/G = 5	I/G = 8+12	I/G = 2	

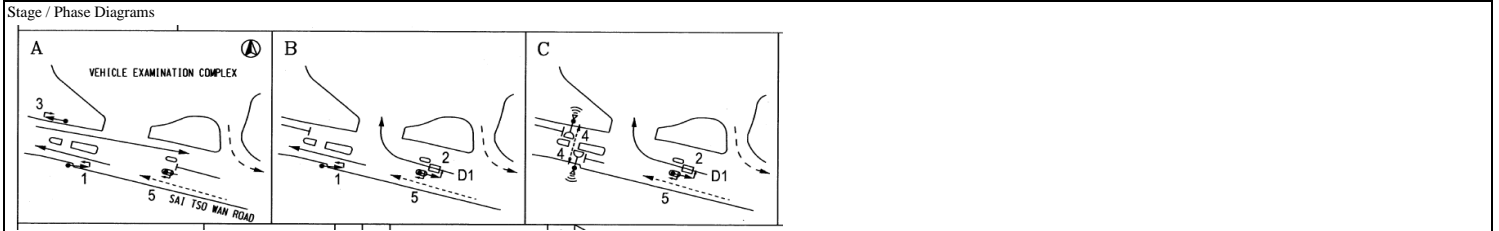
Junction: (J5) Sai Tso Wan Road Near VEC

Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak					
						Left	Right		Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y		
Sai Tso Wan Road	EB	→	3	A	4.0	0.0	0	1	0%		2015	2015	2015		2015		825	0.409	0.409			
Sai Tso Wan Road	WB	←	1	A,B	4.0	0.0	0	1	0%		2015	2015	2015		2015		625	0.310				
Sai Tso Wan Road	WB	↖	2	B,C	4.0	0.0	10	0	100%		2155	2155	1875		1875		130	0.069	0.069			

Pedestrian Crossing 4P C Min. green time = 6Gm + 5 FGm = 11s

Notes: (None)	Traffic Flow (pcu / hr)	AM (PM) Peak		Logistic Peak Check Phase						
		825	→	130	↖	625	←	εy	0.479	0.310
						L (sec)	11	18		
						C (sec)	91	91		
						y pract.	0.791	0.722		
						R.C. (%)	65%	133%		

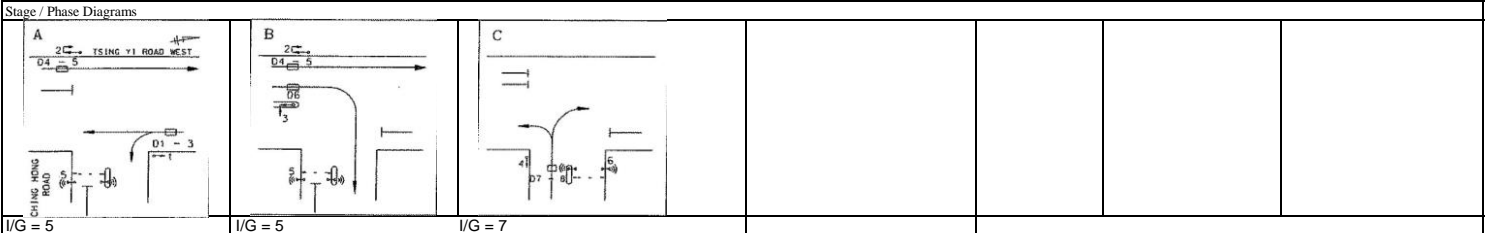


I/G = 6	I/G = 7		
I/G = 3	I/G = 7	I/G = 5 + P11s	

Junction: (J8) Tsing Yi Road West / Ching Hong Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak				
					Left	Right	Logistic Peak				Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road West	S	↓	1	A	3.0	0.0	0	5.5	0	0	0%		1824	3698	1824	3698	155	0.085	0.125				
	S	↓	1	A	3.5	0.0	0	5.5	0	0	0%		1874	0	1874	0	160	0.085					
	S	↘	1	A	3.7	10.0	0	5.5	1	100%			1754	1754	1525	1525	190	0.125					
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1965	4070	1965	4070	200	0.102					
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			2105	0	2105	0	215	0.102					
	N	↗	3	B	3.3	0.0	18	0	0	100%			2085	2085	1925	1925	405	0.210	0.210				
Ching Hong Road	W	←	4	C	3.4	18.0	20	0	0	20% / 80%			2095	0	1945	0	264	0.136	0.136				
	W	↙	4	C	3.4	15.0	0	0	1	100%			1955	4050	1775	3720	241	0.136					
Pedestrian crossing		↑	5P	A,B	Min. Green time = 11s (G) + 8s (FS) = 19s																		
		↓	6P	C	Min. Green time = 5s (G) + 12s (FS) = 17s																		
Pedestrian Crossing																							

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 	Logistic Peak Check Phase Eye 0.471 L (sec) 12 C (sec) 71 y pract. 0.748 R.C. (%) 59%
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Junction: **J9 - Tsing Yi Road West / Liu To Road**
 Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		uphill Gradient (%)	Nearside O/I	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak				
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y	
Tsing Yi Road West	S	↓	2	A,B	3.3	0.0	0	5	1	0%		1735	3610	1735		3610	207	0.119				
	S	↓	2	A,B	3.3	0.0	0	5	0	0%		1875	0	1875		0	223	0.119				
	S	↙	3	B	3.3	0.0	22	5	0	100%		1875	1875	1755		1755	355	0.202	0.202			
Tsing Yi Road West	N	↑	1	A	3.2	10.0	0	0	1	47%		1935	4100	1805		3970	284	0.157	0.157			
	N	↑	1	A	4.1	0.0	0	0	0	0%		2165	0	2165		0	341	0.157				
Liu To Road	E	↘	5	B,C	3.2	10.0	0	0	1	100%		1935	1935	1685		1685	320	0.190				
	E	↘	4	C	4.1	0.0	18	0	0	100%		2165	2165	2000		2000	70	0.035	0.035			
Pedestrian crossing		↑	6P	A,D																		
		↓	7P	C,D																		
		↔	8P	D																		
Pedestrian Crossing																						

A,B,C,D A,B,C,D

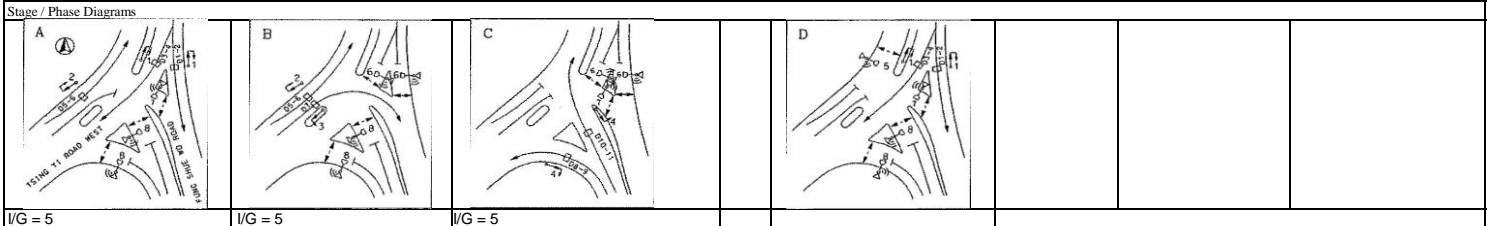
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
	320	↙ ↘	355 430
	70	↙ ↘	ey 0.347 0.395
		↑	L (sec) 34 38
			C (sec) 130 130
			y pract. 0.665 0.637
			R.C. (%) 91% 61%

Stage / Phase Diagrams			
L/G = 5	L/G = 7	L/G = 5	L/G = 11 + Ped 13

Junction: **J10 - Tsing Yi Road West / Fung Shue Wo Road**
 Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)		Radius (m)		(% uphill Gradient)	Nearside O/I	Pro. Turning (%)		Site Factor	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
					Left	Right	Logistic Peak				Logistic Peak					Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Fung Shue Wo Road	S	↓	1	A,D	4.1	0.0	0	3	0	0%			1	2039	4058	2039	4058	329	0.161	0.229			
(To Tsing Yi Road West)	S	↓	1	A,D	3.9	0.0	0	3	0	0%			1	2019	0	2019	0	326	0.161				
Fung Shue Wo Road	S	↓	1	A,D	4.0	0.0	0	3	1	0%			1	1889	2294.8	1889	2294.8	432	0.229				
(To Fung Shue Wo Road)	S	↓	1	A,D	4.0	0.0	0	3	0	0%			0.2	405.8	0	405.8	0	93	0.229				
Tsing Yi Road West	N	↑	2	A,B	3.5	0.0	0	0	1	0%			1	1965	2491.3	1965	2491.25	505	0.257				
	N	↑	2	A,B	3.5	0.0	0	0	0	0%			0.25	526.25	0	526.25	0	135	0.257				
	N	↗	3	B	3.6	0.0	18	0	0	100%			1	2115	2115	1950	1950	165	0.085	0.085			
Fung Shue Wo Road	N	↖	4	C	3.8	35.0	0	3	1	100%			1	1869	2193.6	1790	2100	111	0.062				
	N	↖	4	C	4.0	38.0	0	3	0	100%			0.16	324.64	0	310	0	19	0.062				
Fung Shue Wo Road	N	↗	4	C	3.6	0.0	43	3	0	100%			0.23	457.47	2446.5	440	2355	101	0.229	0.229			
	N	↗	4	C	3.6	0.0	40	3	0	100%			1	1989	0	1915	0	439	0.229				
Pedestrian crossing		←---→	5p	D																			
		←---→	6P	B,C																			
		↑	7P	A,C,D																			
		↓	8P	A,B,D																			

Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	Logistic Peak Check Phase
			Ey 0.543 L (sec) 12 C (sec) 90 y pract. 0.780 R.C. (%) 44%



I/G = 5 I/G = 5 I/G = 5

Junction: (J11) Tsing Yi Heung Sze Wui Road / Cheung Wan Street
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		uphill Gradient (%)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Tsing Yi Heung Sze Wui Road	N	↑	2	A,B	3.5	0.0	0	0	1	0%		1965	4070	1965	4070	558	0.284			
	N	↑	2	A,B	3.5	0.0	0	0	0	0%		2105	0	2105	0	597	0.284			
Cheung Wan Street	W	↙	3	C	3.5	18.0	20	0	0	44% / 56%		2105	0	1950	0	384	0.197	0.197		
	W	↘	3	C	3.5	15.0	0	0	1	100%		1965	4070	1785	3735	351	0.197			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,D	3.0	10.0	0	0	1	100%		1915	6025	1665	5775	595	0.357	0.357		
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	360	0.175			
	S	↓	1	A,D	3.0	0.0	0	0	0	0%		2055	0	2055	0	360	0.175			
Pedestrian crossing		↑ ↓	4P	B						Min. Green time = 8GM + 11FG = 19s										
		← →	5P	D						Min. Green time = 5GM + 10FG = 15s										
		← →	6P	C						Min. Green time = 5GM + 8FG = 13s										

AB,C,D AD,B,C

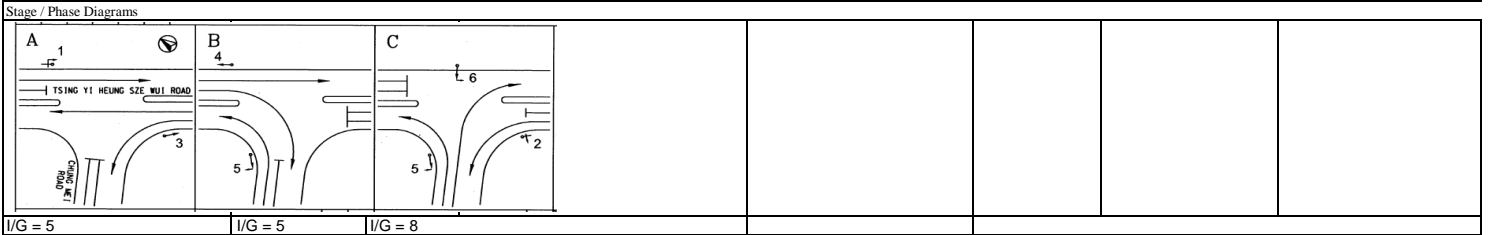
Notes:	Traffic Flow (pcu / hr)	Weekday AM Peak	720	595		
			↑	↓	↘	↙
			1155	215	520	
						Logistic Peak Check Phase
						Ey 0.481 0.554
						L (sec) 32 33
						C (sec) 114 114
						y pract. 0.647 0.639
						R.C. (%) 35% 15%

Stage / Phase Diagrams							
I/G = 2	I/G = 5	I/G = 12 + Ped 15					

Junction: (J12) Tsing Yi Heung Sze Wui Road / Chung Mei Road
 Description: 2029 Design Traffic Flow

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak		
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value
Chung Mei Road	E	↗	5	B,C	3.3	10.0	0	0	1	100%		1945	1945	1690	1690	280	0.166			
	E	↘	6	C	3.3	0.0	18	0	0	100%		2085	2085	1925	1925	255	0.132	0.132		
Tsing Yi Heung Sze Wui Road	N	↖	2	A,C	3.3	25.0	0	0	1	100%		1945	1945	1835	1835	285	0.155			
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	4210	2105	4210	390	0.185	0.185		
	N	↑	3	A	3.5	0.0	0	0	0	0%		2105	0	2105	0	390	0.185			
Tsing Yi Heung Sze Wui Road	S	↘	1	A,B	3.5	0.0	0	3	1	0%		1839	3818	1839	3818	446	0.242			
	S	↙	1	A,B	3.5	0.0	0	3	0	0%		1979	0	1979	0	479	0.242			
	S	↖	4	B	3.5	0.0	22	3	0	100%		1979	1979	1855	1855	365	0.197	0.197		
Pedestrian crossing																				

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 280 ↗ 255 ↘ 365 ↖ 925.00 ↓ 285 ↖ 780 ↑	Logistic Peak Check Phase g _y 0.515 L (sec) 15 C (sec) 114 y _{pract.} 0.782 R.C. (%) 52%
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Junction: (J14) Tsing Yi Road / Planned New Road
 Description: 2029 Design Traffic Flow (With Planned New Road)

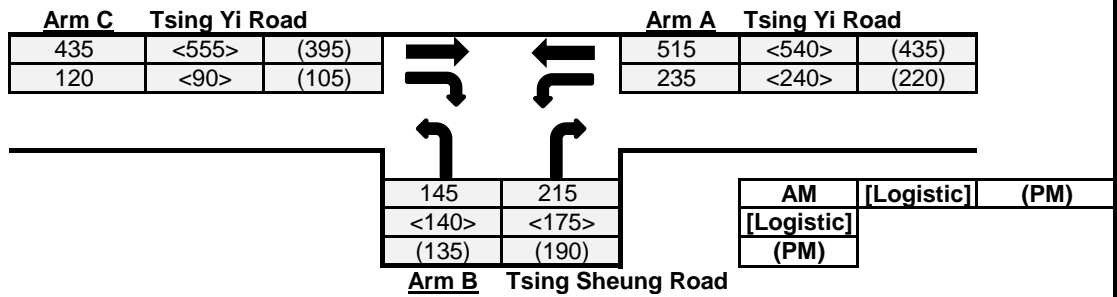
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		(% uphill Gradient)	Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		Logistic Peak			
						Left	Right			Logistic Peak				Logistic Peak		Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Tsing Yi Road	N	↑	A	1	3.5	0.0	0	0	1	0%		1965	4070	1965		4065		573	0.292	0.292	
	N	↗	A	1	3.5	0.0	40	0	0	8%		2105	0	2100	0			612	0.291		
Planned New Road	W	↖	C	3	3.5	0.0	18	0	0	100%		2105	2105	1945		1945		50	0.026		
	W	↘	C	3	3.5	10.0	0	0	1	100%		1965	1965	1710		1710		50	0.029	0.029	
Tsing Yi Road	S	↓	B	2	3.5	10.0	0	0	1	11%		1965	4070	1935		4040		448	0.231	0.232	
	S	↙	B	2	3.5	0.0	0	0	0	0%		2105	0	2105	0			487	0.232		
Pedestrian crossing		↔	Dp	1		Min. Green time = 5GM + 7FG = 12s															
		↑	EP	1,2		Min. Green time = 5GM + 7FG = 12s															
		↔	Fp	2,3		Min. Green time = 5GM + 7FG = 12s															
		↓	Gp	3		Min. Green time = 5GM + 7FG = 12s															
		↔	Hp	1,3		Min. Green time = 5GM + 7FG = 12s															
		↔	Ip	2		Min. Green time = 5GM + 7FG = 12s															

Notes:	Traffic Flow (pcu / hr) Weekday AM Peak 1095(1080) 50(50) 985(730) 50(50) 	AM Peak Check Phase Ey 0.321 L (sec) 18 C (sec) 120 y pract. 0.765 R.C. (%) 138%
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Stage / Phase Diagrams		
1.	2.	3.
I/G = 5	I/G = 10	I/G = 6

Priority Junction Calculation

Junction : (J3) Tsing Yi Road / Tsing Sheung Road Job No.: 23125HK
 Scenario : 2029 Design Traffic Flow



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	14	D 0.933
W-CR	0	E 1.012
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F 0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	Y 0.517
V-rBA	30	
V-IBA	50	
V-rBC	50	
V-rCB	50	
w-BA	4.5	
w-BC	4.5	
w-CB	0	

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM
	pcu/hr				pcu/hr			
	q-CA	435	555	395	Q-BA	400	390	423
	q-CB	120	90	105	Q-BC	638	633	654
	q-AB	235	240	220	Q-CB	372	368	383
	q-AC	515	540	435	Q-CA	N/A	N/A	N/A
	q-BA	215	175	190	Q-BAC	N/A	N/A	N/A
	q-BC	145	140	135				
	f	0.403	0.444	0.415				

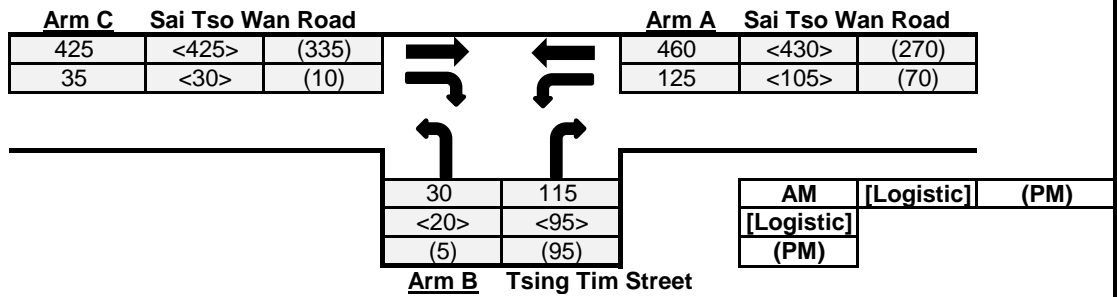
(If C-B blocked C- (If Minor Road Share LT&RT))

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	0.54	0.45	0.45
	B-C	0.23	0.22	0.21
	C-B	0.32	0.24	0.27
	C-A	N/A	N/A	N/A
	B-AC	N/A	N/A	N/A

Critical DFC **0.54** **0.45** **0.45**

Priority Junction Calculation

Junction : (J6) Sai Tso Wan Road / Tsing Tim Street Job No.: 24001HK
 Scenario : 2029 Design Traffic Flow



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

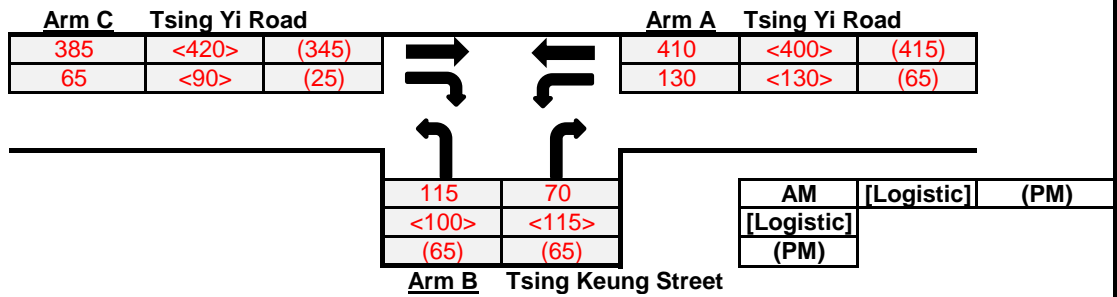
Geometry :	Input	Calculated
W	7	D 0.877
W-CR	0	E 0.933
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F 0.616
Minor Road Share LT&RT? (Yes: 1, No: 0)	1	Y 0.759

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
	q-CA	425	425	335	Q-BA	350	360	423	
	q-CB	35	30	10	Q-BC	564	573	618	
	q-AB	125	105	70	Q-CB	359	368	401	
	q-AC	460	430	270	Q-CA	N/A	N/A	N/A	(If C-B blocked C-
	q-BA	115	95	95	Q-BAC	379	385	430	(If Minor Road Share LT&RT)
	q-BC	30	20	5					
	f	0.207	0.174	0.050					

Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
	B-A	N/A	N/A	N/A
	B-C	N/A	N/A	N/A
	C-B	0.10	0.08	0.02
	C-A	N/A	N/A	N/A
	B-AC	0.38	0.30	0.23
	Critical DFC	0.38	0.30	0.23

Priority Junction Calculation

Junction : (J13) Tsing Yi Road / Tsing Keung Street Job No.: 24001HK
 Scenario : 2029 Design Traffic Flow



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	15	D 0.910
W-CR	0	E 0.968
C-B blocked C-A, residual width <2.5m? (Yes: 1, No: 0)	0	F 1.029
Minor Road Share LT&RT? (Yes: 1, No: 0)	0	Y 0.483
V-rBA	50	
V-IBA	50	
V-rBC	50	
V-rCB	50	
w-BA	4	
w-BC	4	
w-CB	4.7	

Analysis :	Traffic Flow	AM	Logistic	PM	Capacity	AM	Logistic	PM	
	pcu/hr				pcu/hr				
q-CA	385	420	345	Q-BA	443	436	460		
q-CB	65	90	25	Q-BC	643	644	646		
q-AB	130	130	65	Q-CB	669	671	680		
q-AC	410	400	415	Q-CA	N/A	N/A	N/A	(If C-B blocked C-	
q-BA	70	115	65	Q-BAC	N/A	N/A	N/A	(If Minor Road Share	
q-BC	115	100	65					LT&RT)	
f	0.622	0.465	0.500						

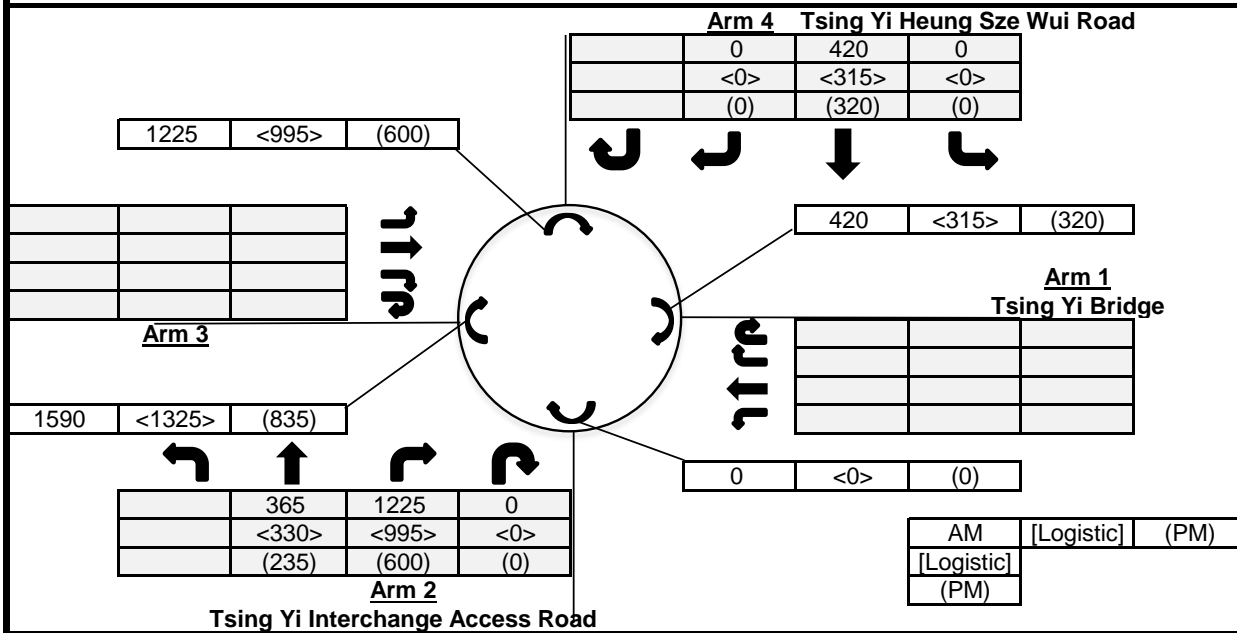
Results :	Ratio of Flow-to-Capacity	AM	Logistic	PM
B-A		0.16	0.26	0.14
B-C		0.18	0.16	0.10
C-B		0.10	0.13	0.04
C-A		N/A	N/A	N/A
B-AC		N/A	N/A	N/A

Critical DFC **0.18 0.26 0.14**

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (North) Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6		6
E	= Entry width (m)		7		7
L	= Effective length of flare (m)		5		5
R	= Entry radius		62		41
D	= Inscribed circle diameter (m)		60		60
A	= Entry angle (degree)		27		60
Q	= Entry flow (pcu/hr)		1590		420
		AM	1590		420
		Logistic	1325		315
		PM	835		320
Qc	= Circulating flow across entry (pcu/hr)		0		1225
		AM	0		1225
		Logistic	0		995
		PM	0		600

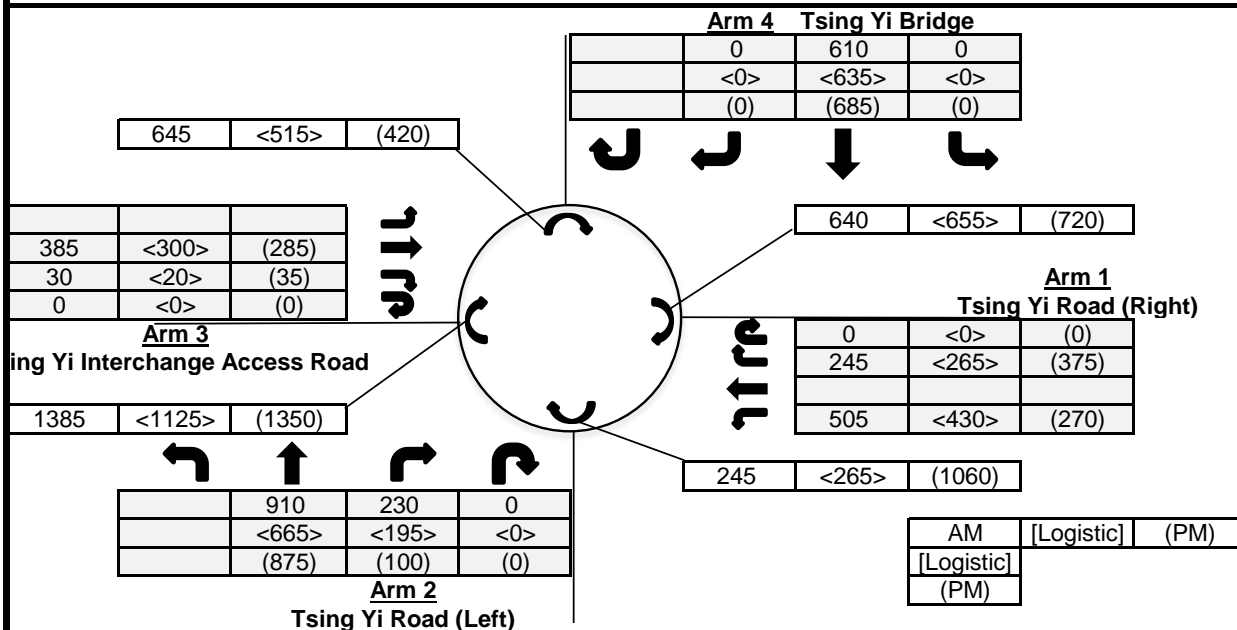
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.32		0.32
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		1.04		0.92
X2	= $V+((E-V)/(1+2*S))$		6.61		6.61
M	= $Exp((D-60)/10)$		1.00		1.00
F	= $303*X2$		2003		2003
Td	= $1+(0.5/(1+M))$		1.25		1.25
Fc	= $0.21*Td*(1+0.2*X2)$		0.61		0.61
Qe	= Capacity = $K*(F-Fc*Qc)$		2090		1157
		AM	2090		1157
		Logistic	2090		1286
		PM	2090		1508
DFC	= Entry Flow/Capacity = Q/Qe		0.76		0.36
		AM	0.76		0.36
		Logistic	0.63		0.24
		PM	0.40		0.21

DFC of Critical Approach = AM 0.76
 Logistic 0.63
 PM 0.40

Roundabout Junction Calculation

Junction : (RA1) Tsing Yi Interchange (South) Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	7	6.8	7	6
E	= Entry width (m)	7.2	7	7.3	6.3
L	= Effective length of flare (m)	5	5	5	5
R	= Entry radius	23	25	24	44
D	= Inscribed circle diameter (m)	60	60	60	60
A	= Entry angle (degree)	43	54	27	23
Q	= Entry flow (pcu/hr)	AM 750	1140	415	610
		Logistic 695	860	320	635
		PM 645	975	320	685
Qc	= Circulating flow across entry (pcu/hr)	AM 640	245	1385	645
		Logistic 655	265	1125	515
		PM 720	1060	1350	420

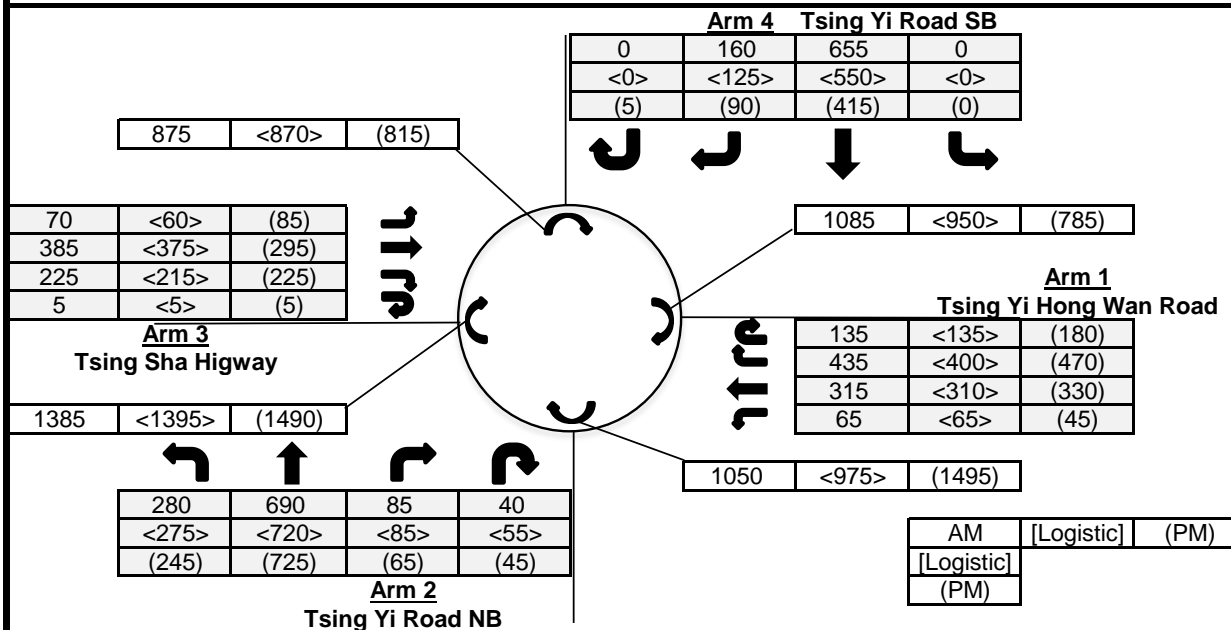
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.06	0.06	0.10	0.10
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.96	0.93	1.02	1.05
X2	= $V+((E-V)/(1+2*S))$	7.18	6.98	7.25	6.25
M	= $Exp((D-60)/10)$	1.00	1.00	1.00	1.00
F	= $303*X2$	2175	2114	2197	1894
Td	= $1+(0.5/(1+M))$	1.25	1.25	1.25	1.25
Fc	= $0.21*Td*(1+0.2*X2)$	0.64	0.63	0.64	0.59
Qe	= Capacity = $K*(F-Fc*Qc)$	AM 1697	1816	1331	1590
		Logistic 1688	1804	1501	1671
		PM 1648	1341	1354	1730
DFC	= Entry Flow/Capacity = Q/Qe	AM 0.44	0.63	0.31	0.38
		Logistic 0.41	0.48	0.21	0.38
		PM 0.39	0.73	0.24	0.40

DFC of Critical Approach = AM 0.63
 Logistic 0.48
 PM 0.73

Roundabout Junction Calculation

Junction : (RA2) Tsing Yi Road / Tsing Yi Hong Wan Road / Tsing Sha Hig Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4	
V	= Approach half width (m)	7.3	7.1	7.3	7.3	
E	= Entry width (m)	13.5	12	9.5	10	
L	= Effective length of flare (m)	30	15	30	15	
R	= Entry radius	45	97	52	34	
D	= Inscribed circle diameter (m)	100	100	100	100	
A	= Entry angle (degree)	29	32	31	46	
Q	= Entry flow (pcu/hr)	950	1095	685	815	
		Logistic	910	1135	655	675
		PM	1025	1080	610	510
Qc	= Circulating flow across entry (pcu/hr)	1085	1050	1385	875	
		Logistic	950	975	1395	870
		PM	785	1495	1490	815

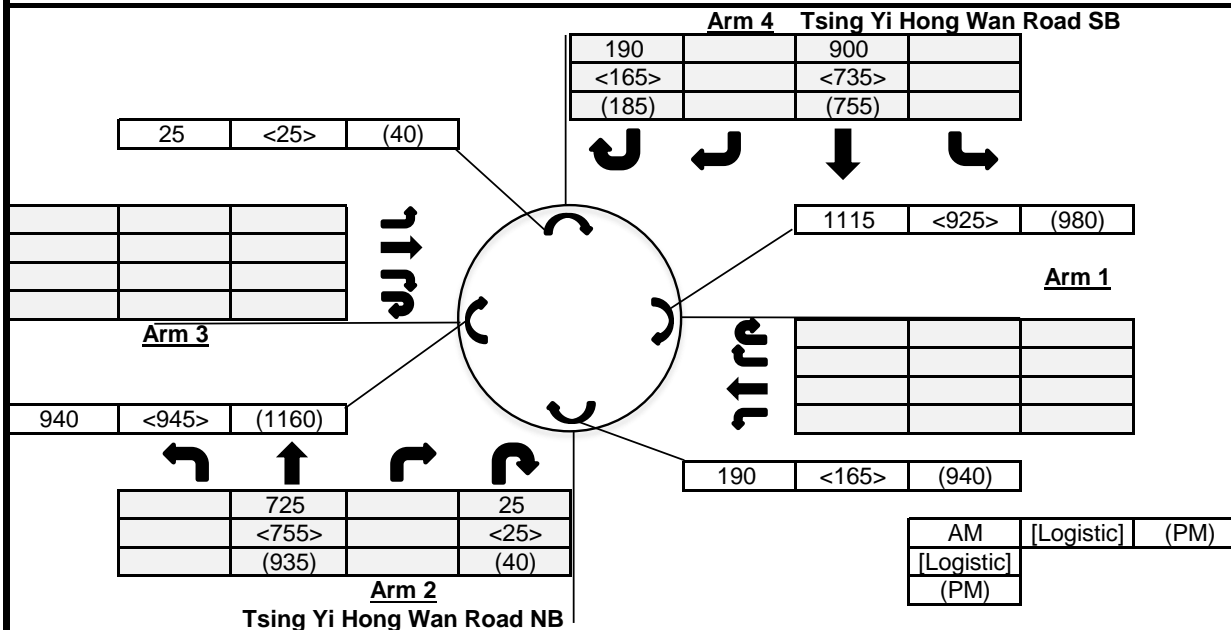
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4	
S	= Sharpness of flare = 1.6*(E-V)/L	0.33	0.52	0.12	0.29	
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)	1.03	1.03	1.03	0.96	
X2	= V+((E-V)/(1+2*S))	11.03	9.50	9.08	9.01	
M	= Exp((D-60)/10)	54.60	54.60	54.60	54.60	
F	= 303*X2	3343	2877	2752	2731	
Td	= 1+(0.5/(1+M))	1.01	1.01	1.01	1.01	
Fc	= 0.21*Td*(1+0.2*X2)	0.68	0.61	0.60	0.59	
Qe	= Capacity = K*(F-Fc*Qc)	2685	2303	1977	2133	
		Logistic	2780	2351	1970	2136
		PM	2895	2021	1912	2168
DFC	= Entry Flow/Capacity = Q/Qe	0.35	0.48	0.35	0.38	
		Logistic	0.33	0.48	0.33	0.32
		PM	0.35	0.53	0.32	0.24

DFC of Critical Approach = AM 0.48
 Logistic 0.48
 PM 0.53

Roundabout Junction Calculation

Junction : (RA3) Tsing Yi Hong Wan Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow (With Planned New Road)



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		7		7.3
E	= Entry width (m)		14		12
L	= Effective length of flare (m)		20		2
R	= Entry radius		65		75
D	= Inscribed circle diameter (m)		68		68
A	= Entry angle (degree)		53		46
Q	= Entry flow (pcu/hr)		750		1090
		AM			
		Logistic	780		900
		PM	975		940
Qc	= Circulating flow across entry (pcu/hr)		190		25
		AM			
		Logistic	165		25
		PM	940		40

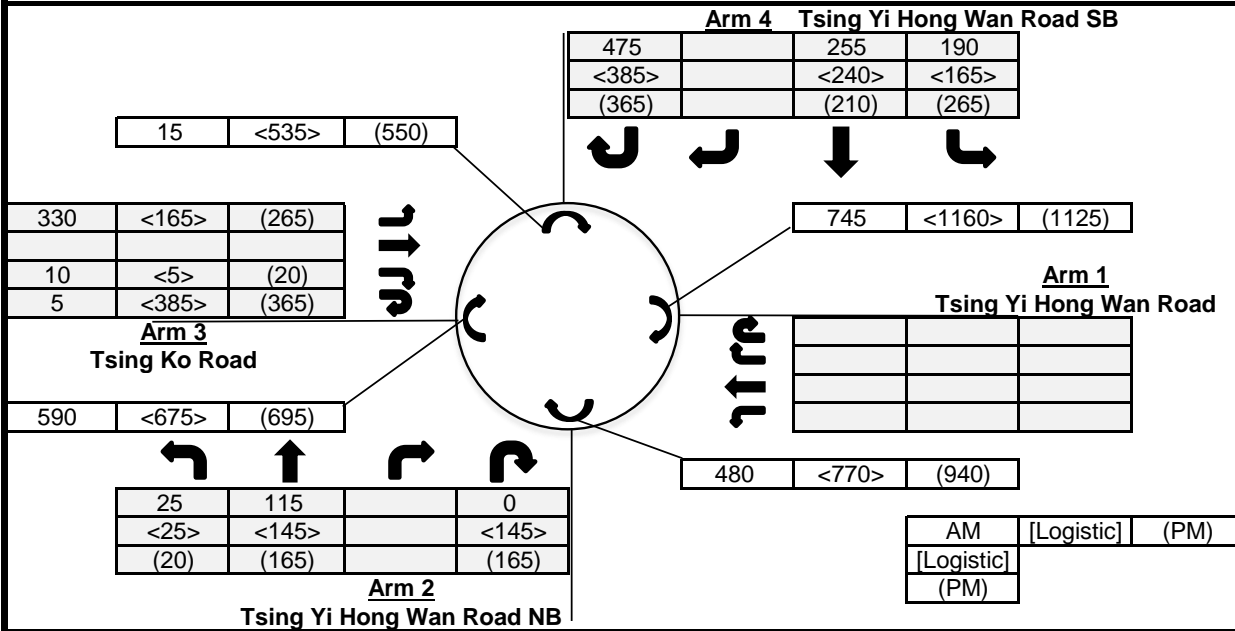
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$		0.56		3.76
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$		0.95		0.98
X2	= $V+((E-V)/(1+2*S))$		10.30		7.85
M	= $Exp((D-60)/10)$		2.23		2.23
F	= $303*X2$		3121		2379
Td	= $1+(0.5/(1+M))$		1.16		1.16
Fc	= $0.21*Td*(1+0.2*X2)$		0.74		0.62
Qe	= Capacity = $K*(F-Fc*Qc)$		2843		2317
		AM			
		Logistic	2861		2317
		PM	2312		2308
DFC	= Entry Flow/Capacity = Q/Qe		0.26		0.47
		AM			
		Logistic	0.27		0.39
		PM	0.42		0.41

DFC of Critical Approach = AM 0.47
 Logistic 0.39
 PM 0.42

Roundabout Junction Calculation

Junction : (RA4) Tsing Yi Hong Wan Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		6.7	6.3	7.3
E	= Entry width (m)		13.5	12.5	15
L	= Effective length of flare (m)		18	30	30
R	= Entry radius		47	100	75
D	= Inscribed circle diameter (m)		68	68	68
A	= Entry angle (degree)		41	22	46
Q	= Entry flow (pcu/hr)	AM	140	345	920
		Logistic	315	555	790
		PM	350	650	840
Qc	= Circulating flow across entry (pcu/hr)	AM	480	590	15
		Logistic	770	675	535
		PM	940	695	550

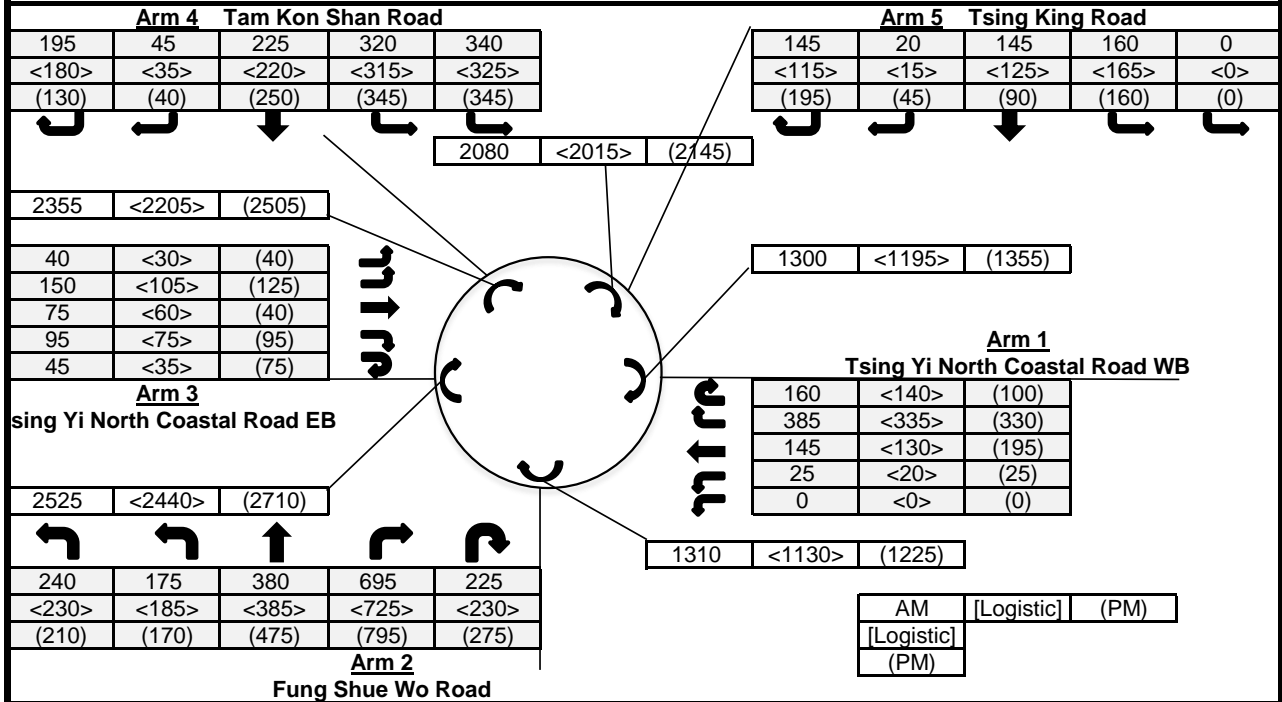
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.60	0.33	0.41
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		0.99	1.07	0.98
X2	= V+((E-V)/(1+2*S))		9.78	10.03	11.53
M	= Exp((D-60)/10)		2.23	2.23	2.23
F	= 303*X2		2963	3040	3493
Td	= 1+(0.5/(1+M))		1.16	1.16	1.16
Fc	= 0.21*Td*(1+0.2*X2)		0.72	0.73	0.80
Qe	= Capacity = K*(F-Fc*Qc)	AM	2592	2784	3412
		Logistic	2387	2718	3004
		PM	2266	2702	2992
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.05	0.12	0.27
		Logistic	0.13	0.20	0.26
		PM	0.15	0.24	0.28

DFC of Critical Approach = AM 0.27
Logistic 0.26
PM 0.28

Roundabout Junction Calculation

Junction : (RA5) Tam Kon Shan Interchange Job No.: 23125HK

Scenario : 2029 Design Traffic Flow

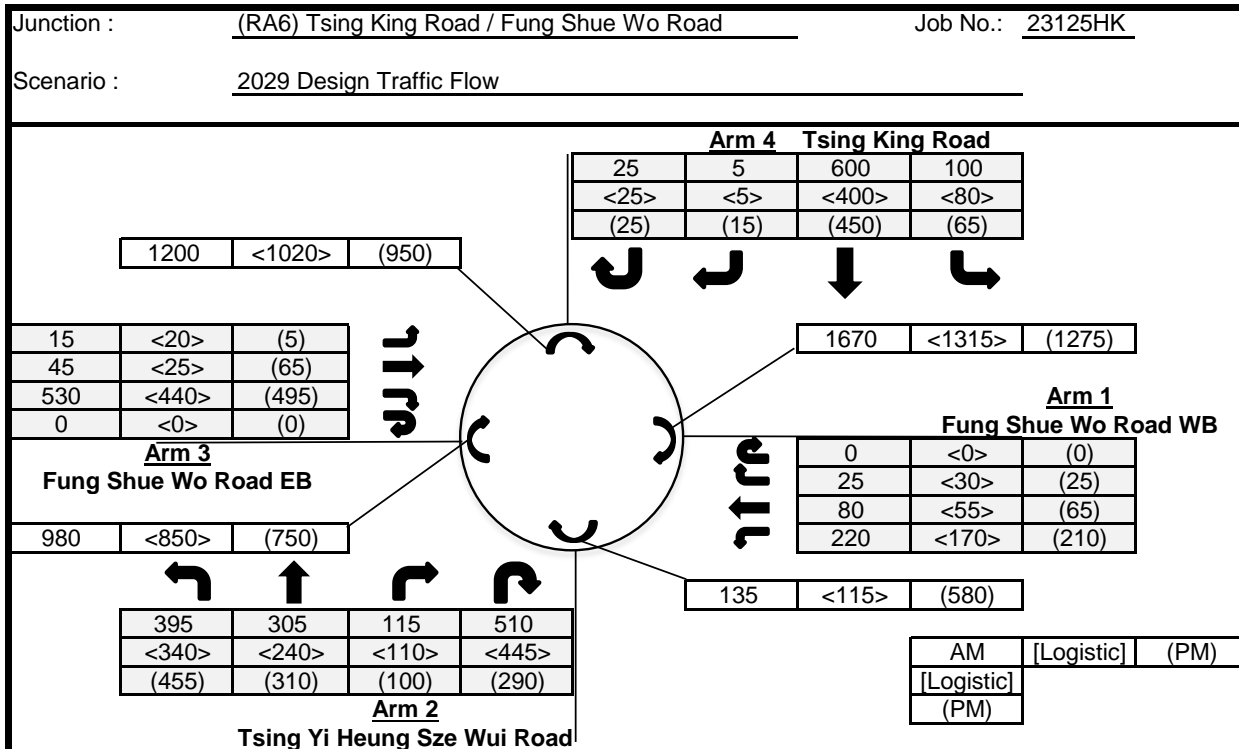


Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
V	=	Approach half width (m)	7	7.3	5.5	7.3	7
E	=	Entry width (m)	9	13.5	7.5	13.5	11
L	=	Effective length of flare (m)	9	20	11	50	10
R	=	Entry radius	100	35	45	35	45
D	=	Inscribed circle diameter (m)	100	100	100	100	100
A	=	Entry angle (degree)	30	25	25	45	45
Q	=	Entry flow (pcu/hr)					
		AM	715	1715	405	1125	470
		Logistic	625	1755	305	1075	420
		PM	650	1925	375	1110	490
Qc	=	Circulating flow across entry (pcu/hr)					
		AM	1300	1310	2525	2355	2080
		Logistic	1195	1130	2440	2205	2015
		PM	1355	1225	2710	2505	2145

Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4	Arm 5
S	=	Sharpness of flare = 1.6*(E-V)/L	0.36	0.50	0.29	0.20	0.64
K	=	1-0.00347*(A-30)-0.978*(1/R-0.05)	1.04	1.04	1.04	0.97	0.98
X2	=	V+((E-V)/(1+2*S))	8.17	10.41	6.76	11.74	8.75
M	=	Exp((D-60)/10)	54.60	54.60	54.60	54.60	54.60
F	=	303*X2	2475	3155	2050	3557	2653
Td	=	1+(0.5/(1+M))	1.01	1.01	1.01	1.01	1.01
Fc	=	0.21*Td*(1+0.2*X2)	0.56	0.65	0.50	0.71	0.58
Qe	=	Capacity = K*(F-Fc*Qc)					
		AM	1818	2387	826	1828	1404
		Logistic	1879	2510	870	1931	1441
		PM	1786	2445	730	1725	1367
DFC	=	Entry Flow/Capacity = Q/Qe					
		AM	0.39	0.72	0.49	0.62	0.33
		Logistic	0.33	0.70	0.35	0.56	0.29
		PM	0.36	0.79	0.51	0.64	0.36

DFC of Critical Approach	=	AM	0.72
		Logistic	0.70
		PM	0.79

Roundabout Junction Calculation



Input Parameters			Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	6.7	7.3	7.3	6.9
E	=	Entry width (m)	9.7	10	9.2	8.9
L	=	Effective length of flare (m)	16	20	14	16
R	=	Entry radius	55	71	60	62
D	=	Inscribed circle diameter (m)	100	100	100	100
A	=	Entry angle (degree)	36	30	18	25
Q	=	Entry flow (pcu/hr)				
		AM	325	1325	590	730
		Logistic	255	1135	485	510
		PM	300	1155	565	555
Qc	=	Circulating flow across entry (pcu/hr)				
		AM	1670	135	980	1200
		Logistic	1315	115	850	1020
		PM	1275	580	750	950

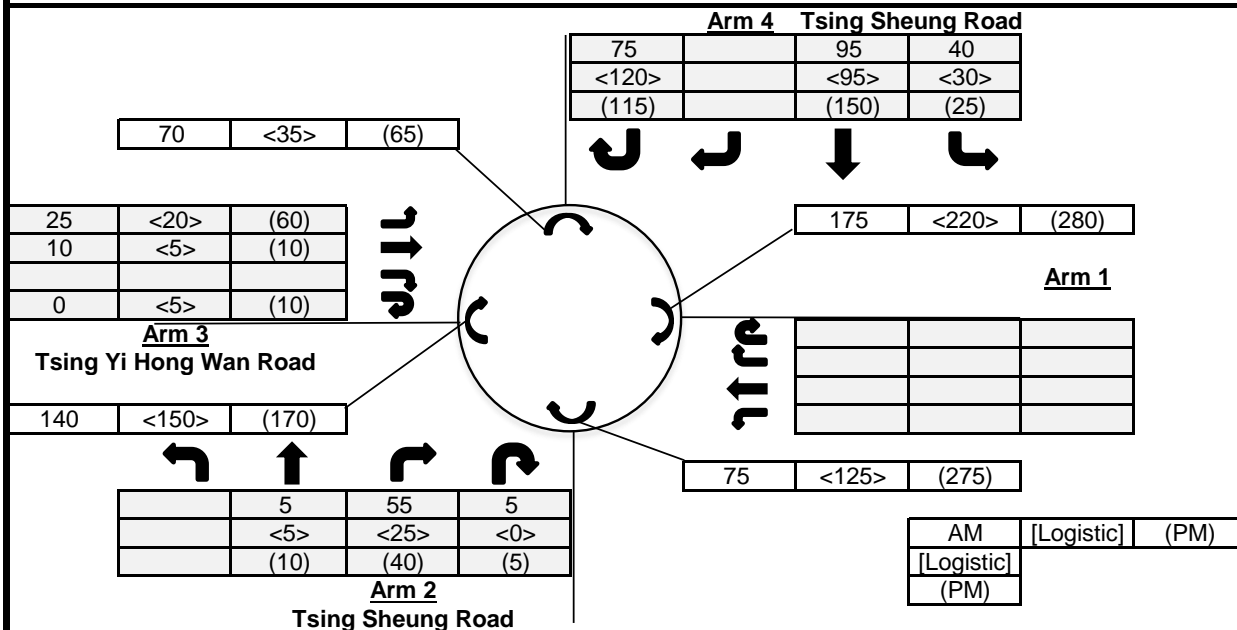
Output Parameters			Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.30	0.22	0.22	0.20
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.01	1.04	1.07	1.05
X2	=	$V+((E-V)/(1+2*S))$	8.58	9.19	8.62	8.33
M	=	$Exp((D-60)/10)$	54.60	54.60	54.60	54.60
F	=	$303*X2$	2598	2783	2613	2524
Td	=	$1+(0.5/(1+M))$	1.01	1.01	1.01	1.01
Fc	=	$0.21*Td*(1+0.2*X2)$	0.58	0.60	0.58	0.56
Qe	=	Capacity = $K*(F-Fc*Qc)$				
		AM	1654	2797	2199	1939
		Logistic	1861	2809	2280	2046
		PM	1884	2520	2342	2087
DFC	=	Entry Flow/Capacity = Q/Qe				
		AM	0.20	0.47	0.27	0.38
		Logistic	0.14	0.40	0.21	0.25
		PM	0.16	0.46	0.24	0.27

DFC of Critical Approach	=	AM	0.47
		Logistic	0.40
		PM	0.46

Roundabout Junction Calculation

Junction : (RA7) Tsing Yi Hong Wan Road / Tsing Sheung Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		5.2	3	6.7
E	= Entry width (m)		9	8.4	12
L	= Effective length of flare (m)		25	15	23
R	= Entry radius		63	55	11.6
D	= Inscribed circle diameter (m)		53	53	53
A	= Entry angle (degree)		33	48	38
Q	= Entry flow (pcu/hr)	AM	65	35	210
		Logistic	30	30	245
		PM	55	80	290
Qc	= Circulating flow across entry (pcu/hr)	AM	75	140	70
		Logistic	125	150	35
		PM	275	170	65

Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.24	0.58	0.37
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		1.02	0.97	0.94
X2	= V+((E-V)/(1+2*S))		7.76	5.51	9.75
M	= Exp((D-60)/10)		0.50	0.50	0.50
F	= 303*X2		2350	1669	2954
Td	= 1+(0.5/(1+M))		1.33	1.33	1.33
Fc	= 0.21*Td*(1+0.2*X2)		0.71	0.59	0.83
Qe	= Capacity = K*(F-Fc*Qc)	AM	2349	1537	2714
		Logistic	2313	1531	2741
		PM	2203	1520	2717
DFC	= Entry Flow/Capacity = Q/Qe	AM	0.03	0.02	0.08
		Logistic	0.01	0.02	0.09
		PM	0.02	0.05	0.11

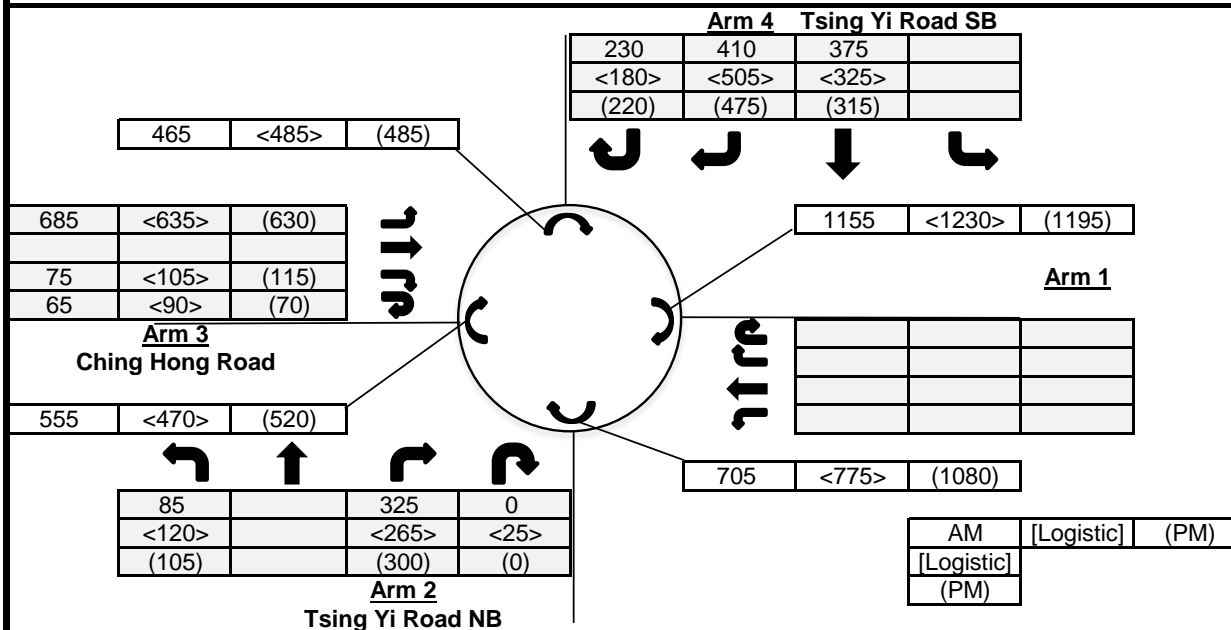
DFC of Critical Approach =

AM	0.08
Logistic	0.09
PM	0.11

Roundabout Junction Calculation

Junction : (RA8) Tsing Yi Road / Ching Hong Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)		4.5	7.3	7
E	= Entry width (m)		9	8.5	8.5
L	= Effective length of flare (m)		25	4	16
R	= Entry radius		24.5	30	100
D	= Inscribed circle diameter (m)		30	30	30
A	= Entry angle (degree)		44	40	27
Q	= Entry flow (pcu/hr)		410	825	1015
		AM	410	825	1015
		Logistic	410	830	1010
		PM	405	815	1010
Qc	= Circulating flow across entry (pcu/hr)		705	555	465
		AM	705	555	465
		Logistic	775	470	485
		PM	1080	520	485

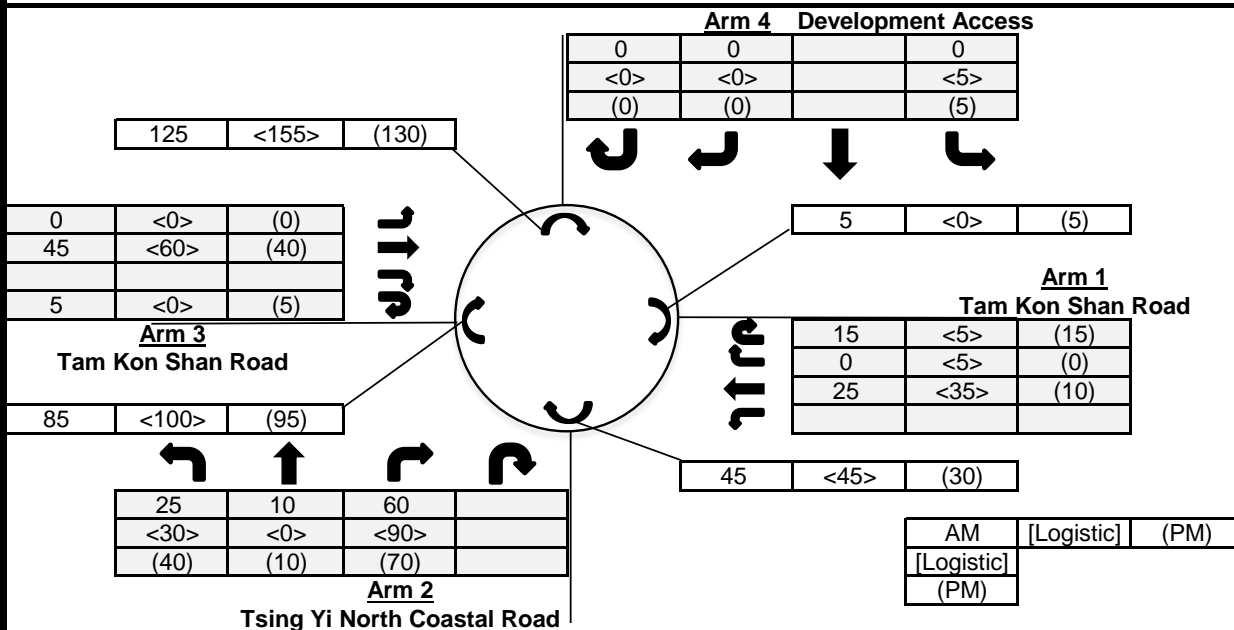
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = 1.6*(E-V)/L		0.29	0.48	0.15
K	= 1-0.00347*(A-30)-0.978*(1/R-0.05)		0.96	0.98	1.05
X2	= V+((E-V)/(1+2*S))		7.36	7.91	8.15
M	= Exp((D-60)/10)		0.05	0.05	0.05
F	= 303*X2		2229	2397	2471
Td	= 1+(0.5/(1+M))		1.48	1.48	1.48
Fc	= 0.21*Td*(1+0.2*X2)		0.77	0.80	0.82
Qe	= Capacity = K*(F-Fc*Qc)		1622	1917	2195
		AM	1622	1917	2195
		Logistic	1570	1984	2178
		PM	1346	1945	2178
DFC	= Entry Flow/Capacity = Q/Qe		0.25	0.43	0.46
		AM	0.25	0.43	0.46
		Logistic	0.26	0.42	0.46
		PM	0.30	0.42	0.46

**DFC of Critical Approach = AM 0.46
Logistic 0.46
PM 0.46**

Roundabout Junction Calculation

Junction : (RA9) Tam Kon Shan Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters		Arm 1	Arm 2	Arm 3	Arm 4
V	= Approach half width (m)	3.3	4	3.4	4.2
E	= Entry width (m)	6.7	4.9	5.8	5.4
L	= Effective length of flare (m)	10	10	10	10
R	= Entry radius	32	97	52	34
D	= Inscribed circle diameter (m)	30	30	30	30
A	= Entry angle (degree)	34	32	31	46
Q	= Entry flow (pcu/hr)	40	95	50	0
		AM	95	50	0
		Logistic	45	60	5
		PM	25	45	5
Qc	= Circulating flow across entry (pcu/hr)	5	45	85	125
		AM	5	45	125
		Logistic	0	45	155
		PM	5	30	95

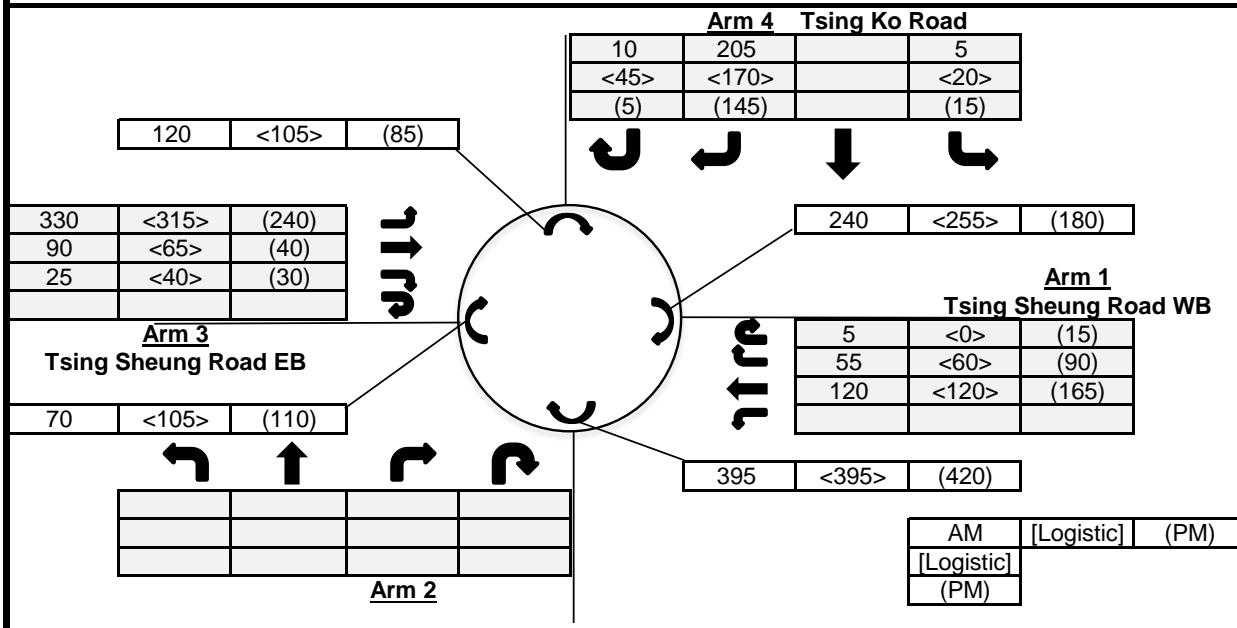
Output Parameters		Arm 1	Arm 2	Arm 3	Arm 4
S	= Sharpness of flare = $1.6*(E-V)/L$	0.54	0.14	0.38	0.19
K	= $1-0.00347*(A-30)-0.978*(1/R-0.05)$	1.00	1.03	1.03	0.96
X2	= $V+((E-V)/(1+2*S))$	4.93	4.70	4.76	5.07
M	= $Exp((D-60)/10)$	0.05	0.05	0.05	0.05
F	= $303*X2$	1493	1424	1442	1535
Td	= $1+(0.5/(1+M))$	1.48	1.48	1.48	1.48
Fc	= $0.21*Td*(1+0.2*X2)$	0.62	0.60	0.61	0.62
Qe	= Capacity = $K*(F-Fc*Qc)$	1497	1441	1427	1406
		AM	1441	1418	1388
		Logistic	1500	1418	1388
		PM	1497	1421	1403
DFC	= Entry Flow/Capacity = Q/Qe	0.03	0.07	0.04	0.00
		AM	0.03	0.04	0.00
		Logistic	0.03	0.04	0.00
		PM	0.02	0.03	0.00

DFC of Critical Approach = AM 0.07
Logistic 0.08
PM 0.08

Roundabout Junction Calculation

Junction : (RA10) Tsing Sheung Road / Tsing Ko Road Job No.: 23125HK

Scenario : 2029 Design Traffic Flow



Input Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
V	=	Approach half width (m)	6.6	5.6	6.4
E	=	Entry width (m)	12.9	5.1	11.6
L	=	Effective length of flare (m)	18	30	30
R	=	Entry radius	47	67.3	75
D	=	Inscribed circle diameter (m)	50	50	50
A	=	Entry angle (degree)	41	22	46
Q	=	Entry flow (pcu/hr)	AM 180 Logistic 180 PM 270	445 420 310	220 235 165
Qc	=	Circulating flow across entry (pcu/hr)	AM 240 Logistic 255 PM 180	70 105 110	120 105 85

Output Parameters

		Arm 1	Arm 2	Arm 3	Arm 4
S	=	Sharpness of flare = $1.6*(E-V)/L$	0.56	-0.03	0.28
K	=	$1-0.00347*(A-30)-0.978*(1/R-0.05)$	0.99	1.06	0.98
X2	=	$V+((E-V)/(1+2*S))$	9.57	5.07	9.74
M	=	$Exp((D-60)/10)$	0.37	0.37	0.37
F	=	$303*X2$	2900	1537	2953
Td	=	$1+(0.5/(1+M))$	1.37	1.37	1.37
Fc	=	$0.21*Td*(1+0.2*X2)$	0.84	0.58	0.85
Qe	=	Capacity = $K*(F-Fc*Qc)$	AM 2672 Logistic 2660 PM 2722	1589 1568 1565	2795 2808 2824
DFC	=	Entry Flow/Capacity = Q/Qe	AM 0.07 Logistic 0.07 PM 0.10	0.28 0.27 0.20	0.08 0.08 0.06

DFC of Critical Approach = AM 0.28
Logistic 0.27
PM 0.20