Appendix E

Traffic Impact Assessment

Section 12A Planning Application for Proposed Amendments to the Tung Chung Valley Outline Zoning Plan to Rezone "Residential (Group C)2" Zone to "Residential (Group B)" Zone in Support of Private Residential Development at Various Lots in D.D. 1 Tung Chung and Adjoining Government Land, Tung Chung, Lantau Island

Traffic Impact Assessment Report

December 2024





Section 12A Planning Application for Proposed Amendments to the Tung Chung Valley Outline Zoning Plan to Rezone "Residential (Group C)2" Zone to "Residential (Group B)" Zone in Support of Private Residential Development at Various Lots in D.D. 1 Tung Chung and Adjoining Government Land, Tung Chung, Lantau Island Traffic Impact Assessment Report

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1 INTRODUCTION

1.1 Background

- 1.1.1 The Application Site covers various lots and adjacent Government land in DD 1 TC and adjoining government land, Tung Chung Valley, New Territories. The Application Site is located to the west of the junction of Yu Tung Road / Chung Mun Road with an area of about 33,808m² (**Figure 1.1**).
- 1.1.2 The Application Site is zoned "Residential (Group C)2" under the current Approved Tung Chung Valley Outline Zoning Plan (OZP) no. S/I-TCV/2. In statutory planning terms, residential development with a maximum plot ratio of 1.0 and building height of 20 mPD is permitted as of right within the Site (hereinafter referred to as "Conforming Scheme").
- 1.1.3 The Application Site is near the planned Tung Chung West (TCW) MTR Station and Tung Chung West PTI. Under the current application, the Applicant proposes to rezone the Site to "Residential (Group B)" with a domestic ratio of 2.1 to provide about 1,783 nos. of residential units with an average flat size of about 39.8 m² (hereinafter referred to as "Proposed Scheme"). Also, a covered private transport lay-by and some local commercial facilities with a non-domestic plot ratio of 0.22 are proposed for the Site.
- 1.1.4 AECOM Asia Co. Ltd. was commissioned by the Applicant as the Traffic Consultant to prepare a TIA report in support of the Section 12A planning application.

1.2 Objectives

- 1.2.1 The main objectives of this report are as follows-
 - Outline the proposed development parameters and internal transport facilities provision, vehicular access arrangement and pedestrian arrangement;
 - Review the current traffic condition in the vicinity of the Application Site;
 - Estimate the potential traffic generations and attractions of the Application Site;
 - Produce traffic forecasts on the surrounding road network at the adopted design year;
 - Assess traffic impact on the surrounding road network induced from the Application Site; and
 - Develop traffic improvement proposal(s), if necessary.

1.3 Structure of TIA Report

- 1.3.1 Following this introductory chapter, the TIA is structured as follows:
 - **Chapter 2**: Proposed Development, describes the development schedule of the Application Site and its internal traffic facilities provisions, vehicular access arrangement and pedestrian arrangement.
 - **Chapter 3**: Existing Traffic Condition, reviews the current traffic conditions in the vicinity. The future road network serving Tung Chung West would also be discussed.



- **Chapter 4**: Traffic Forecasting describes the traffic forecasting methodology and presents the forecasted traffic flows in design year.
- **Chapter 5**: Traffic Impact Assessment, assesses the traffic impact induced on the surrounding road network and recommends improvement schemes, if necessary; and
- **Chapter 6**: Summary and Conclusion, summarizes the findings of the study and presents the conclusion of this TIA.



2 APPLICATION SITE

2.1 Development Schedule

2.1.1 **Table 2.1** summarizes the development schedule of the Proposed Scheme. The proposed indicative Master Layout Plan (MLP) under the current application is illustrated in **Figure 2.1** for reference.

Table 2.1	Indicative Development Schedule of the Application Site
Table 2.1	indicative Development Schedule of the Application Site

Proposed Development			
Site Area	About 33,808m ²		
GFA	About 78,292m ²		
- Domestic Portion	About 70,997m ²		
 Non-Domestic Portion 	About 7,295m ²		
Plot Ratio	Not more than 2.32		
- Domestic Portion	Not more than 2.10		
 Non-Domestic Portion 	Not more than 0.22		
Maximum Domestic Site Coverage	Not more than 33.3%		
Maximum Building Height (main roof level)			
- Area (a)	Not more than 50mPD		
- Area (b)	Not more than 80mPD		
- Area (c)	Not more than 100mPD		
No. of Storeys ⁽¹⁾	6 to 22 storeys above a 1 to 3		
	storey(s) podium		
Domestic Portion			
Domestic GFA	About 70,997m ²		
Domestic Plot Ratio	Not more than 2.10		
No. of Blocks	9		
No. of Units	About 1,783		
Average Flat Size	About 39.8m ²		
Anticipated Population ⁽²⁾	About 5,171		
Private Open Space ⁽³⁾	Not less than 5,171m ²		
Non-Domestic Portion – Commercial and Cov	vered Private Transport Lay-by		
Commercial GFA ⁽⁴⁾ About 4,145m ²			
Covered Private Transport Lay-by GFA About 3,150m ²			
Maximum Building Height	Not more than 19mPD		
Residents' Clubhouses ⁽⁵⁾			
Clubhouse GFA	About 3,000m ²		
No. of Storeys			

Remarks:

- (1) Excluding basement floor(s) for car park and transfer plate; including above ground floors for commercial / covered private transport lay-by / ramp / E&M facilities / clubhouse / residential lobby / residential floors. The indicative typical floor-to-floor height is 3.25m which is subject to refinement at detailed design stage.
- (2) Adopting a person per flat ratio of 2.9 as per Tertiary Planning Units 950 951 under 2021 Population Census covering the Application Site
- (3) Not less than 1m² per person in accordance with Hong Kong Planning Standards and Guidelines (HKPSG) requirement
- (4) Commercial GFA refers to commercial uses ('Eating Place' and 'Shop and Services'), 'School' (kindergarten, nursery, language, computer, commercial and tutorial schools, art school, ballet and other types of schools providing interest / hobby related courses), 'Place of Entertainment' and 'Place of Recreation, Sports or Culture'. A kindergarten with a GFA of about 930m² is proposed.
- (5) Residents' clubhouse GFA is based on the maximum GFA concession for clubhouse according to Buildings Department's Practice Note APP-104 and shall be disregarded from the total GFA calculation



2.2 Access Arrangement and Public Transport Facilities

2.2.1 Refer to the **Section 3.5 Future Road Network**, a four-arm roundabout junction intersecting Yu Tung Road / Chung Mun Road (J5) is planned. The roundabout will include a vehicular access road to serve the Application Site. The vehicular access for the Application Site is shown in **Figure 2.1.** With about 20m long queuing space between the ingress/egress point of the proposed development and the main road, it would be sufficient to accommodate an average traffic demand of about one vehicle per minute during peak hours (Table 4.5).

2.3 Public Transport Facilities

- 2.3.1 As mentioned in **Table 2.1** and refer to **Figure 2.1 Indicative Master Layout Plan**, even there will be a planned Tung Chung West MTR Station and Tung Chung West PTI, a covered private transport lay-by is proposed within the Application Site to supplement the provision of transport services for the future residents and visitors of the Application Site. The proposed covered private transport lay-by will be located to the southeast of the Application Site. It will consist of 3 double-width bays of 7.3m in width and 42m in length. All the 3 bays have been designed to allow manoeuvring of 12.8m buses. The management and maintenance responsibility of the covered private transport lay-by would be taken up the Applicant.
- 2.3.2 As mentioned in **Table 2.1**, the population of the Application Site will be 5,171. Reference was made to the published "Travel Characteristics Survey (TCS) 2011 Final Report". According to the TCS Final Report, the daily mechanised trip rate per population is 1.83 trips and the morning peak hour accounted for about 12% of the daily trips. The percentage of using public transport is about 73% of the total trips. By assuming a directional split of 90:10 in outbound/inbound direction, the estimated additional public transport demand in outbound direction in AM peak hour is about 746 passengers / hour (i.e. 5,171 x 1.83 x 0.12 x 0.73 x 0.9).
- 2.3.3 Taking into consideration (1) some of the existing bus routes at Yu Tung Road and Tung Chung Road are running to / from Tung Chung Station; and (2) the Application Site is located in proximity of North Lantau Expressway which is the major strategic route to all destinations in Hong Kong, the possible bus routes are proposed as a circular bus route running between Tung Chung Station and the Application Site and a cross-district bus route running between Urban District (Kowloon or Hong Kong Island) and the Application Site.
- 2.3.4 With reference to the place of work and study in the Application Site and the modal split of the working population and students at Tung Chung District in 2021 by-census published by Census and Statistics Department, it is estimated that about 27% of the future residents would work/study in Tung Chung while 73% would work/study in other districts. For people who would go to other districts for work/study, around 57% of them would take MTR. Hence, it is assumed that 70% of the future residents (i.e. 522 passengers / hr) would take the local route for local trips/bus-rail interchange and another 30% of the future residents (i.e. 224 passengers / hr) would take the cross-district bus route directly.
- 2.3.5 To cater for the estimated public transport demand from the Application Site, the following public transport services are proposed as listed in **Table 2.2**.



Table 2.2	Table 2.2 Proposed Public Tra			
Public Transport Services	No. of Public Transport Route(s)	Frequency (min.)	Estimated Service Capacity (pax/hr) ⁽¹⁾	
Local Bus Route (Circular)	1	10	522	
Cross-District Bus Route	1	20	224	

Note: The capacity of bus is assumed to be 100 passengers/bus.

- 2.3.6 One Bus Route (Circular): Running between Tung Chung Station and the Application Site, with terminating point at the Application Site and a bus stop at Tat Tung Road adjacent to Tung Chung Station for passenger boarding / alighting. The estimated round trip journey distance and journey time are about 5km and 10 minutes respectively. The round trip time is estimated about 15 minutes (5km / 30kph + 5 minutes boarding/alighting time). For proposed headway of 10 minutes, in total 2 buses would be required (i.e. 15/10) during peak hour. For non-peak period, it is assumed that the proposed circular bus service would be operated in headway of 20 minutes, in total 1 bus would be required (i.e. 15/20) during the non-peak hour. The proposed routing is shown in **Figure 2.2**.
- 2.3.7 One Cross-District Bus Route: running between the Application Site and Urban Districts (Kowloon or Hong Kong Island). Based on capacity of 100 persons/bus, this would be equivalent to 3 bus trips/hour. Hence 3 bus trips of cross-district bus routes to/from urban areas (such as Kowloon, Hong Kong Island) are proposed during the AM / PM peak hours.
- 2.3.8 With the proposed public transport services, the overall provided capacity is around 900 passengers / hour, which shall be sufficient to accommodate the estimated public transport demand.
- 2.3.9 Nonetheless, the proposed public transport services and associated operation arrangement (i.e. origin/destination, frequency, routings etc.) are subject to future reviewed by Transport Department, bus operators in the detailed design stage.
- 2.3.10 Subject to the future planning of public transport services, the provisions of covered private transport lay-by within the Application Site will allow adequate facility to serve the future public transport demand generated by the proposed development
- 2.3.11 As mentioned in **Table 2.1**, a covered private transport lay-by is proposed within the Application Site to cater for the provision of public transport services for the future residents and visitors of the Application Site. One bay is proposed for general pick-up / drop-off of passengers, including taxi. One bay is proposed for the circular bus route (between Tung Chung Station and the Application Site) while the remaining bay is proposed for the cross-district bus route during the AM/PM peak hours. The covered private transport laybys will be accessible to the nearby community during the operational hours of the two proposed bus routes.
- 2.3.12 The ingress/egress of the Covered Private Transport Lay-by are proposed to be located at Chung Mun Road as shown in **Figure 2.1**. To provide a quick and direct routing of the proposed covered transport lay-by leading to and from Yu Tung Road and Chung Mun Road, the ingress allowing the vehicles to turn right or left into the lay-by and left-out from the lay-by is proposed. The traffic impact of the proposed vehicular arrangement is considered insignificant, taking into account of the low Volume to Capacity ratio of Chung Mun Road (**Table 5.3**) and low usage of planned bus lay-by located at Chung Mun Road (11-16 buses during peak hours, **Table 3.4**) to the north



of the proposed ingress point. The indicative layout of the Covered Private Transport Lay-by together with the swept path analysis is shown in **Annex A**.

2.4 Pedestrian Facilities

2.4.1 Refer to **Figure 2.1 – Indicative Mater Layout Plan**, a possible pedestrian footbridge linking the podium of the Proposed Development with the adjacent Mun Tung Estate, the planned commercial sites in Planning Areas 38A and 38B and the planned TCW MTR Station is proposed. The construction of the possible pedestrian footbridge will be taken up by the Applicant. The management and maintenance responsibilities and allow of 24-hour public use with disabled facilities of the possible pedestrian footbridge will be subject to further review and liaison with relevant government departments at the subsequent stage.

2.5 Internal Parking and Servicing Provisions

2.5.1 The parking and loading/unloading facilities of the Application Site would be provided in accordance with the requirements of the Hong Kong Planning Standards and Guidelines (HKPSG). The respective requirements are summarized in **Table 2.3**.

	HKPSG Requirements		
Private Car Parking Spaces			
Private Housing – Private Car Parking Spaces	GPS x R1 x R2 x R3 For flat size $\leq 40m^2$ = 1 space per 4-7 flats x 0.5 x 0.75 x 1.00 = 0.375 spaces per 4-7 flats For flat size : $40m^2 < \text{ flat size } \leq 70m^2$, = 1 space per 4-7 flats x 1.2 x 0.75 x 1.00 = 0.9 spaces per 4-7 flats		
Private Housing – Visitor Private Car Parking Spaces	5 spaces per block of more than 75 residential units		
Commercial (Retail) – Private Car Parking spaces	1 car space per 150 – 300m² GFA		
Commercial (Kindergarten) – Private Car Parking Spaces	0 to 1 car parking space per 4 to 6 classrooms		
Motorcycle Parking Spaces			
Private Housing – Motorcycle Parking Spaces	1 space per 100-150 flats		
Retail – Motorcycle Parking Spaces	5% - 10% total provision for private cars		
Bicycle Parking Spaces			
Private Housing – Bicycle Parking Spaces	1 space for every 15 flats with flat size smaller than 70m ²		
Loading and Unloading Bay			

	Table 2.3	HKPSG Parking	and Servicing	Facilities Provisio	ns Requirement
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	HKPSG Requirements	
Private Housing – Loading and Unloading Bay	1 space for every 800 flats subject to min. 1 bay per block	
Retail – Loading and Unloading Bay	1 loading/ unloading bay for goods vehicles for every 800 to 1200m ² or part thereof, GFA	
Lay-bys		
Kindergarten – Taxi / private cars lay-by	1 lay-by for taxis and private cars for every 5 to 8 classrooms	
Kindergarten – Small Coaches lay-by	A minimum of 2 lay-bys for school buses or 5 lay- bys for small coaches (each 3m x 7m)	

2.5.2 In light of the HKPSG requirements given in **Table 2.3**, the proposed provision for the Application Site according to the development schedules are summarized in **Table 2.4**. Taken into consideration the proximity to public transport services, availability of public car parking space, traffic conditions and the illegal parking condition in the vicinity, it is proposed to adopt a GPS of 6 for calculating the residential carparking provision according to HKPSG. The assessment the GPS under HKPSG adopted for the Application Site is shown in **Annex B**. The Application Site is within 500m radius of new Tung Chung West MTR Station to justify the Accessibility Adjustment Ratio of 0.85 is shown in **Figure 2.3** of the Planning Statement and extracted in **Annex C**. For retail private car parking space, the mid-range provision requirement has been adopted. For other facilities, higher end of provision has been adopted.

Table 2.4	Required and Proposed Parking and Servicing Facilities
	Provisions

	Parameters	Required Provision		Proposed Provision
Private Housing –	934 Flats	FS ≤ 40m ²	51-88	407(1)
Private Car Parking	849 Flats	40m² <fs≤70m²< td=""><td>110-192</td><td>187⁽¹⁾</td></fs≤70m²<>	110-192	187 ⁽¹⁾
Spaces	Total: 1,783 Flats	161-280 spa	aces	spaces
Private Housing – Visitor Private Car Parking Spaces	9 Towers	45 spaces		45 ⁽²⁾ spaces
Retail – Private Car Parking Spaces	3,215 m ²	11 – 22 spaces		16 ⁽³⁾ spaces
Kindergarten – Private Car Parking Spaces	6 Classrooms	0 – 2 spaces		2 spaces
		Private Car Park	king Spaces	250 spaces
Private Housing – Motorcycle Parking Spaces	1,783 Flats	12 - 18 spaces		18 spaces
Retail – Motorcycle Parking Spaces	5% - 10% total provision for private cars	1 - 2 spaces		2 spaces
		Motorcycle Park	king Spaces	20 spaces



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	Parameters	Required Provision	Proposed Provision
Private Housing – Bicycle Parking Spaces	1,783 Flats ⁽⁴⁾	119 spaces	119 spaces
Private Housing – Loading and Unloading Bay	9 Towers	9 bays	9 bays
Retail – Loading and Unloading Bay	3,215 m ²	3-4 bays	4 bays
		Loading and Unloading Bays	13 bays
Kindergarten – Taxi / private cars lay-by	6 Classrooms	2 lay-bys for taxi / private cars	2 lay-bys
Kindergarten – Small Coaches lay- by	-	5 lay-bys for small coaches (each 3m x 7m)	5 lay-bys

Notes: Round up figures adopted.

(1) GPS of 1 space per 6 flats is adopted.

(2) All the towers have more than 75 units per block. Hence 5 visitor car parking spaces per block would be provided.

(3) 1 car space per 200 m² GFA is adopted.

(4) No. of flats with flat size smaller than 70 m^2 .



3 EXISTING TRAFFIC CONDITION AND FUTURE ROAD NETWORK

3.1 Existing Traffic Arrangement

- 3.1.1 The Application Site is located to the west of the junction of Yu Tung Road / Chung Mun Road.
- 3.1.2 Yu Tung Road is a dual two district distributor road in east-west direction. It connects to Chung Mun Road at its western end and Tung Chung Eastern Interchange at its eastern end.
- 3.1.3 Tung Chung Eastern Interchange is a roundabout junction of Yu Tung Road / Yi Tung Road / North Lantau Highway. It serves as the major roundabout junction in Tung Chung area. It provides connection to the strategic highways North Lantau Highway for all other destinations in Hong Kong.

3.2 Traffic Survey

3.2.1 A total of 6 existing critical junctions and 3 critical road links have been identified for assessment and listed in **Table 3.1** and shown in **Figure 3.1**. Existing layout of the critical junctions are presented in **Figure 3.2** to **Figure 3.7**.

Table 3.1 Surveyed Key Junctions for Assessment							
Ref.	Junction	Туре	Fig. No.				
Junctions							
J1	Yu Tung Road / Yi Tung Road / North Lantau Highway	Roundabout	3.2				
J2	Yu Tung Road / Shun Tung Road	Signal	3.3				
J3	Yu Tung Road / Chung Yan Road	Signal	3.4				
J4	Tung Chung Road / Chung Yan Road	Priority	3.5				
J5	Yu Tung Road / Chung Mun Road	Priority	3.6				
J6	Tung Chung Road / Shek Mun Kap Road	Roundabout	3.7				
Road Lir	nks						
L1	Yu Tung Road (between J2 and J3)						
L2	Yu Tung Road (between J3 and J5)						
L3	Chung Mun Road (to the south of J5)						

 Table 3.1
 Surveyed Key Junctions for Assessment

- 3.2.2 To investigate the current traffic condition of the identified critical junctions and critical road links, manual classified traffic counts were conducted on a typical weekday in May 2023. The surveys were undertaken during 7:00am 9:00am and 5:00pm 7:00pm.
- 3.2.3 The identified morning (AM) and evening (PM) peak hour are from 7:30am to 8:30am and from 5:30pm to 6:30pm respectively. The 2023 observed AM and PM peak hour traffic flows are shown in **Figure 3.8**.

3.3 Junction and Link Assessment

3.3.1 Based on the 2023 observed traffic flows, capacity assessments were carried out in accordance with the methodology documented in the appendices of Transport Planning and Design Manual (TPDM) Volume 2 Chapter 4 for priority junction /



roundabout. Signal junction assessments were based on TPDM Volume 4.

3.3.2 The existing junction performance of the critical junctions are summarized in Table3.2. The junction calculation spreadsheets are enclosed in Annex D.

			2023 Observed		
Ref.	Junction	Indicator*	AM Peak	PM Peak	
J1	Yu Tung Road / Yi Tung Road / North Lantau Highway	DFC	0.36	0.30	
J2	Yu Tung Road / Shun Tung Road	RC	54%	>100%	
J3	Yu Tung Road / Chung Yan Road	RC	67%	>100%	
J4	Tung Chung Road / Chung Yan Road	DFC	0.40	0.17	
J5	Yu Tung Road / Chung Mun Road	DFC	0.27	0.22	
J6	Tung Chung Road / Shek Mun Kap Road	DFC	0.24	0.24	

* RC = Reserve Capacity for signal junction; DFC = Design Flow / Capacity ratio for priority junction or roundabout

- 3.3.3 At present, the critical junctions are operating within capacity during the AM and PM peak periods.
- 3.3.4 Based on the observed traffic flows in Figure 3.8, the volume / capacity (V/C) ratios of the identified critical road links were assessed. The results are summarized in Table 3.3.

Ref.	Road Link	Direction	Capacity	2023 Traffic Flows (pcu/hr)		2023 V/C	
			(pcu/hr)	AM Peak	PM Peak	AM Peak	PM Peak
14	Yu Tung Rd	NB	3,050	1215	900	0.40	0.30
	(Between J2 and J3)	SB	3,050	990	965	0.32	0.32
12	L2 Yu Tung Road (Between J3 and J5)	NB	2745 ⁽¹⁾	375	220	0.14	0.08
		SB	2745 ⁽¹⁾	355	220	0.13	0.08
L3	Chung Mun Road (To the south of J5)	NB	2350	215	85	0.09	0.04
		SB	2350	195	85	0.08	0.04

 Table 3.3
 Existing Road Link Performance

Note: (1) A 10% reduction in road capacity is assumed to account for bus activities on Yu Tung Road (between J3 and J5)

3.3.5 The assessment results in Table 3.3 indicate that all the critical road links are operating within capacities during the AM and PM peak periods.

3.4 Existing Public Transport Facilities

3.4.1 The existing franchised bus routes serving Yu Tung Road, Tung Chung Road and Chung Mun Road, where are located within 500m radius of the Application Site are summarized in the **Table 3.4** and presented in **Figure 3.9**.



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ir		Table 3.4 Existing Public Transport Services						
Route No.	Origin / Destination	Frequency (min.)						
Franchised	Bus							
	Bus Routes – Tung Chung Road							
	Tai O $\leftarrow \rightarrow$ Tung Chung Station Bus Terminus	5 - 45						
11	Tai O (Sha Tsui) → Tung Chung Station Bus Terminus	07:10 (School Days Only), 14:05, 15:00, 15:45, 16:15, 17:00, 17:25						
	Tai O (Shui Hau) \rightarrow Tung Chung Station Bus Terminus	06:40 (Mon to Fri), 07:00 (Mon to Sat)						
11A	Shek Pik $\leftarrow \rightarrow$ Tung Chung Station Bus Terminus	25 - 45						
23	Tung Chung Tat Tung Road Bus Terminus ← → Ngong Ping	15 - 60						
34	Tung Chung Tat Tung Road Bus Terminus $\leftarrow \rightarrow$ Shek Mun Kap	5 - 110						
	Tung Chung Station Bus Terminus $\leftarrow \rightarrow$ Mui Wo Pier	5 - 60						
3M	Pui O (Lo Wai Tsuen) → Tung Chung Station Bus Terminus	06:50, 07:20, 08:20						
A35	Mui Wo Pier ← → HZMB Hong Kong Port	From HZMB HK Port : 06:15, 06:40, 08:30, 18:15, 23:30 From Mui Wo Pier: 05:30, 07:25, 17:00, 22:00, 00:15						
N35	Mui Wo Pier $\leftarrow \rightarrow$ HZMB Hong Kong Pier	From Mui Wo Pier: 03:15, 04:20 From HZMB Hong Kong Pier: 01:30, 04:30						
	Bus Routes – Yu Tung Road							
36X	Mun Tung Estate → Disneyland	08:20						
37H	Ying Tung Estate $\leftarrow ightarrow$ North Lantau Hospital	20 - 30						
37P	Yung Yat House (Yu Tung Road) ← → Caribbean Coast	3 – 5 (School Day)						
39M	Tung Chung Station Bus Terminus ← → Mun Tung Estate	7 - 15						
B6	HZMB Hong Kong Port $\leftarrow \rightarrow$ Mun Tung Estate	15 - 30						
E11B	Tin Hau Station $\leftarrow \rightarrow$ Tung Chung (Mun Tung Estate)	12 - 40						
E11S	Tin Hau Station $\leftarrow \rightarrow$ Tung Chung (Mun Tung Estate)	5 - 7						
E21A	Ho Man Tin (Oi Man Estate) Tin Hau Station ← → Tung Chung (Yat Tung Estate)	20 - 30						
E21B	Ho Man Tin (Oi Man Estate) Tin Hau Station ← → Tung Chung (Yat Tung Estate)	20 - 30						
E21X	Tung Chung (Mun Tung Estate) \rightarrow Hung Hom Station	07:48						
E22S	Tung Chung (Mun Tung Estate) ← → Tseung Kwan O (Po Lam)	From Mun Tung Estate: 06:50, 07:05, 07:20 From Po Lam: 17:35						
E31	Tsuen Wan (Discovery Park) ← → Tung Chng (Yat Tung Estate)	15 - 25						
E36A	Tung Chung (Yat Tung Estate) ← → Yuen Long (Tak Yip Street)	25 - 60						

Table 3.4 Existing Public Transport Services



Route No.	Origin / Destination	Frequency (min.)
N31	Tsuen Wan (Discovery Park) ← → Airport (Ground Transportation Centre)	30
S64X	Tung Chung (Mun Tung) ← → Airport	10 - 35
	Bus Routes – Chung Mun Road	
37	Yat Tung Estate $\leftarrow \rightarrow$ Ying Tung Estate	10 - 20
38X	Yat Tung Estate (Yu Tung Road) ← → Tung Chung Station Bus Terminus	6 – 8 (School Day)

3.5 Future Road Network

3.5.1 According to PWP item No. 7786CL Tung Chung New Town Extension (Road Works at Yu Tung Road, Chung Mun Road, Road L29, Road L30 and Shek Mun Kap Road) and (Road Works at Road L22, Road L24, Road L25, Road L26 and Road L28), there will be new planned roads and road improvement works to serve the whole Tung Chung West. The road configuration and schematic layout of these planned roads are shown in **Table 3.5** and illustrated in **Figure 3.10**.

Ref.	Road	Road Configuration	Types (New/Improvement)
1	Chung Mun Road	S-4	Improvement
2	Road L22	S-2	New
3	Road L23	S-2	New
4	Road L24	S-2	New
5	Road L25	S-2	New
6	Road L26	S-2	New
7	Road L28	S-2	New
8	Road L29	S-2	New
9	Road L30	S-2	New
10	Shek Mun Kap Road	S-2	Improvement

 Table 3.5
 Planned Road Improvement Works and Planned New Roads

- 3.5.2 The critical junctions and identified road links for the traffic impact assessment in future are listed in Table 3.6 and shown in Figure 3.10. The planned junction layouts are presented in Figure 3.11 to Figure 3.17. The planned junction types (i.e. signalized, priority or roundabout) and junction improvement schemes for J2 and J3 are adopted under the Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West) Design and Construction Deliverable C31 Final Detailed Traffic Impact Assessment Report (REP-116-02.)
- 3.5.3 Proposed Junction Improvement Scheme for J2 under REP-116-02 (**Figure 3.18**): (1) convert the left-turn traffic lane from eastbound Yu Tung Road to northbound Shun Tung Road into a free-flow lane and (2) make minor lane marking modification to form a separate lane for the left turn from eastbound of Yu Tung Road.



3.5.4 Proposed Junction Improvement Scheme for J3 under REP-116-02 (Figure 3.19): (1) change the lane marking of the middle entry lane of southbound Chung Yan Road from left turn + straight ahead to straight ahead + right turn; (2) change the lane marking of the rightmost entry lane of southbound Chung Yan Road from straight ahead + right turn to right turn; (3) change the lane marking of the middle entry lane of westbound Yu Tung Road from straight ahead + right turn to straight ahead; (4) widen the eastbound Yu Tung Road to provide three entry lanes, with leftmost lane for left turn, middle lane for straight ahead, rightmost land for straight ahead + right turn.

Ref.	Junction	Existing /Planned	Type ⁽²⁾	Fig. No.			
Junctio	ons						
J1	Yu Tung Road / Yi Tung Road / North Lantau Highway	Existing	Roundabout	3.2			
J2 ⁽¹⁾	Yu Tung Road / Shun Tung Road	Planned	Signal	3.18 (1)			
J3 ⁽¹⁾	Yu Tung Road / Chung Yan Road	Planned	Signal	3.19 ⁽¹⁾			
J4	Tung Chung Road / Chung Yan Road	Existing	Priority	3.5			
J5	Yu Tung Road / Chung Mun Road / Road L22 / Road L23	Planned	Roundabout	3.11			
J6	Tung Chung Road / Shek Mun Kap Road	Planned	Priority	3.12			
J7	Road L29 / Road L30	Planned	Priority	3.13			
J8	Tung Chung Road / Road L30	Planned	Priority	3.14			
J9	Road L25 / Road L29	Planned	Priority	3.15			
J10	Shek Mun Kap Road / Road L28 / Road L29	Planned	Priority	3.16			
J11	Chung Mun Road / Road 24 / Road L29	Planned	Signal	3.17			
Road L	inks						
L1	Yu Tung Road (between J2 and J3)						
L2	Yu Tung Road (between J3 and J5)						
L3	Chung Mun Road (to the south of J5)						

Table 3.6 Critical Junctions for Assessment

Note: (1) Junction Improvement Works are adopted under Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West) – Design and Construction Deliverable C31 – Final Detailed Traffic Impact Assessment Report (REP-116-02.

(2) The planned junction types are adopted based on Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West) – Design and Construction Deliverable C31 – Final Detailed Traffic Impact Assessment Report (REP-116-02.



4 TRAFFIC FORECASTING

4.1 Design Year

4.1.1 The proposed development is tentatively scheduled for completion in 2030. Year 2033 is therefore selected as a design year for assessment purpose (i.e. 3 years after the planned completion).

4.2 Future Planned Developments

4.2.1 With the Application Site (Conforming Scheme), there are also several planned / potential developments in the vicinity, which have been taken into account in the background traffic forecast and are listed in **Table 4.1** and diagrammatically shown in **Figure 4.1**. The development parameters and average flat size in Table 4.1 are adopted based on the Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West) – Design and Construction Deliverable C31 – Final Detailed Traffic Impact Assessment Report (REP-116-02.)

Ref.	Lot	Proposed Use	Development Parameter ⁽¹⁾	Estimated Average Flat Size ⁽¹⁾
1	Application Site	Private Housing	236 units	140 m ²
2	Site A	Private Housing	212 units	140 m ²
3	Site B	Private Housing	818 units	100 m ²
4	Site C	Private Housing	124 units	100 m ²
5	Site D	Private Housing	245 units	140 m ²
6	Site E	Private Housing	53 units	140 m ²
7	Site F	Private Housing	126 units	140 m ²
8	Area 23	Public Housing	1908 units	50 m ²
9	Area 23	Commercial Facilities GFA	1,635 m² GFA	50 m ²
10	Area 33	Private Housing	411 units	100 m ²
11	Area 38 (Area 38A & B)	Commercial Development	29,601m ² GFA	
12	Area 38 (Area 38C)	Commercial Development	2,742m ² GFA	
13	Area 42	Public Housing Commercial Facilities GFA	6,600 units Commercial Facilities GFA=16,000m²	40 m ²
14	Area 46	Public Housing Commercial Facilities GFA	1,711 units Commercial Facilities GFA=4,480m ²	40m ²
15	Area 48	Private Housing	187 units	100 m ²

 Table 4.1
 Planned / Potential Future Developments in the Vicinity

Notes:

(1) Development parameters and average flat size are adopted based on the Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West) – Design and Construction Deliverable C31 – Final Detailed Traffic Impact Assessment Report (REP-116-02.)

4.3 Trip Generation of Planned / Potential Future Developments

4.3.1 For the Conforming Scheme, the development trip rates used in this report are adopted from the Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West)
 – Design and Construction Deliverable C31 – Final Detailed Traffic Impact Assessment Report (REP-116-02.) and presented in Table 4.2.



Section 12A Planning Application for Proposed Amendments to the Tung Chung Valley Outline Zoning Plan to Rezone "Residential (Group C)2" Zone to "Residential (Group B)" Zone in Support of Private Residential Development at Various Lots in D.D. 1 Tung Chung and Adjoining Government Land, Tung Chung, Lantau Island Traffic Impact Assessment Report

	r	lable 4.2		rip Rates (pci	u/nr)	
Landuse	Average Flat Size	Unit	АМ	AM Peak		Peak
	(m²)		Gen.	Att.	Gen.	Att.
Subsidised Hoursing Public Rental	40	pcu/hr/flat	0.0325	0.0213	0.0196	0.0263
Subsidised Houring HOS	50	pcu/hr/flat	0.0483	0.0279	0.0244	0.0351
	60	pcu/hr/flat	0.0415	0.0141	0.0157	0.0276
Private Housing / R(A)	70	pcu/hr/flat	0.0659	0.0301	0.0258	0.0409
	80	pcu/hr/flat	0.0737	0.0305	0.0289	0.0491
	100	pcu/hr/flat	0.1572	0.0665	0.0609	0.0864
Private Housing / R(B)	120	pcu/hr/flat	0.189	0.0845	0.0783	0.1074
	140	pcu/hr/flat	0.2166	0.0988	0.0924	0.1237
Retail / Shopping Complex (Office + Retail)		pcu/hr/100m ² GFA	0.1285	0.1525	0.236	0.2622
Office		pcu/hr/100m ² GFA	0.1045	0.1646	0.1217	0.0840

Table 4.2TPDM Trip Rates (pcu/hr)

Note:

 the development trip rates (Conforming Scheme) used in this report are adopted from the Agreement No. CE 70/2015 (CE) Tung Chung New Town Extension (West) – Design and Construction Deliverable C31 – Final Detailed Traffic Impact Assessment Report (REP-116-02.)

4.3.2 According to the trip rate in **Table 4.2**, **Table 4.3** summarizes the estimated trip generations of the planned / potential future developments as listed in **Table 4.1**.



		Estimated Trips (pcu/hr)					
Ref.		AM Peak		AM Peak PM		PM F	Peak
		Generation	Attraction	Generation	Attraction		
1 – Application Site	Estimated Flow (pcu/hr) (236 units)	51	23	22	29		
2 – Site A	Estimated Flow (pcu/hr) (212 units)	53	30	33	42		
3 – Site B	Estimated Flow (pcu/hr) (818 units)	129	54	50	71		
4 – Site C	Estimated Flow (pcu/hr) (124 units)	19	8	8	11		
5 – Site D	Estimated Flow (pcu/hr) (245 units)	53	24	23	30		
6 – Site E	Estimated Flow (pcu/hr) (53 units)	11	5	5	7		
7 – Site F	Estimated Flow (pcu/hr) (126 units)	27	12	12	16		
8 – Area 23	Estimated Flow (pcu/hr) (1,908 units)	92	53	47	67		
9 – Area 23	(commercial facilities GFA = 1,635 m²)	2	2	4	4		
10 – Area 33	Estimated Flow ⁽¹⁾ (pcu/hr) (411 units)	65	27	25	36		
11 – Area 38 (Area 38A & B)	Estimated Flow (pcu/hr) (29,601m ² Retail GFA)	38	45	70	78		
12 – Area 38 (Area 38C)	Estimated Flow (pcu/hr) (2,742m ² Retail GFA)	4	4	6	7		
	Estimated Flow (pcu/hr) ((6,600 units)	216	142	131	175		
13 – Area 42	Estimated Flow (pcu/hr) (commercial facilities GFA = 16,000m²)	21	24	38	42		
	Estimated Flow (pcu/hr) (1,711 units)	56	36	34	45		
14 – Area 46	Estimated Flow (pcu/hr) (commercial facilities GFA = 4,480m ²)	6	7	11	12		
15 – Area 48	Estimated Flow (pcu/hr) (187 units)	29	12	11	16		

Table 4.3 Estimated Traffic Flows for Planned Future Developments in the Vicinity

4.4 Reference Traffic Forecasts

- 4.4.1 For the future traffic forecasts, in-house local area models (LAM) would be developed on this area by making reference to TD's 2019-based Base District Traffic Model (BDTM) "NTW3" covering Lantau Island.
- 4.4.2 The 2019 / 2026 / 2031 BDTM would be cordoned off to produce LAM for providing traffic flows within the study area. By proportional of 2019 / 2026 BDTM condoned matrix, the 2023 LAM matrix was derived. The 2019 LAM road network would also be refined for matching with existing road network in year 2023. The 2023 LAM matrix will be taken and assigned to the 2023 LAM road network by "SATURN" software to produce the year 2023 traffic flows. The cordoned 2023 LAM would be validated against 2023 observed traffic flows to ensure the base year LAM could satisfactorily replicate the traffic flow before the model is used to produce future year traffic forecasts.
- 4.4.3 The 2031 road network would be retrieved for matching with the planned network in Tung Chung West. The growth pattern demand from the produced 2023 / 2031 BDTM matrix were fed into the LAM for projecting the traffic flows from year 2023 to year



2033. In addition, the trip ends of traffic zones were adjusted and controlled to the estimated trips generated by the future planned development in the vicinity as listed in Table 4.3. The 2033 reference traffic flows with the Conforming Scheme are shown in Figure 4.2.

4.5 **Design Traffic Forecasts**

4.5.1 In the current proposal, the Applicant suggested a higher domestic plot ratio of 2.10, which would include 1,783 residential units with an average flat size of 39.8m². However, the TPDM has not provided any recommended trip generation rates for flats of this size. To address this, the adopted trip rates are determined by the trip rates for private housing of average flat size of 60 m² in Conforming Case in Table 4.2 in proportion to the change in average flat size. For example, trip generation rate of private housing in AM peak with averaged flat size of 40m² would be adjusted as follows: 0.0415 pcu/hr/flat x 40m² / 60m². For the retail, the trip rate proposed in the Conforming Scheme in **Table 4.2** was adopted. For the kindergarten, the trip rate as stipulated in BDTM NT Final Report, Appendix P 2 - Proposed Trip Rates of kindergarten was adopted. The trip rate for the Proposed Scheme are summarized in Table 4.4.

			Trip Rates (pcu/hr/flat)				
Land Use	Average Flat Size (m ²) AM Peak PM Pe		AM Peak		eak		
	0.20 ()	Gen.	Att.	Gen.	Att.		
Private Housing	40	0.0277 (1)	0.0094 (2)	0.0105 (3)	0.0184 (4)		
Retail	pcu/hr/100m ²	0.1285	0.1525	0.236	0.2622		
Kindergarten	pcu/hr/class operating	2.3056	2.3056	0.0286	0.0286		

Table 4.4	Trip Rates	for Proposed	I Scheme
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Note:

The adopted trip generation rate = adopted trip generation rate of private housing with average flat size of 60 sqm in AM (1) peak x flat size of 40 sqm / flat size of 60 sqm = 0.0415 x 40 / 60 = 0.0277

The adopted trip attraction rate = adopted trip attraction rate of private housing with average flat size of 60 sgm in AM (2) peak x flat size of 40 sqm / flat size of 60 sqm = 0.0141×40 / 60 = 0.0094The adopted trip generation rate = adopted trip generation rate of private housing with average flat size of 60 sqm in PM

(3) peak x flat size of 40 sqm / flat size of 60 sqm = 0.0157 x 40 / 60 = 0.0105

(4) The adopted trip attraction rate =adopted trip attraction rate of private housing with average flat size of 60 sqm in PM peak x flat size of 40 sqm / flat size of 60 sqm = 0.0276 x 40 / 60 = 0.0184

Based on the development schedule as mentioned in **Section 2**, the adopted trip rates 4.5.2 from **Table 4.4** (Proposed Scheme) and the development trip generation and attraction under the Proposed Scheme for the Application Site are illustrated in Table 4.5. The traffic generation under the Conforming Scheme is also listed for comparison purpose.



Table 4.5Estimated Traffic Flows for the Application Site				
	Estimated Trips (pcu/hr)			
Subject Site	AM Peak		PM Peak	
	Gen.	Att.	Gen.	Att.
Conforming Scheme				
Domestic Portion (PR = 1.0)	51	23	22	29
Proposed Scheme				
Domestic Portion (PR = 2.10)	49	17	19	33
Retail	4	5	7	8
Kindergarten	14	14	1	1
Total Two-way Traffic (Conforming Scheme) (pcu/hr)	74 51		1	
Total Two-way Traffic (Proposed Scheme) (pcu/hr)	103		69	
Difference (pcu/hr)	2	29	1	8

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- 4.5.3 As shown in **Table 4.5**, as compared with the Conforming Scheme, the Proposed Scheme would generate additional two-way traffic of about 29 pcu/hr and 18 pcu/hr during the AM and PM peak hours.
- 4.5.4 The 2033 design traffic flows are produced by adding additional trip generated by the Application Site under the Proposed Scheme as estimated in Table 4.5 to 2033 reference traffic flows. The 2033 design traffic flows (Proposed Scheme) are shown in Figure 4.3.



5 TRAFFIC IMPACT ASSESSMENT

5.1 Junction Capacity Assessment

5.1.1 The operational performance of 11 critical junctions based on year 2033 traffic forecasts as mentioned in **Section 4** have been assessed. The results of junction capacity analysis are summarized in **Table 5.1**. Junction capacity calculation sheets are attached in Annex B.

	Table 5.	Junction Ferrormance in 2035					
				20	33		
Ref.	Junction	Indicator ⁽¹⁾		g Scheme)	Des (Proposec	<u>I Scheme)</u>	
			AM Peak	PM Peak	AM Peak	PM Peak	
J1	Yu Tung Road / Yi Tung Road / North Lantau Highway	DFC	0.60	0.52	0.61	0.53	
J2	Yu Tung Road / Shun Tung Road	RC	21%	58%	20%	56%	
J3	Yu Tung Road / Chung Yan Road	RC	0%	29%	-1%	28%	
J4	Tung Chung Road / Chung Yan Road	DFC	0.49	0.21	0.49	0.21	
J5	Yu Tung Road / Chung Mun Road / Road L22 / Road L23	DFC	0.31	0.26	0.31	0.27	
J6	Tung Chung Road / Shek Mun Kap Road	DFC	0.15	0.16	0.15	0.16	
J7	Road L29 / Road L30	DFC	0.30	0.33	0.30	0.33	
J8	Tung Chung Road / Road L30	DFC	0.30	0.24	0.30	0.24	
J9	Road L29 / Road L25	DFC	0.39	0.23	0.39	0.23	
J10	Shek Mun Kap Road / Road L29 / Road L 28	DFC	0.16	0.15	0.16	0.15	
J11	Chung Mun Road / Road L29 / Road L24	RC	68%	>100%	68%	>100%	
J11		RC	68%	>100%	68%	>1(

Table 5.1Junction Performance in 2033

Notes:

(1) RC = Reserve Capacity for signal junction; DFC = Design Flow / Capacity ratio for priority junction or roundabout

5.1.2 As shown in **Table 5.1**, all junctions will be operation within capacity in 2033 except J3 in AM peak period. It should be noted that the RC of J3 would be below 15% in 2033 Reference Case (i.e. Conforming Scheme). The proposed development has only induced minimal traffic impact of 1% on J3. However, to enhance junction capacity of J3, junction improvement schemes for J3 have been proposed for consideration.

5.2 Junction Improvement for Junction of Yu Tung Road / Chung Yan Road (J3)

5.2.1 To enhance junction capacity of J3, it is proposed to provide one additional westbound far-side flare traffic lane of about 60m on Yu Tung Road and revise the lane markings to optimize the junction performance. In addition, it is proposed to provide one additional receiving lane at Yu Tung Road eastbound on Yu Tung Road to cater the straight-ahead traffic of Yu Tung Road eastbound. The proposed junction layout for junction of Yu Tung Road / Chung Yan Road (J3) is shown in **Figure 5.1**. The junction performance is reassessed by taking into consideration the junction improvement and the junction would operate with sufficient capacity as shown in **Table 5.2**.



			2033 Des	ign Case
Ref.	Junction	Indicator*	AM Peak	PM Peak
J3	Yu Tung Road / Chung Yan Road	RC	20%	55%

Table 5.2	2033 Junction Performance with Improvement Scheme
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Notes: RC = Reserve Capacity for signal junction

5.3 Road Link Assessment

5.3.1 The volume / capacity (V/C) ratios of the identified critical road links based on 2033 traffic forecasts Reference and Design Cases have been assessed. The results are summarized in **Table 5.3**.

				2033								
				F	Referen	ce Cas	e	Design Case		n Case	se	
Ref.	Road Link	Direction	Capacity (pcu/hr)	Traffic (pcเ		V	C .		Flows ı/hr)	V	Ċ	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	
L1	Yu Tung Rd (Between J2	NB	3,050	2105	1455	0.69	0.48	2130	1475	0.70	0.48	
	and J3)	SB	3,050	1550	1665	0.51	0.55	1560	1675	0.51	0.55	
	Yu Tung	NB	2,745 ⁽¹⁾	1105	685	0.40	0.25	1125	700	0.41	0.26	
	Road (Between J3 and J5)	SB	2,745 ⁽¹⁾	775	740	0.28	0.27	785	755	0.29	0.28	
L3	Chung Mun	NB	2350	725	390	0.31	0.17	725	390	0.31	0.17	
L3	Road	SB	2350	435	395	0.19	0.17	435	395	0.19	0.17	

 Table 5.3
 Road Link Performance in 2033

Note: (1) A 10% reduction in road capacity is assumed to account for bus activities on Yu Tung Road (between J3 and J5)

5.3.2 The assessment results in **Table 5.3** indicated that all the above road links would be operated within capacity in year 2033.



6 CONCLUSION

6.1 Summary

- 6.1.1 The Application Site covers various lots and adjacent Government land in DD 1 TC and adjoining government land, Tung Chung Valley, New Territories. The Site is located to the west of the junction of Yu Tung Road / Chung Mun Road with an area of about 33,808m².
- 6.1.2 The Application Site is zoned "Residential (Group C)2" under the current Approved Tung Chung Valley Outline Zoning Plan (OZP) no. S/I-TCV/2. In statutory planning terms, residential development with a maximum plot ratio of 1.0 and building height of 20 mPD is permitted as of right within the Site.
- 6.1.3 Refer to the **Section 3.5 Future Road Network**, a four-arm roundabout junction intersecting Yu Tung Road / Chung Mun Road (J5) is planned. The roundabout will include a vehicular access road to serve the Application Site.
- 6.1.4 The Application Site is close to the planned TCW MTR Station and Tung Chung West PTI. Under the current application, the Applicant proposes to rezone the Site with a domestic plot ratio of 2.10 to provide about 1,783 nos. of residential units (with an average flat size of about 39.8m²) on the Site.
- 6.1.5 The parking and loading/unloading facilities of the Application Site would be provided in accordance with the requirements as stipulated in the HKPSG.
- 6.1.6 In order to review the existing traffic condition, traffic count surveys were conducted at 6 identified critical junctions and 3 identified road links to investigate the traffic condition during commuting peak hours. At present, all the critical junctions and identified road links are operating within capacity.
- 6.1.7 To supplement the provision of transport services for the future residents and visitors of the Application Site, the proposed Covered Private Transport Lay-by will consist of 3 double-width bays of 7.3m in width and 42m in length. All the 3 bays have been designed to allow manoeuvring of 12.8m buses. One bay is proposed for general pick-up/drop-off of passengers, including taxi. The remaining two bays are proposed for bus services. The covered private transport laybys will be accessible to the nearby community during the operational hours of the two proposed bus routes. The management and maintenance responsibility of the covered private transport lay-by would be taken up the Applicant.
- 6.1.8 As compared with the Conforming Scheme, the Proposed Scheme would generate additional two-way traffic of about 29 pcu/hr and 18 pcu/hr during the AM and PM peak hour.
- 6.1.9 The Application Site is tentatively scheduled for completion in 2030. According to Guidelines and Requirements of TIA Studies, the TIA should assess at least 3 years after the planned completion of the Proposed Development. Hence, 2033 is adopted as the design year for this TIA.
- 6.1.10 Peak hour traffic forecasts in design year 2033 were generated by the local area model. In addition, the traffic generated by other key future developments and to/from the Application Site have been included.

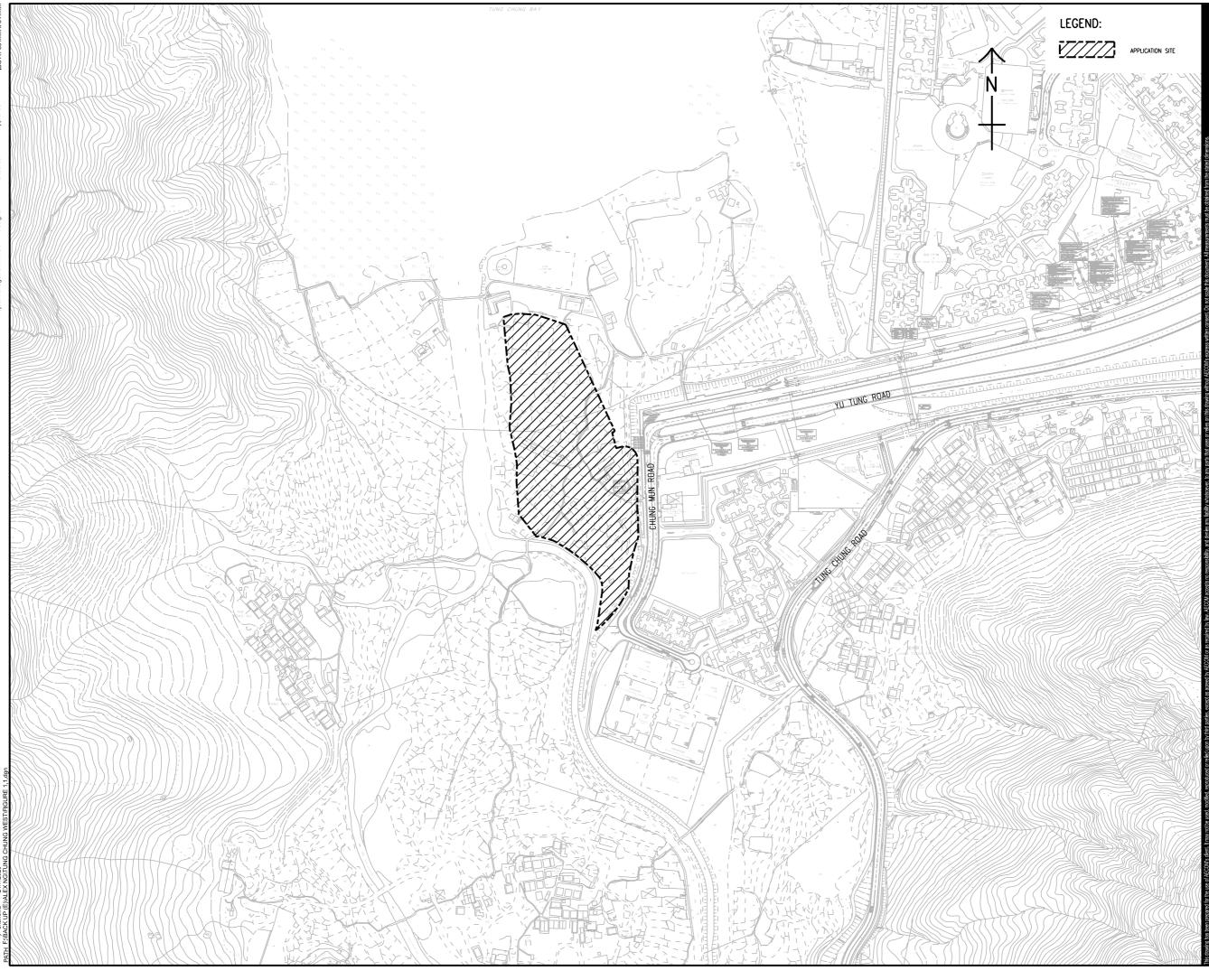


- 6.1.11 Junction capacity assessment was conducted for both 2033 reference and design cases. The results revealed that all junctions would be operating within junction capacity RC>=15% or DFC<=0.85 under design case in 2033 except for J3 in AM peak period even in 2033 Reference Case (i.e. Conforming Scheme). In light of this, further junction improvement scheme at J3 (as shown in **Figure 5.1**) is formulated for improving the junction capacity. With the said junction improvement scheme, J3 would operate with sufficient capacity in 2033 design case.
- 6.1.12 The assessment results in **Table 5.3** indicated that all the identified road links operated within capacity in year 2033.

6.1.13 Conclusion

6.1.14 In light of the findings of this TIA, it is concluded that there is no adverse traffic impact imposed on the surrounding road network due to the Application Site. With the proposed mitigation measures in place, the Application Site is technically feasible in traffic terms.

Figure





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT



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KEY PLAN

PROJECT NO.

CONTRACT NO.

SHEET TITLE

SITE LOCATION

FIGURE 1.1





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

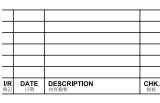


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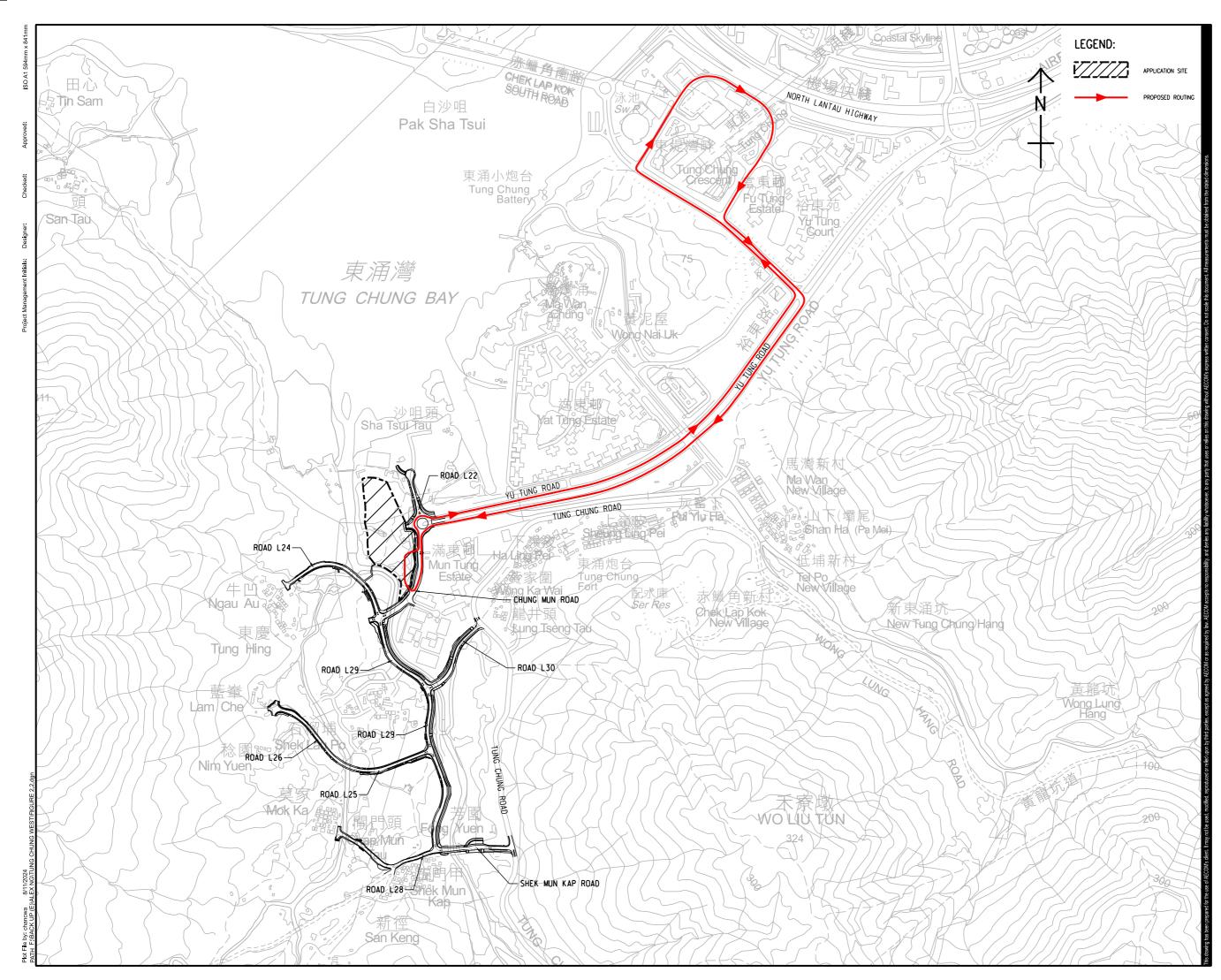
SHEET TITLE

SHEET NUMBER FIGURE 2.1

INDICATIVE MASTER LAYOUT PLAN

SCALE A3 1:2000 DIMENSION UNIT

CONTRACT NO.





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

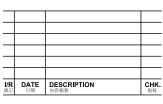


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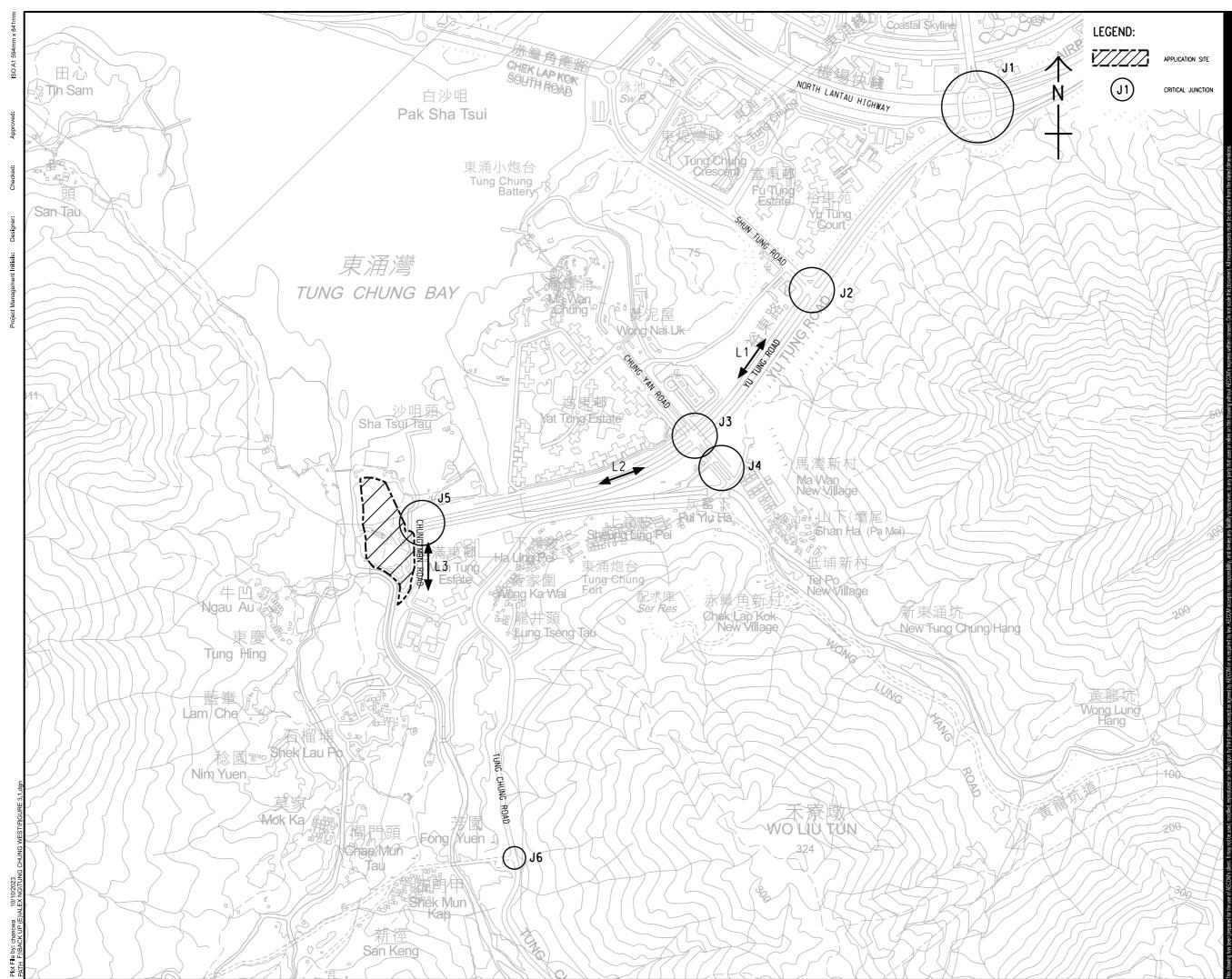
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SHEET TITLE

ROUTING OF BUS SERVICE BETWEEN APPLICATION SITE AND TUNG CHUNG STATION

SHEET NUMBER

FIGURE 2.2



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SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND

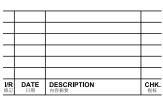


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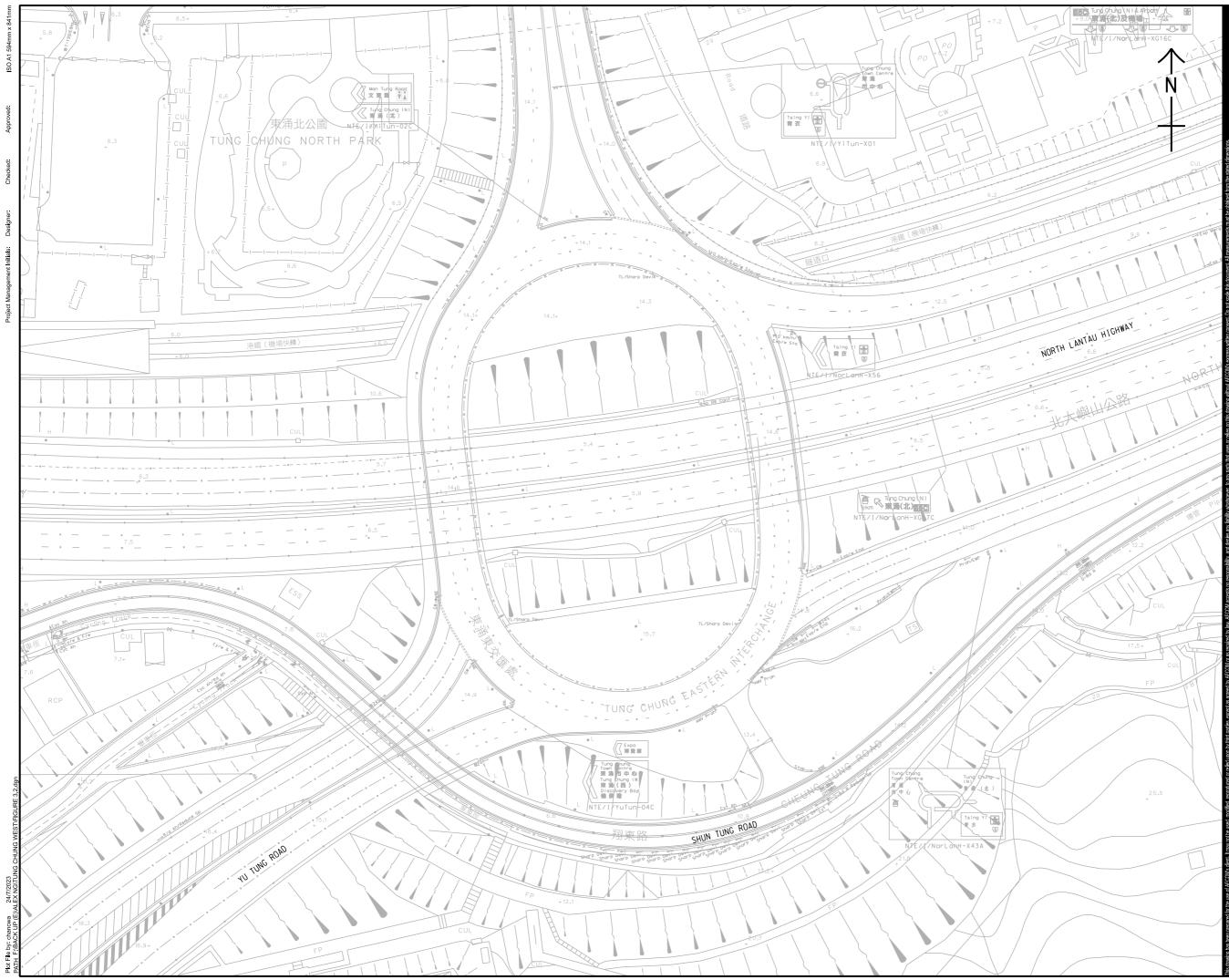
SHEET TITLE

SHEET NUMBER FIGURE 3.1

A3 1:10000

LOCATION OF SURVEYED JUNCTIONS

CONTRACT NO.





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

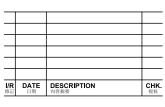


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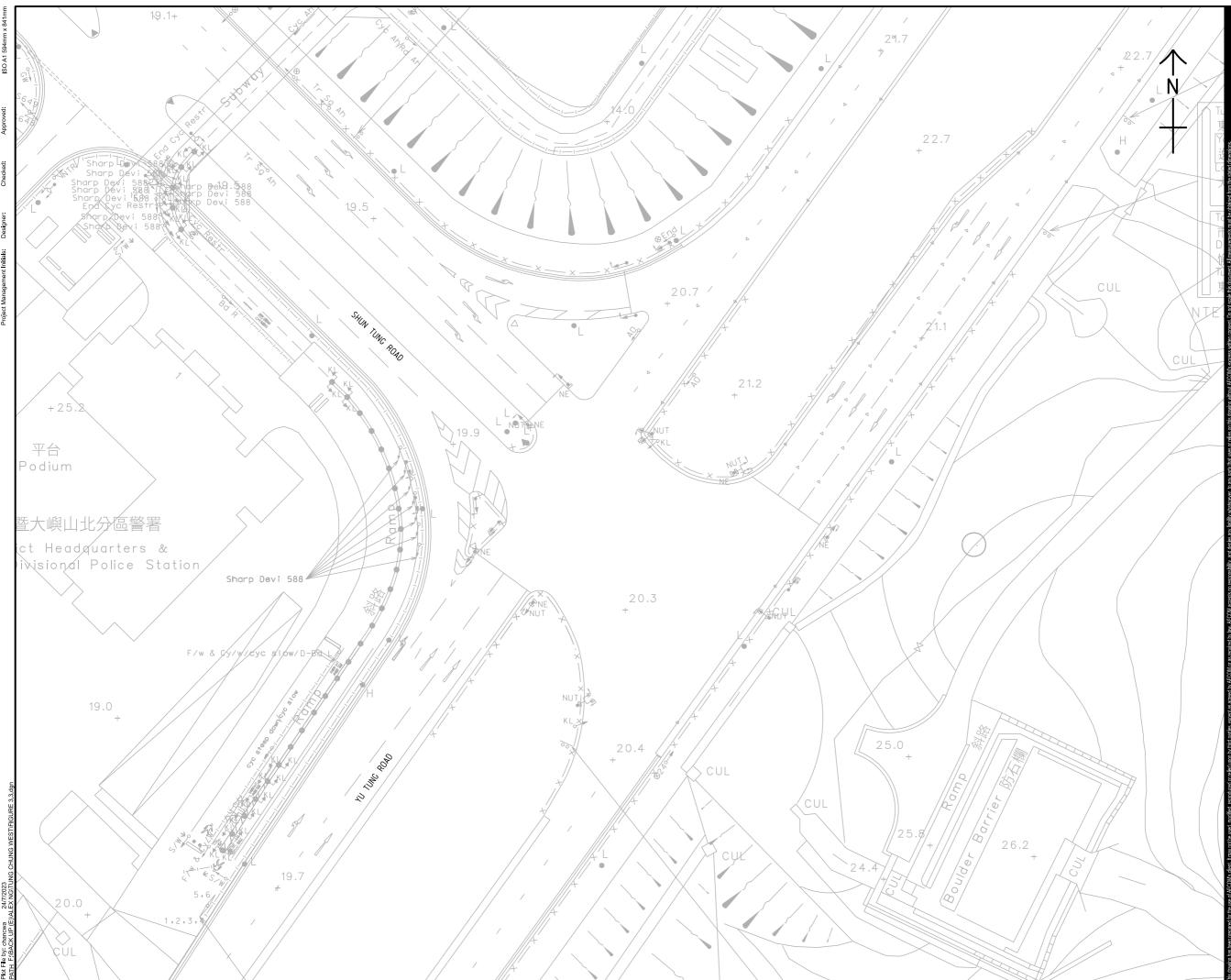
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SHEET TITLE

EXISTING JUNCTION LAYOUT OF YU TUNG ROAD / YI TUNG ROAD / NORTH LANTAU HIGHWAY

SHEET NUMBER



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PROJECT

SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

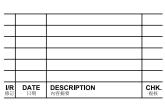


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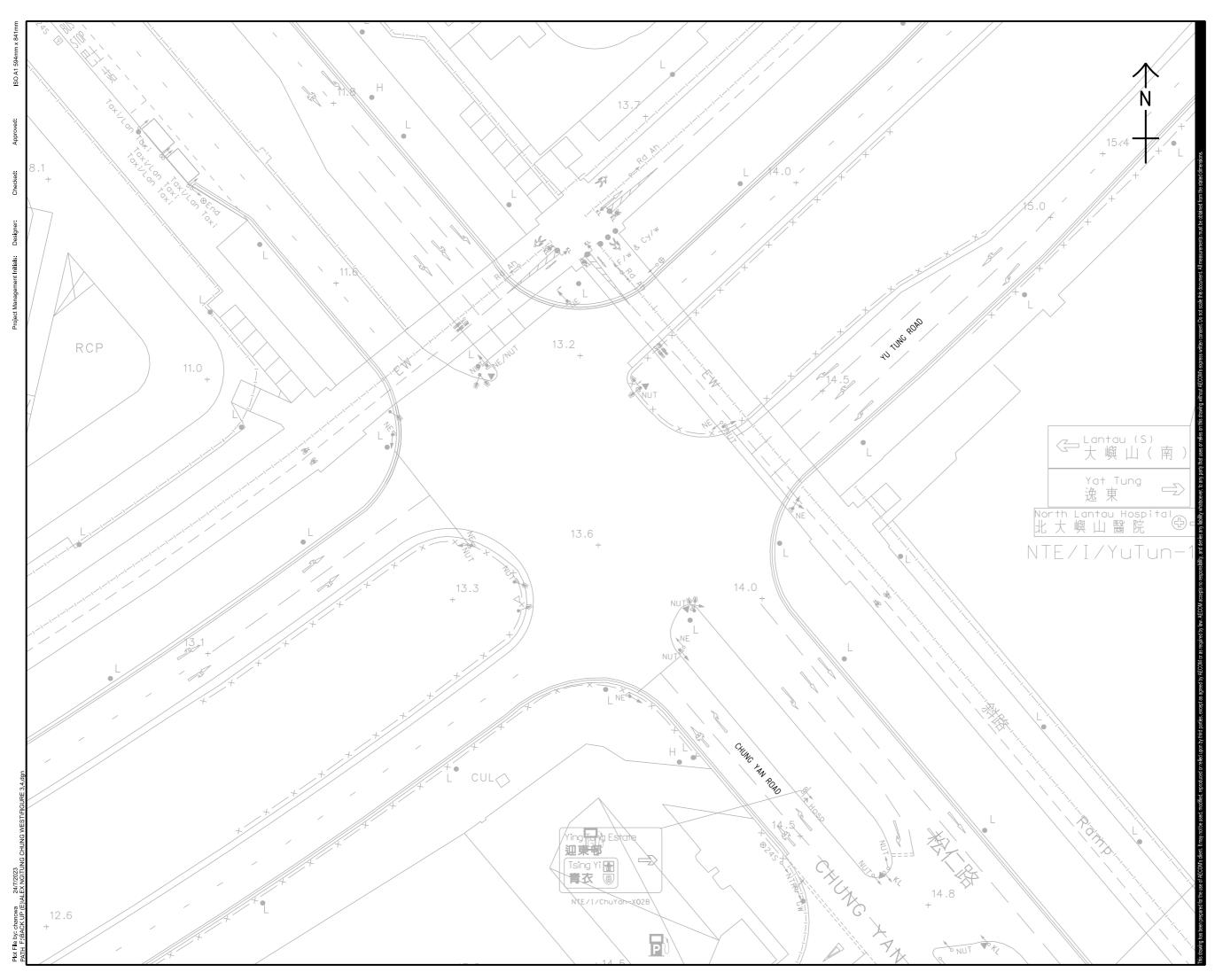
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SHEET TITLE

EXISTING JUNCTION LAYOUT OF YU TUNG ROAD / SHUN TUNG ROAD (J2)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

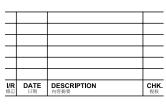


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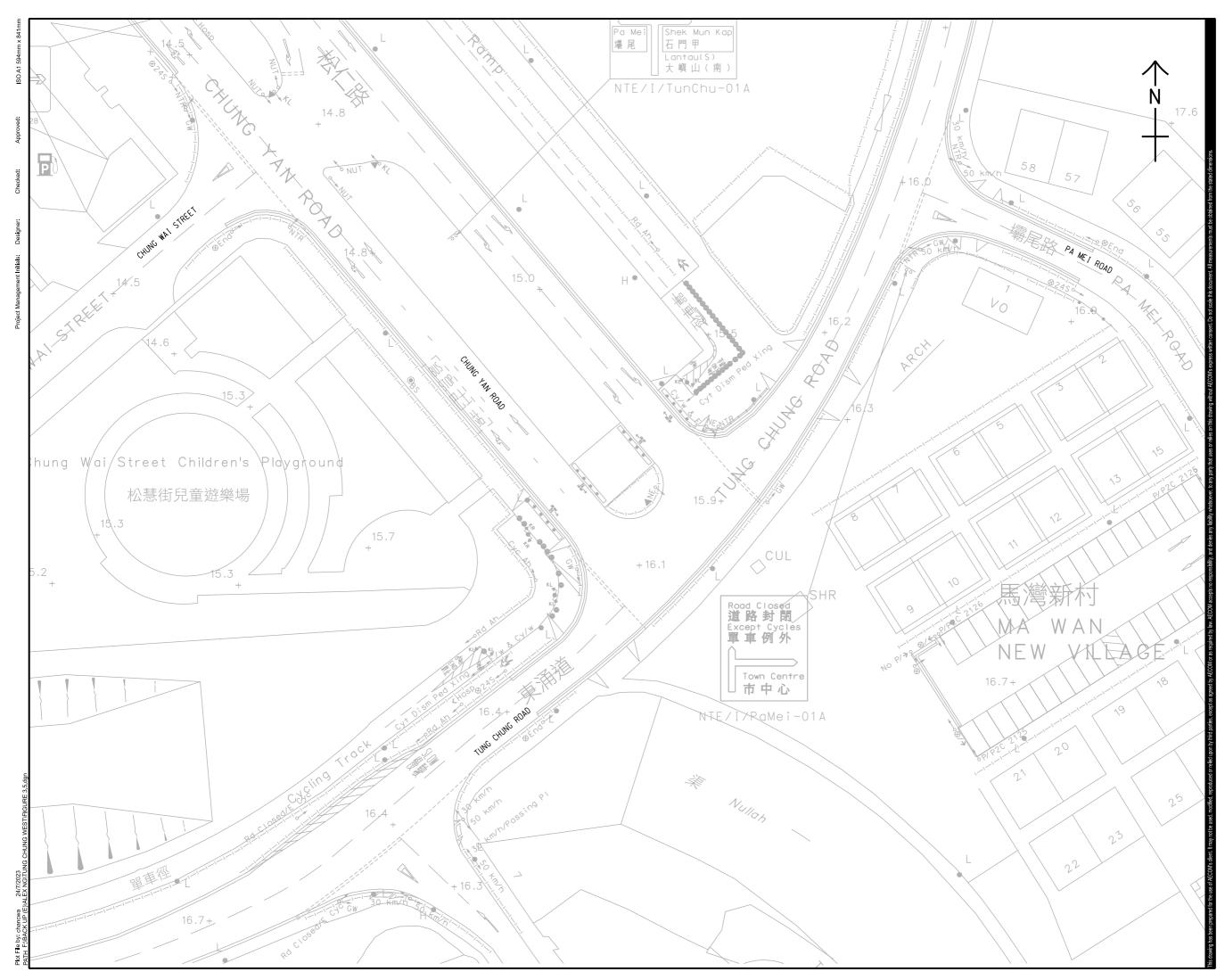
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EXISTING JUNCTION LAYOUT OF YU TUNG ROAD / CHUNG YAN ROAD (J3)





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

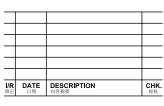


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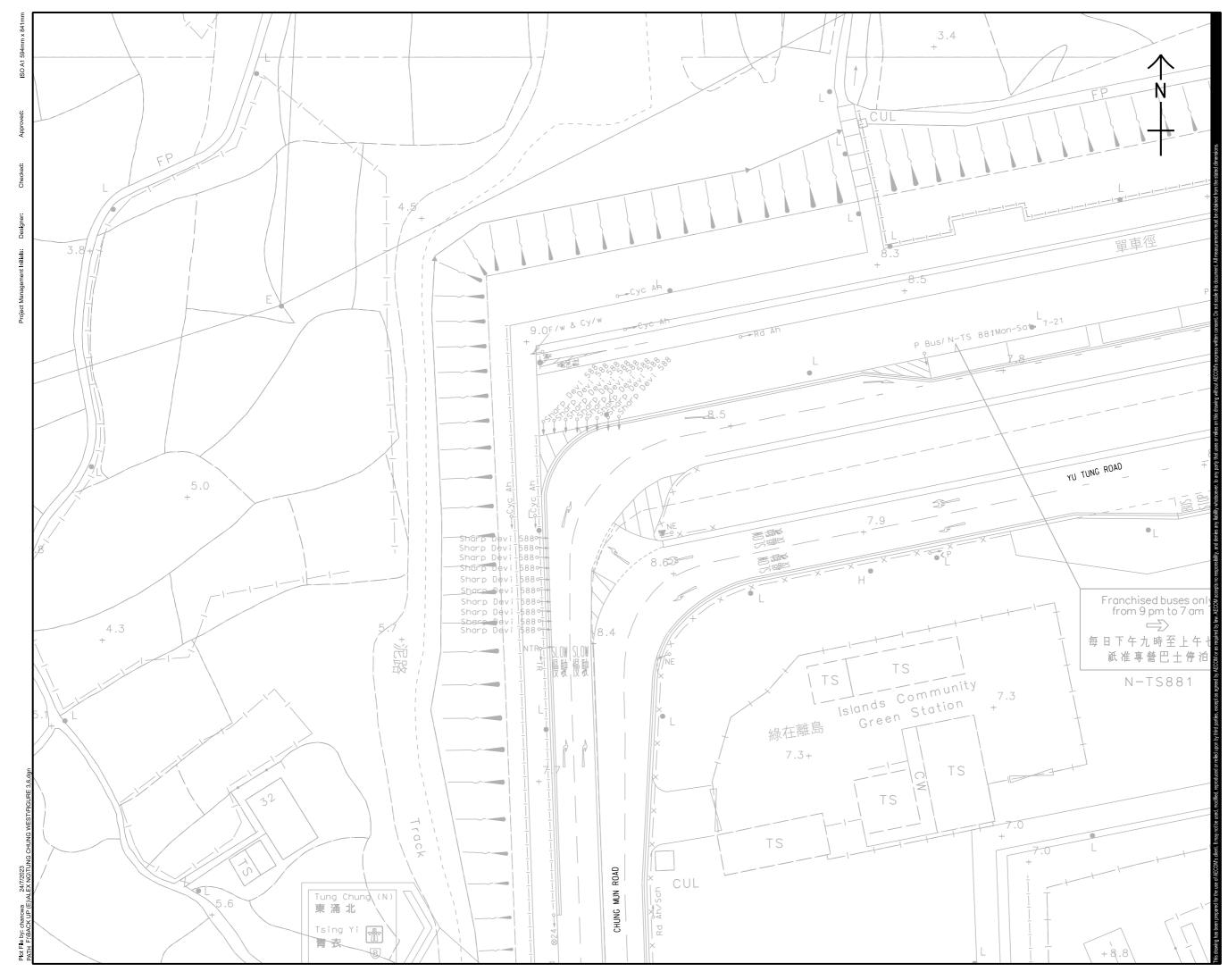
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PROJECT NO.

EXISTING JUNCTION LAYOUT OF TUNG CHUNG ROAD / CHUNG YAN ROAD (J4)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTATUSI AND LANTAU ISLAND

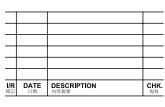


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PROJECT NO.

EXISTING JUNCTION LAYOUT OF YU TUNG ROAD / CHUNG MUN ROAD (J5)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTATUSI AND

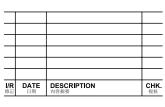


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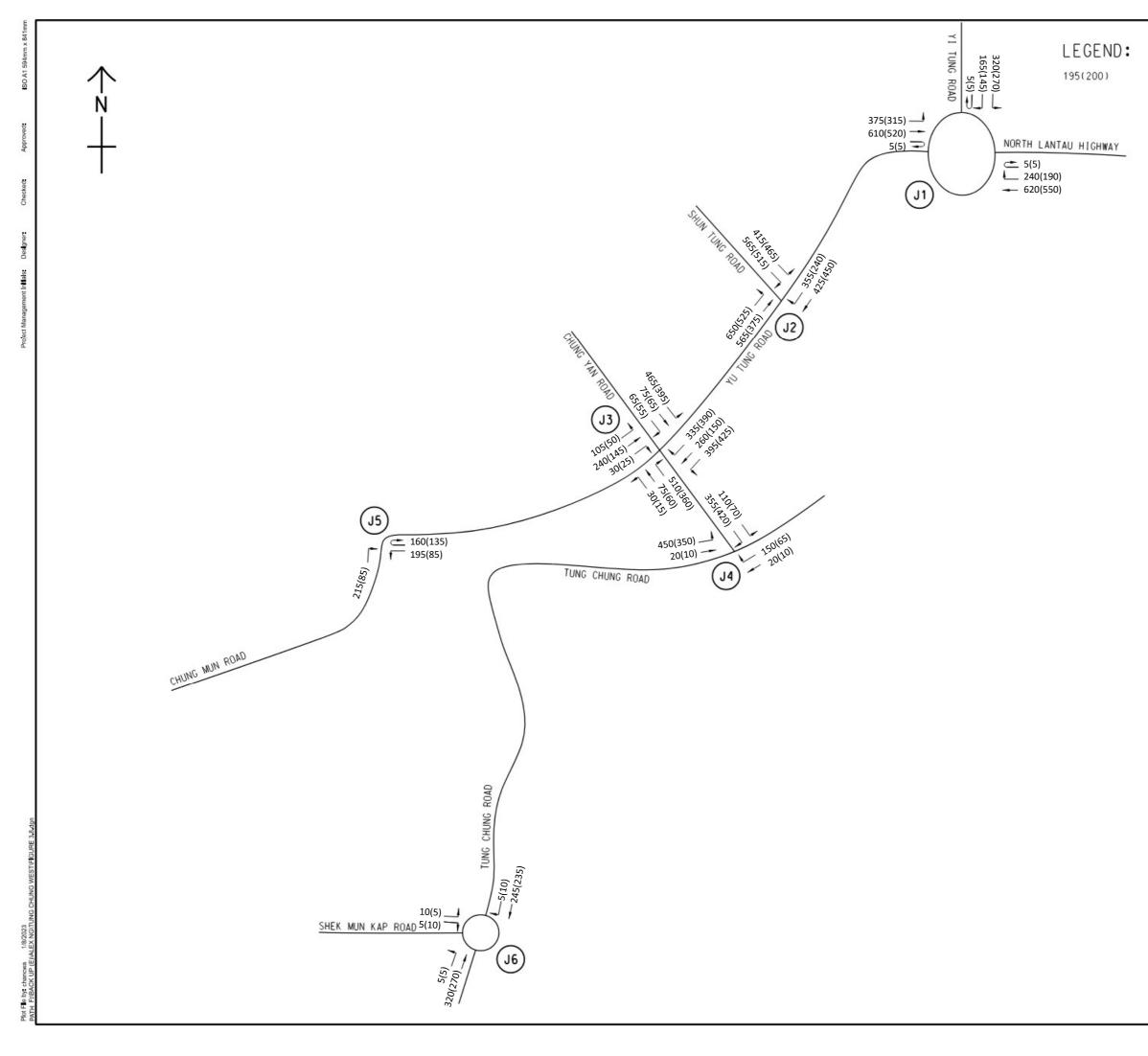
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SHEET TITLE

PROJECT NO.

EXISTING JUNCTION LAYOUT OF TUNG CHUNG ROAD / SHEK MUN KAP ROAD (J6)

SHEET NUMBER



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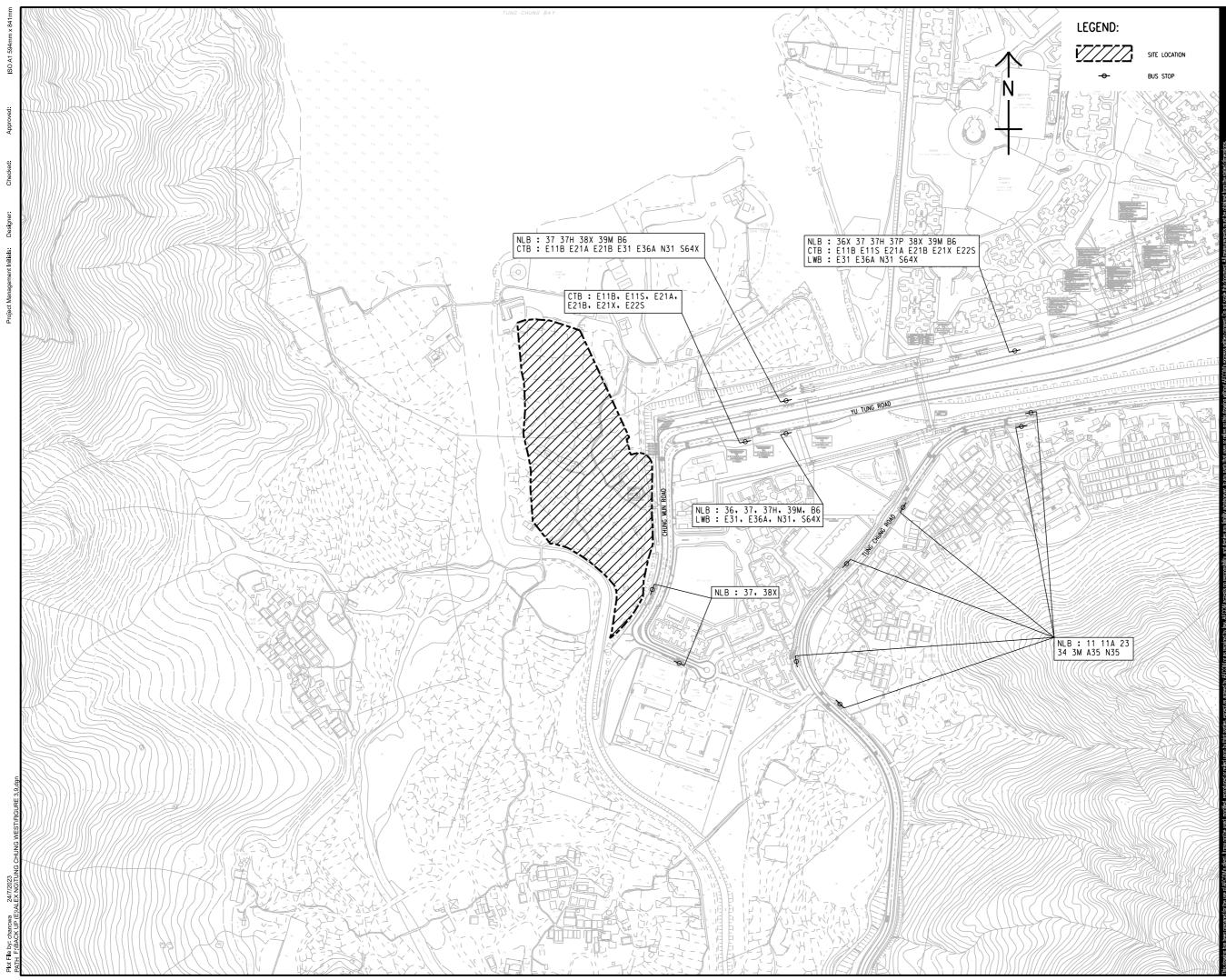
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2023 OBSERVED TRAFFIC FLOWS

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

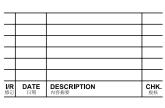


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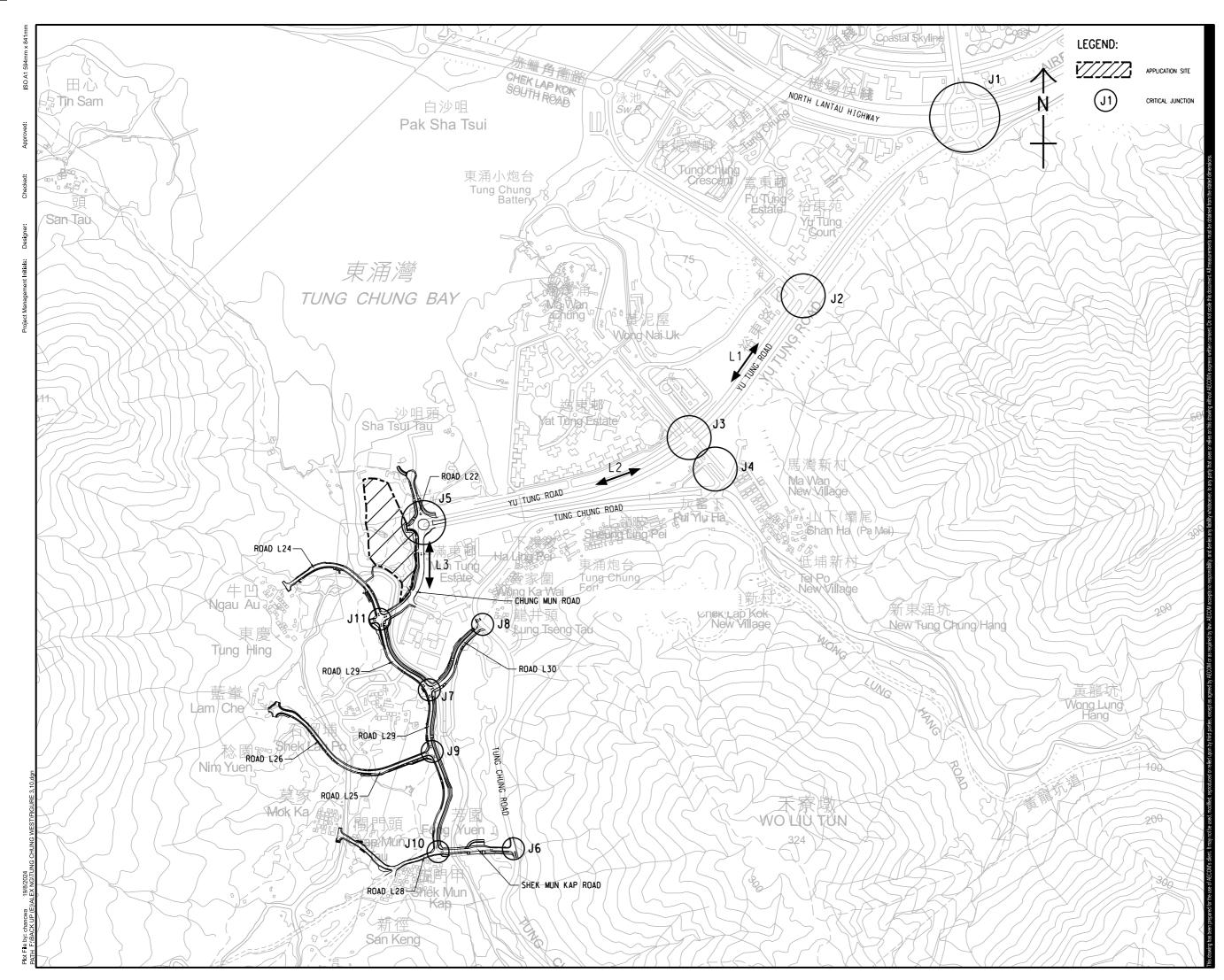
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SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

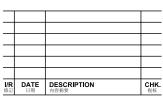


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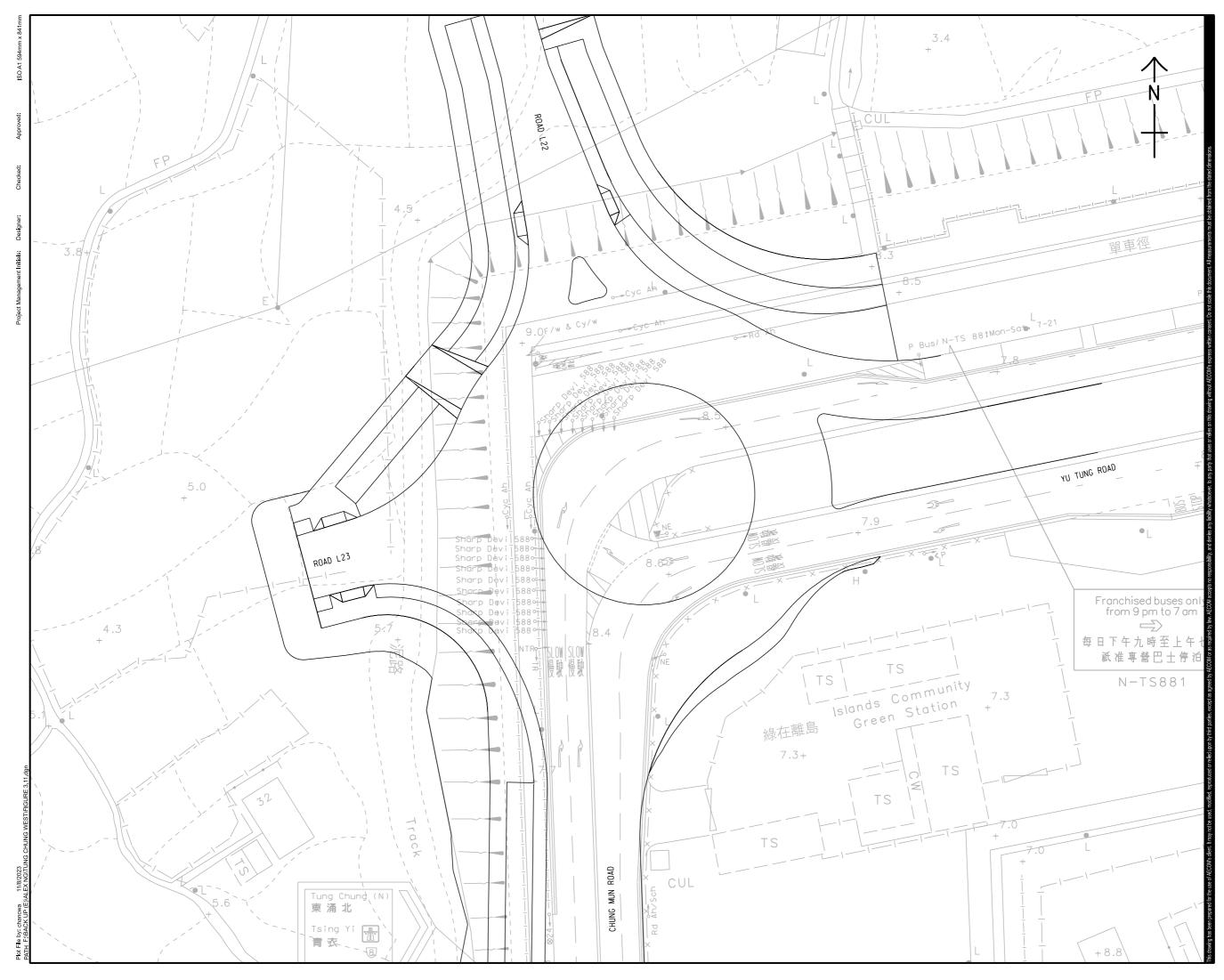
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CONTRACT NO.

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SCHEMATIC LAYOUT OF PLANNED ROAD NETWORK AND PLANNED CRITICAL JUNCTIONS

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

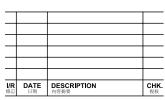


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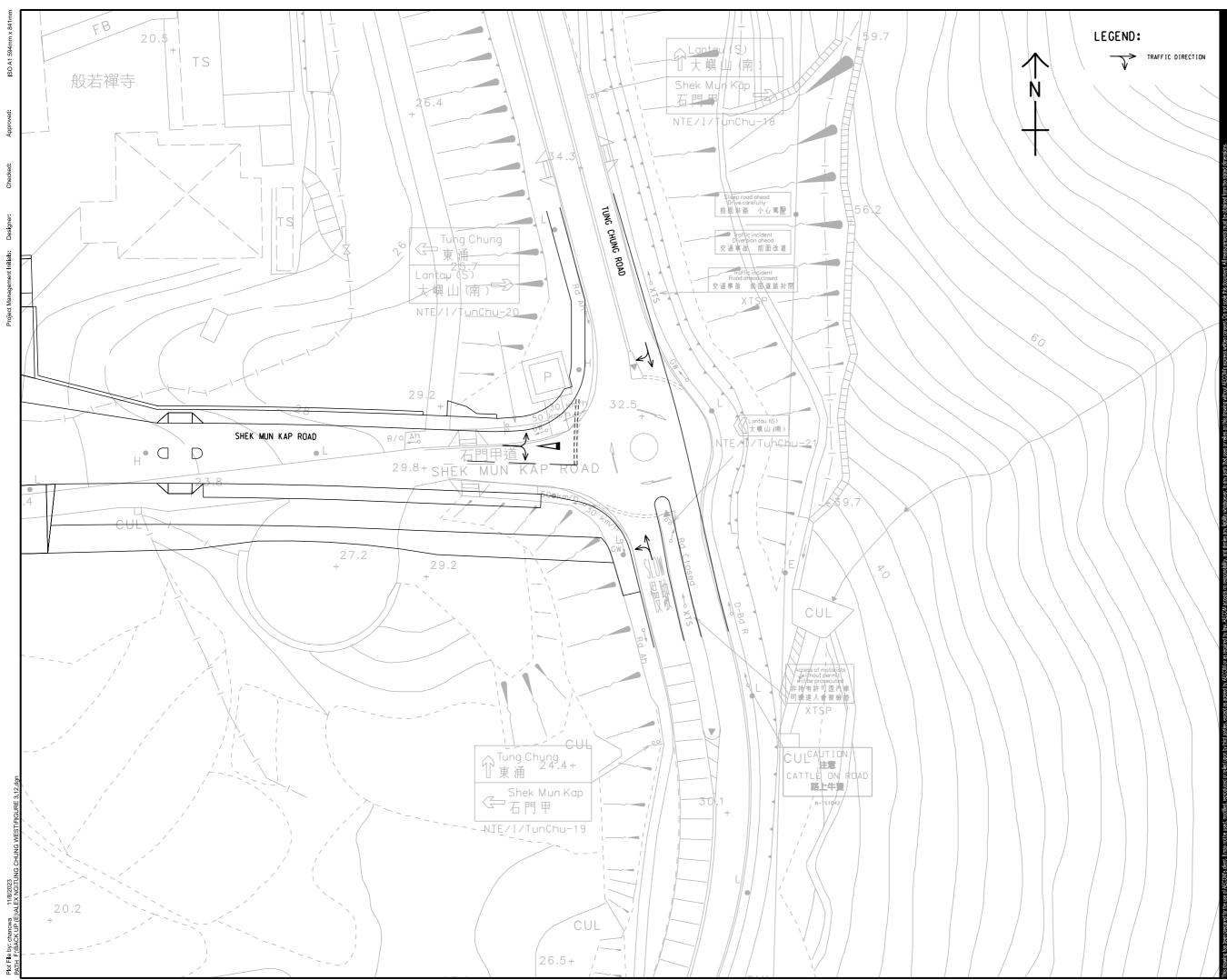
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SHEET TITLE

PLANNED JUNCTION LAYOUT OF YU TUNG ROAD / CHUNG MUN ROAD / ROAD L23 (J5)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

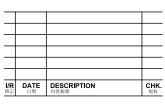


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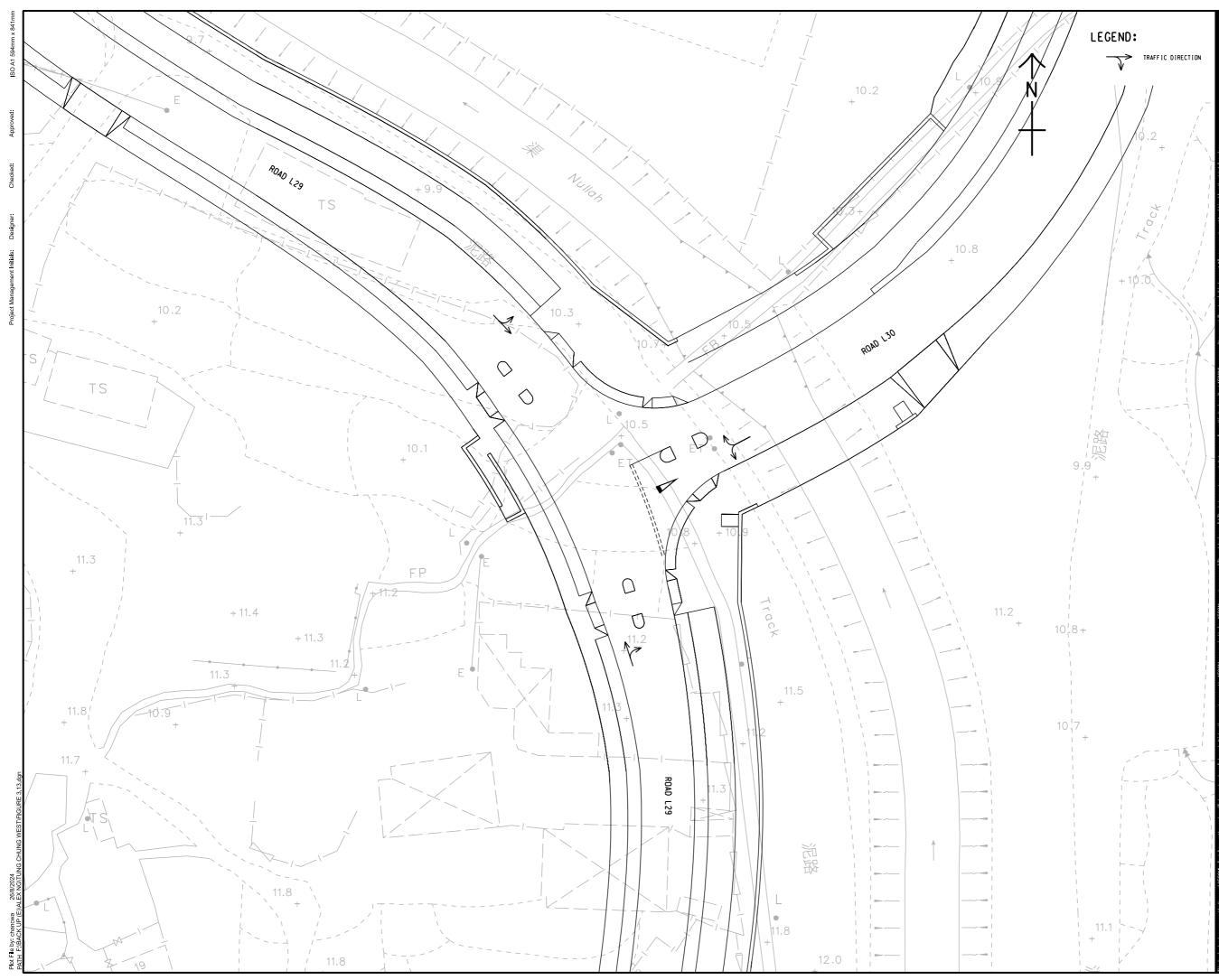
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SHEET TITLE

PLANNED JUNCTION LAYOUT OF TUNG CHUNG ROAD / SHEK MUN KAP ROAD (J6)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

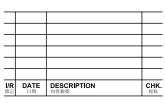


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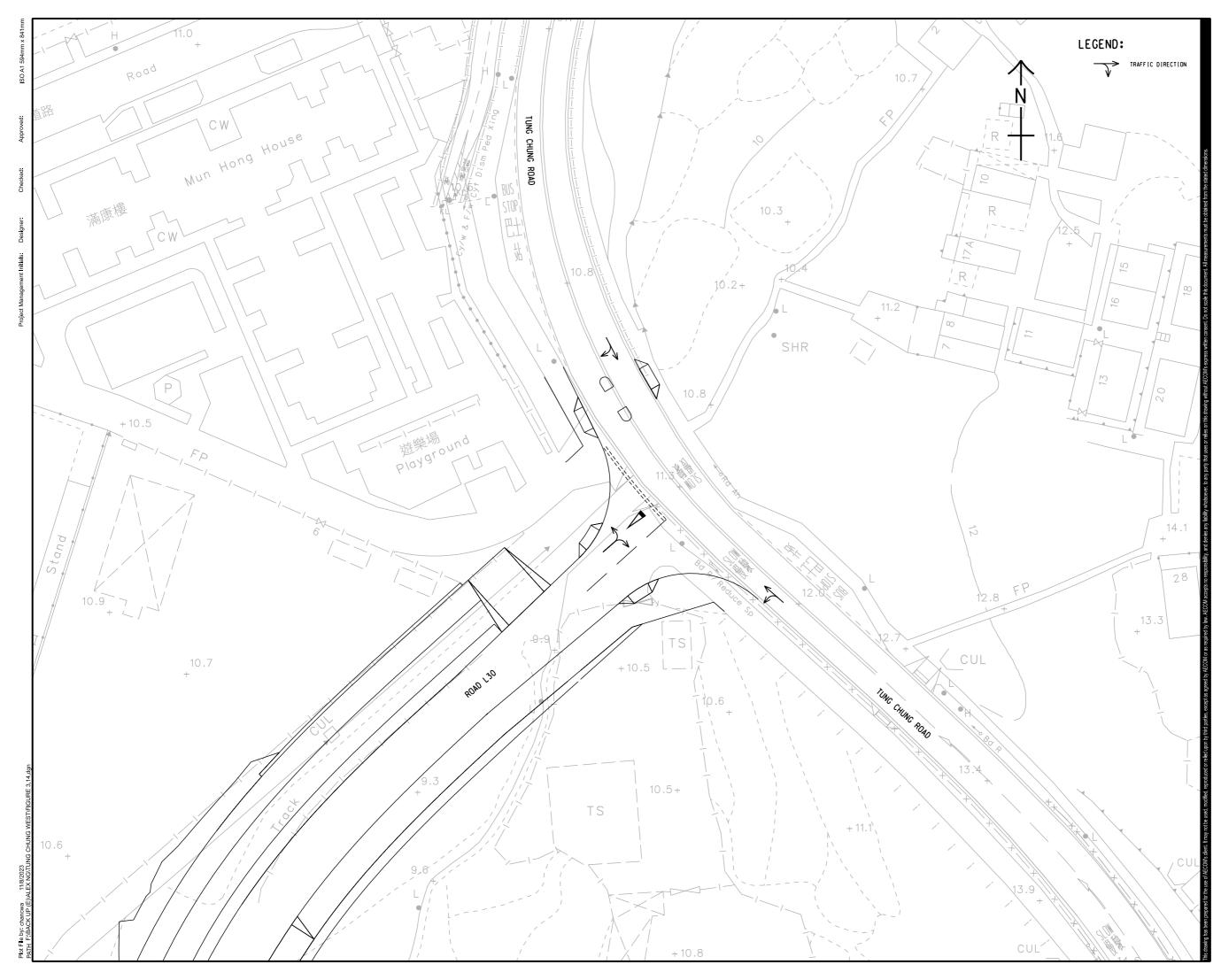
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PLANNED JUNCTION LAYOUT OF ROAD L29 / ROAD L30 (J7)

SHEET NUMBER

FIGURE 3.13

SHEET TITLE



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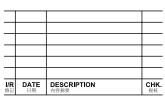
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PLANNED JUNCTION LAYOUT OF TUNG CHUNG ROAD / ROAD L30 (J8)

SHEET NUMBER





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SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

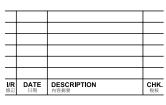


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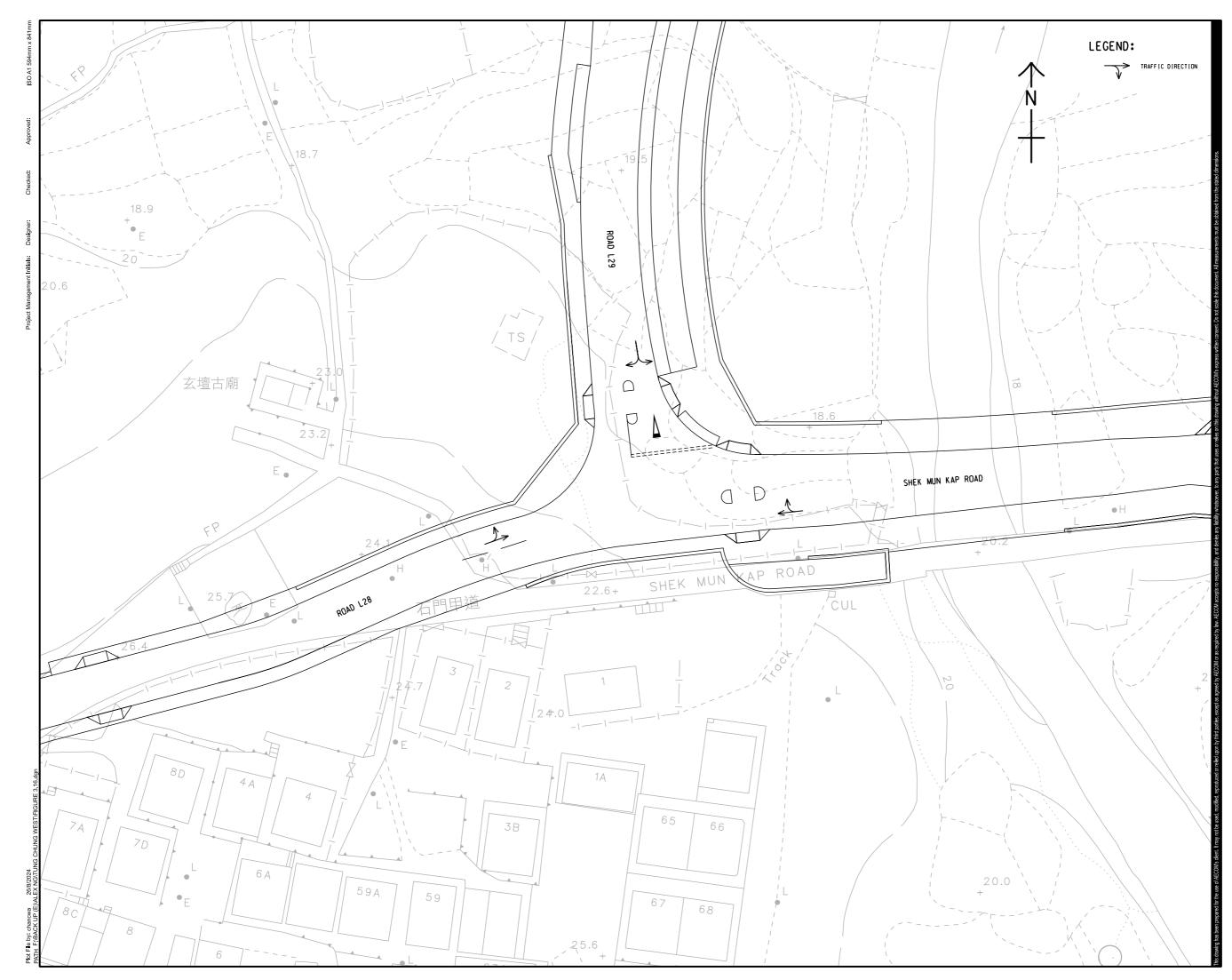
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SHEET NUMBER

FIGURE 3.15

PLANNED JUNCTION LAYOUT OF ROAD L25 / ROAD L29 (J9)

CONTRACT NO.





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

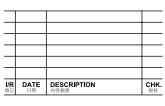


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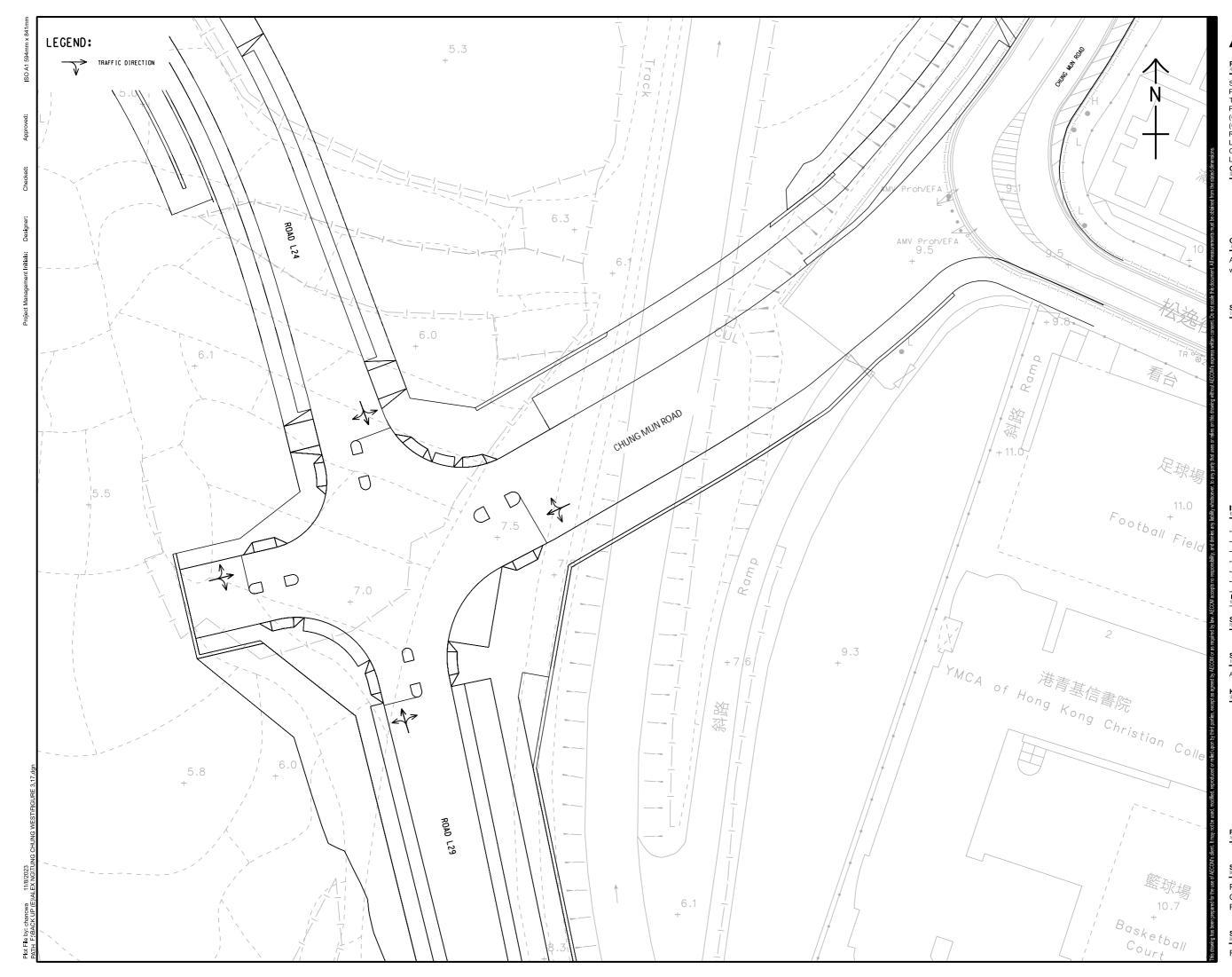
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CONTRACT NO.

SHEET TITLE

PLANNED JUNCTION LAYOUT OF SHEK MUN KAP ROAD / ROAD L28/ ROAD L29 (J10)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

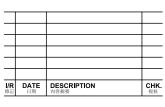


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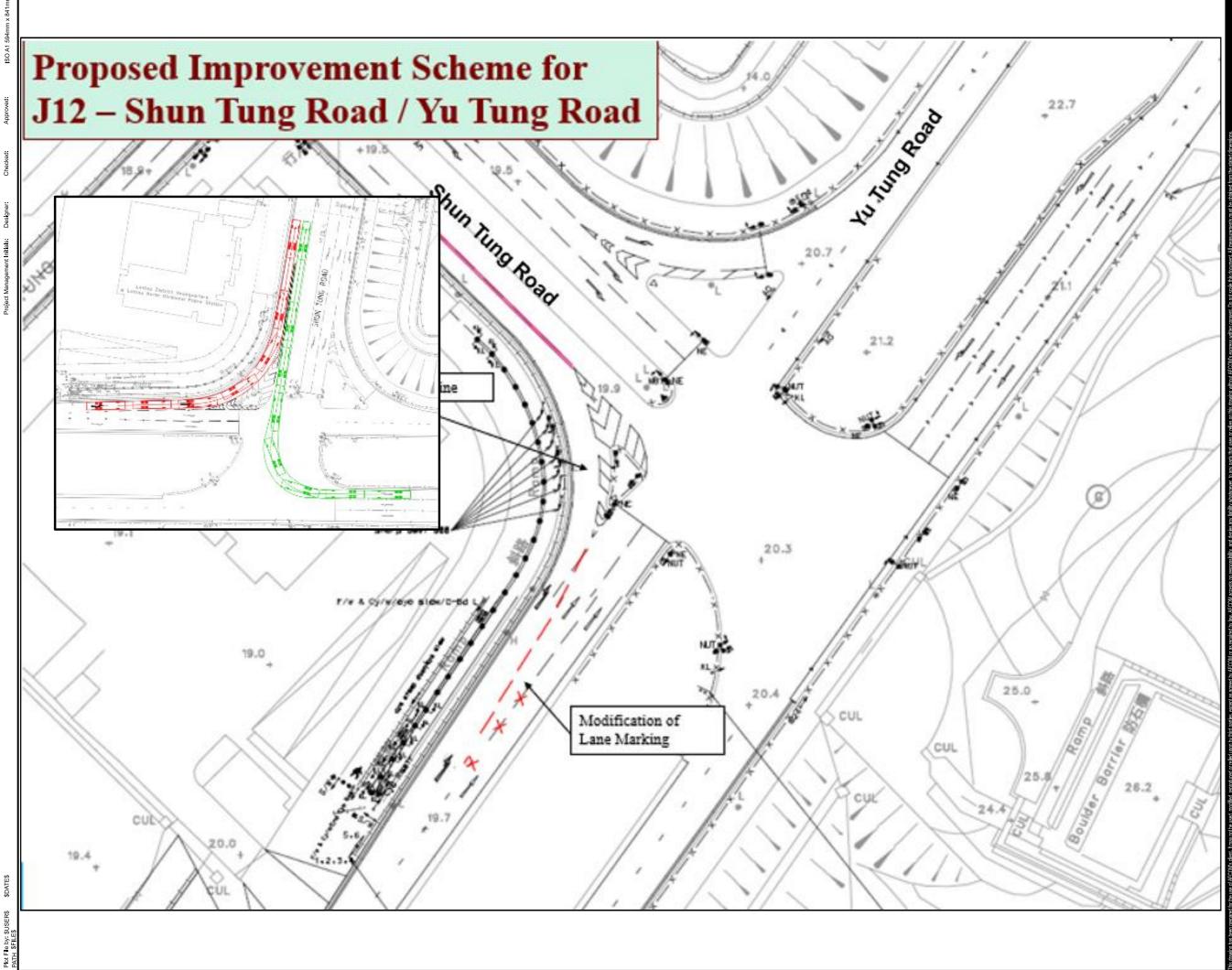
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SHEET TITLE

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SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIAUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND

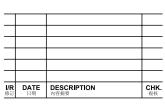


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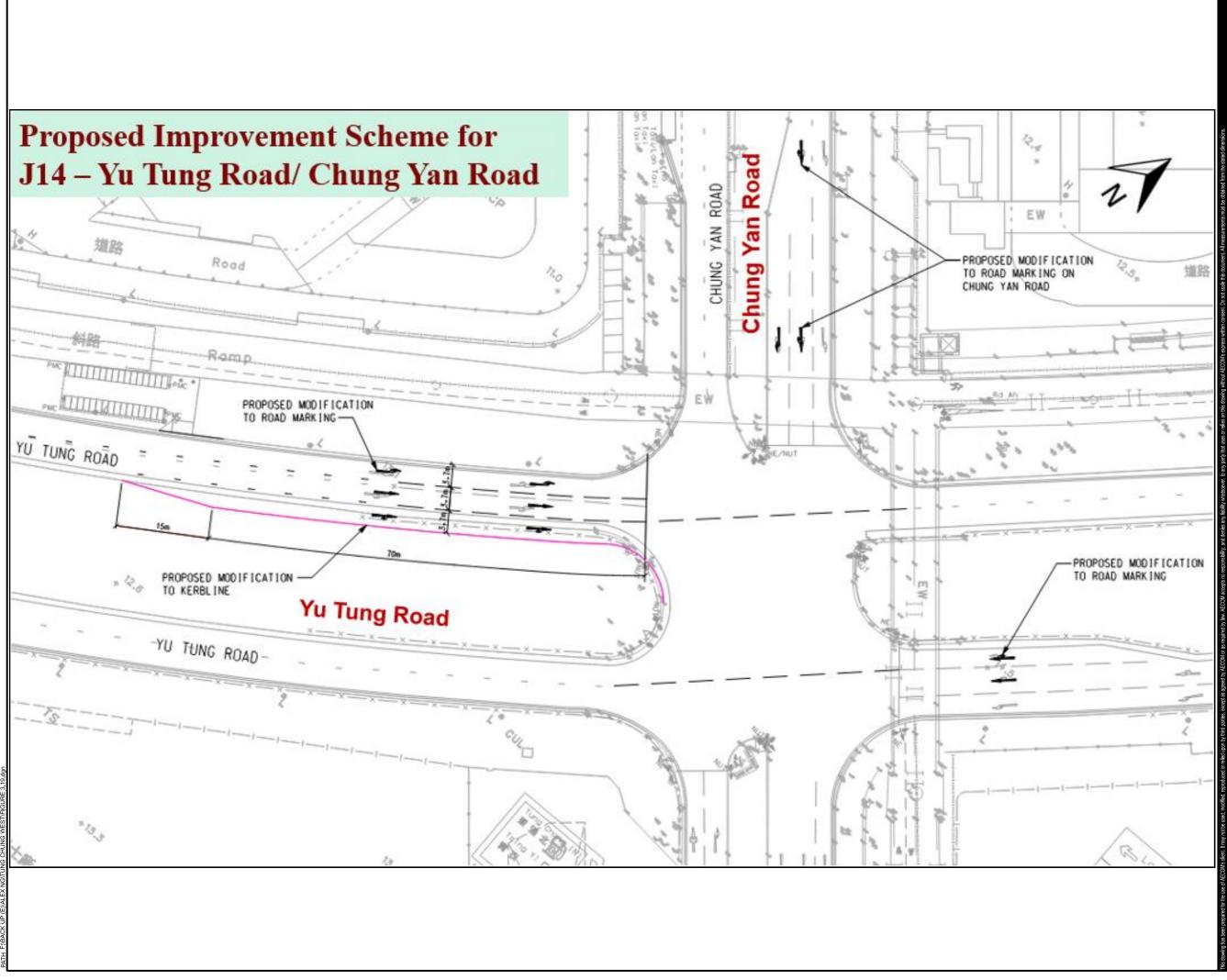
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SHEET TITLE

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SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND

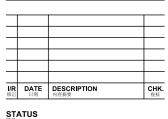


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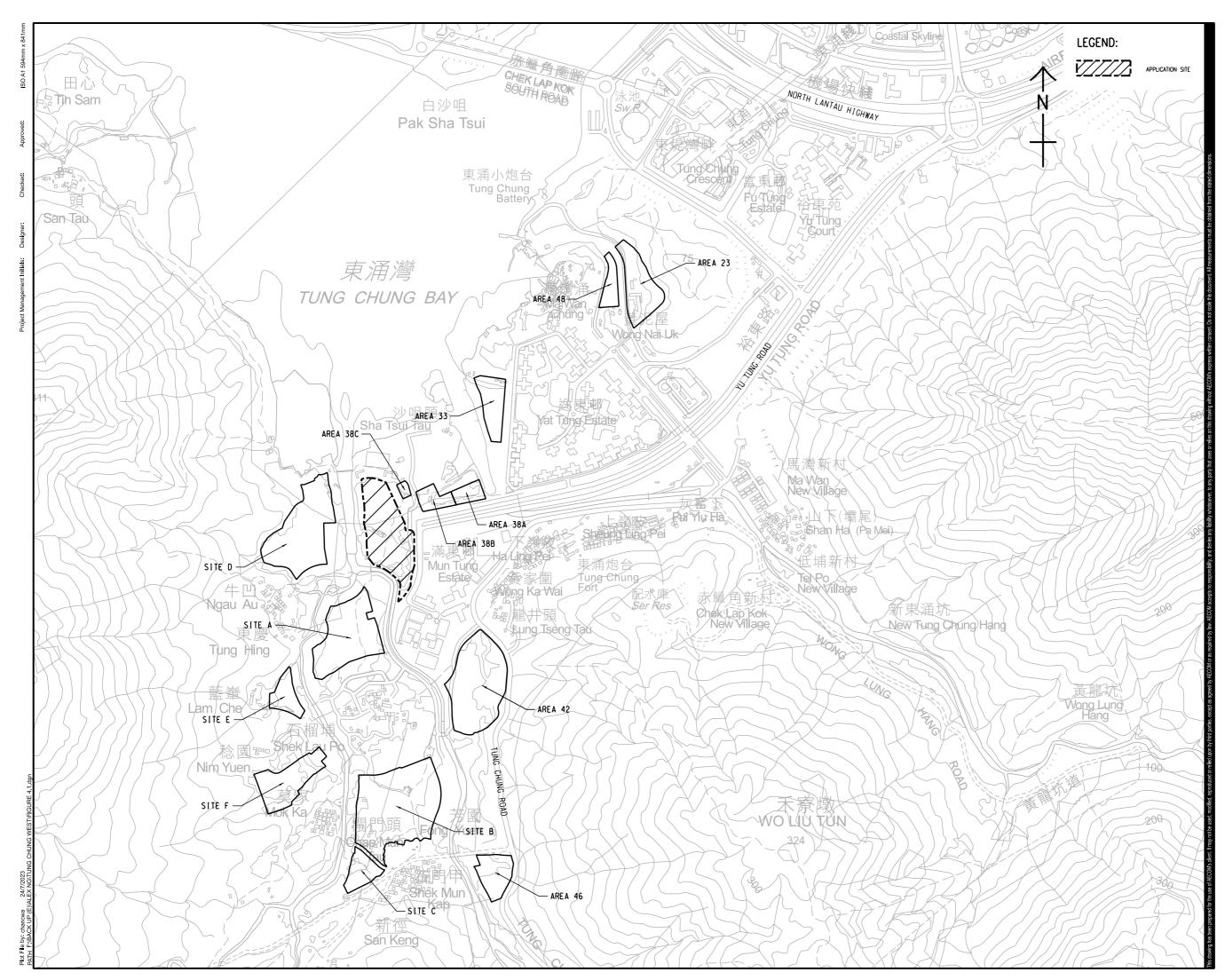
PROJECT NO.

CONTRACT NO.

SHEET TITLE

PROPOSED JUNCTION IMPROVEMENT SCHEME OF J3 UNDER TUNG CHUNG NEW TOWN EXTENSION (WEST) TIA (REP-116-02)

SHEET NUMBER





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

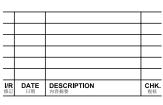


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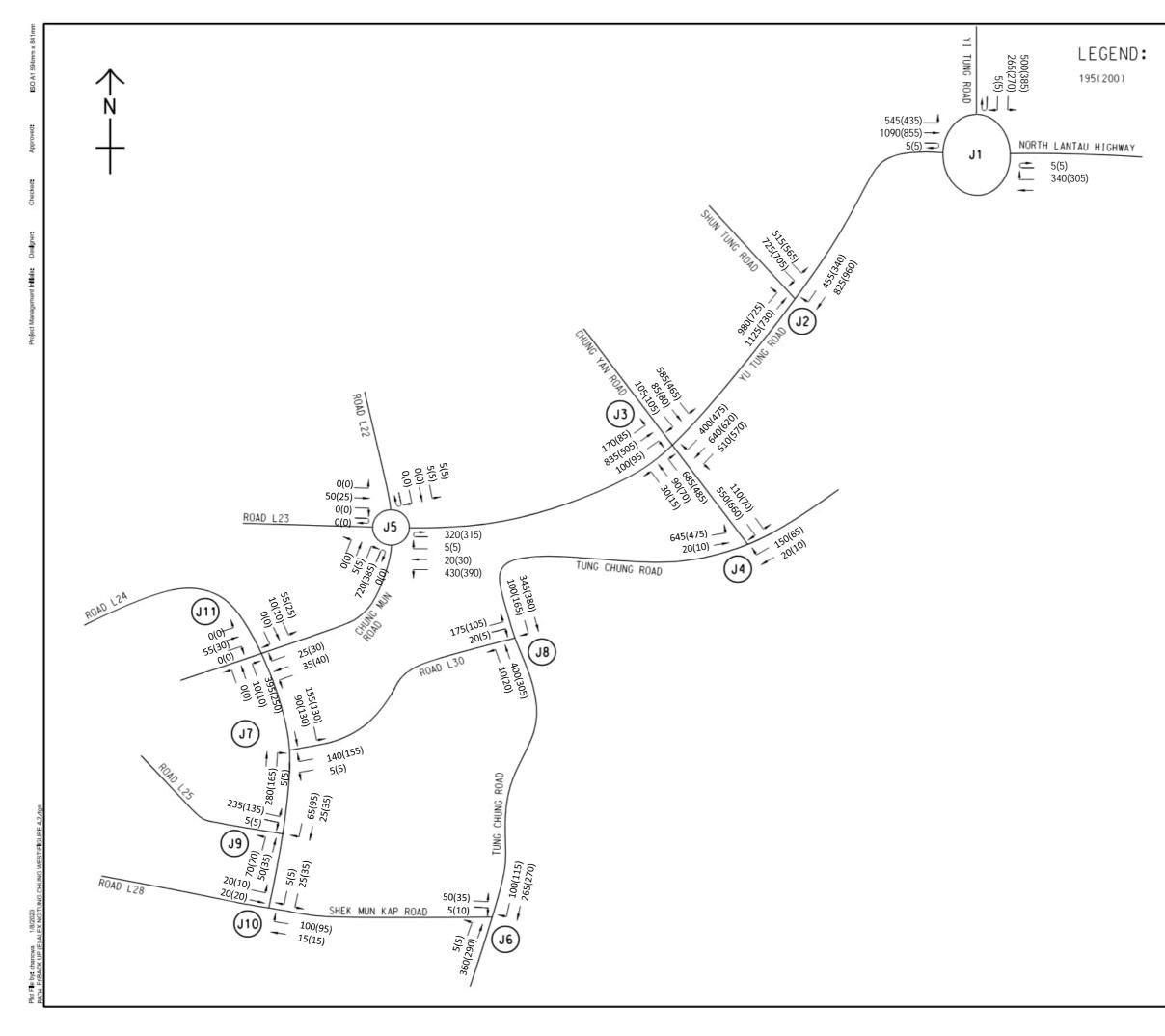
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CONTRACT NO.

PLANNED / POTENTIAL DEVELOPMENTS IN THE VICINITY OF APPLICATION SITE

SHEET NUMBER

FIGURE 4.1



AM(PM) PEAK HOUR TRAFFIC FLOWS IN PCU/HR



PROJECT

SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT



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PROJECT NO.

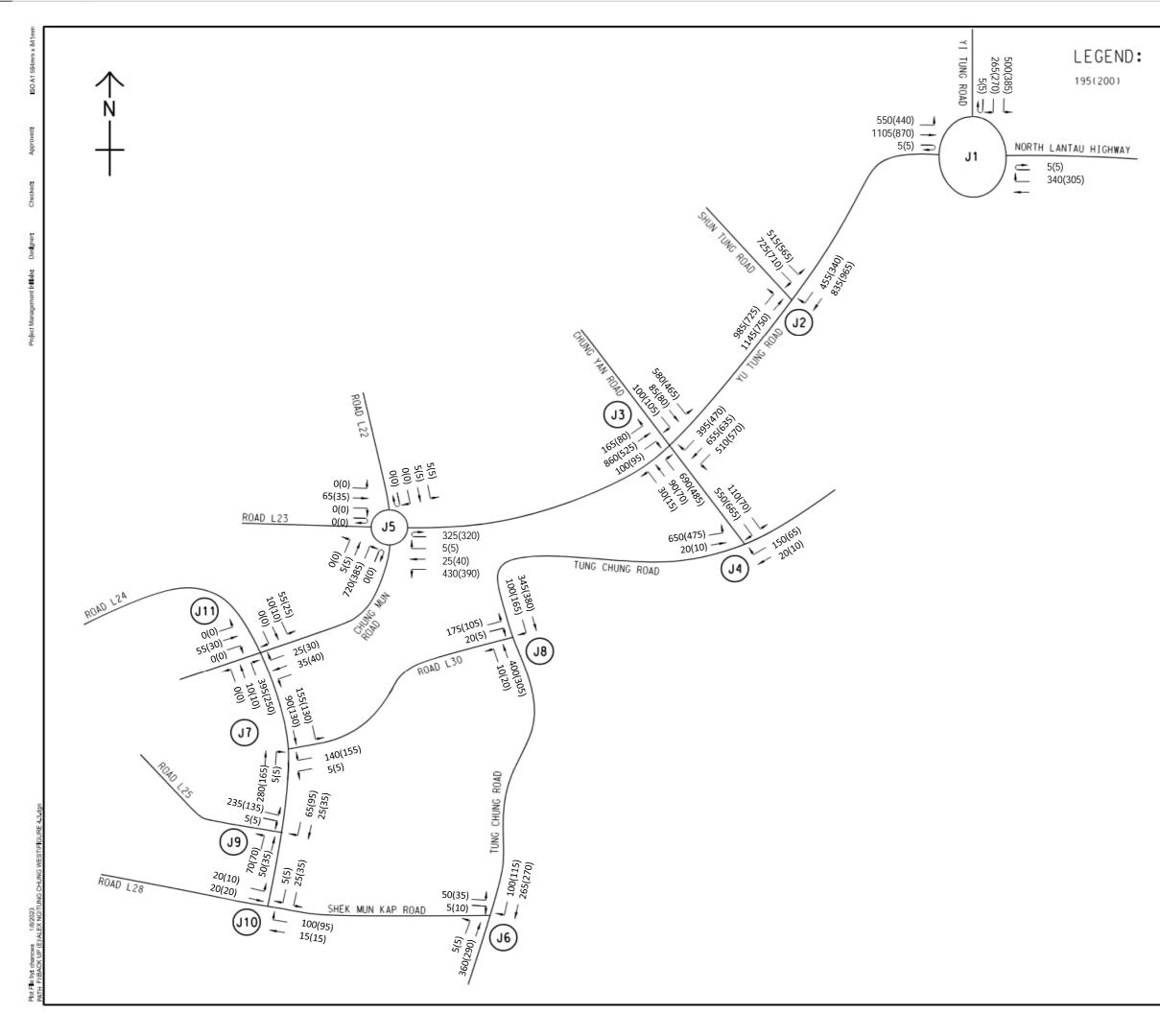
CONTRACT NO.

SHEET TITLE

2033 REFERENCE TRAFFIC FLOWS (CONFORMING SCHEME)

SHEET NUMBER

FIGURE 4.2



AM(PM) PEAK HOUR TRAFFIC FLOWS IN PCU/HR



PROJECT

SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE 'RESIDENTIAL (GROUP C)2' ZONE TO 'RESIDENTIAL (GROUP B)' ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT



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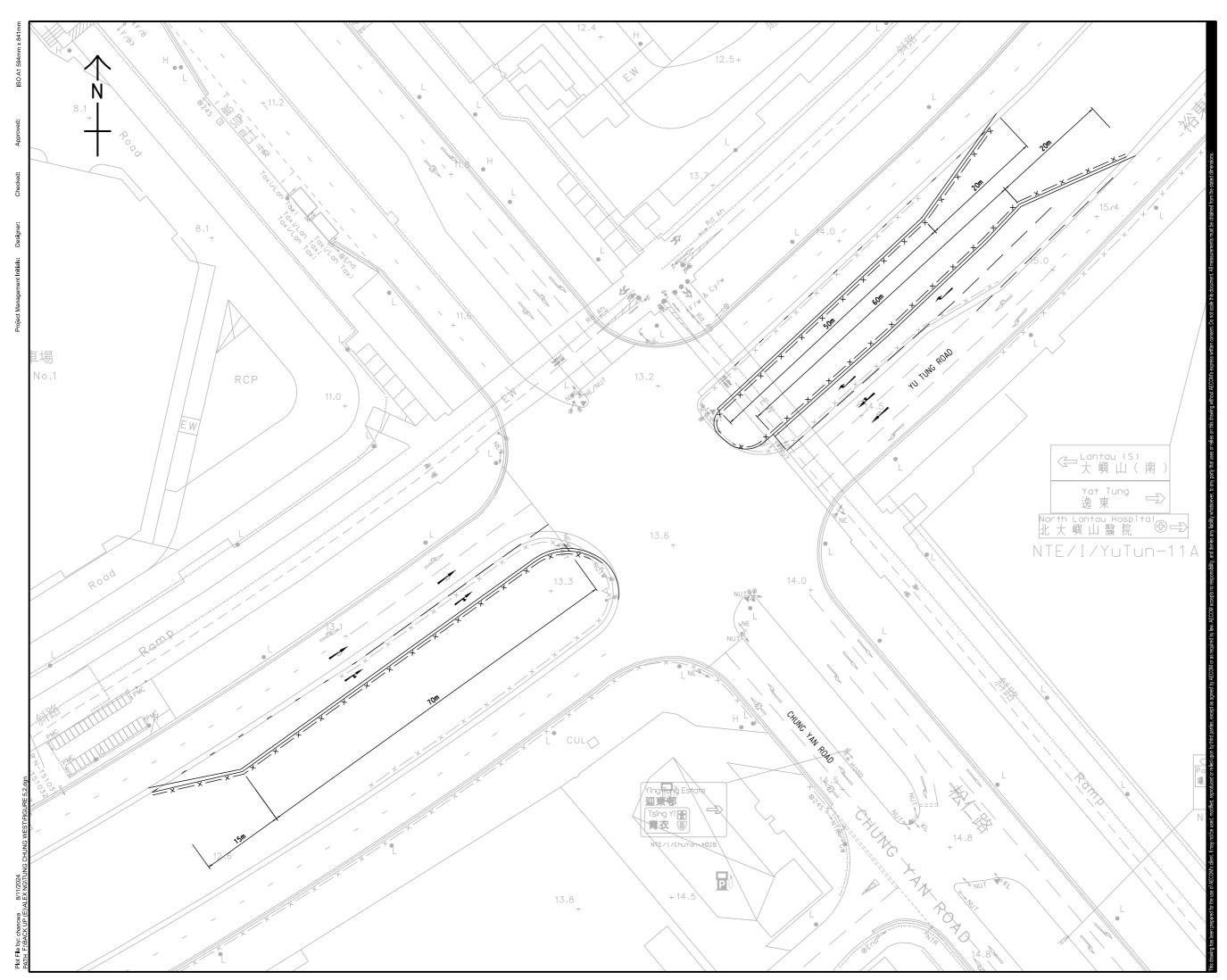
CONTRACT NO.

SHEET TITLE

2033 DESIGN TRAFFIC FLOWS (PROPOSED SCHEME)

SHEET NUMBER

FIGURE 4.3





SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

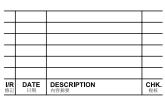


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PROJECT NO.

CONTRACT NO.

SHEET TITLE

PROPOSED JUNCTION IMPROVEMENT SCHEME AT J3 (YU TUNG ROAD / CHUNG YAN ROAD)

FIGURE 5.2

Annex A

Indicative Covered Private Transport Lay-by Layout Plan & Swept Path Analysis



AECOM

PROJECT

SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT 業主

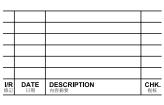


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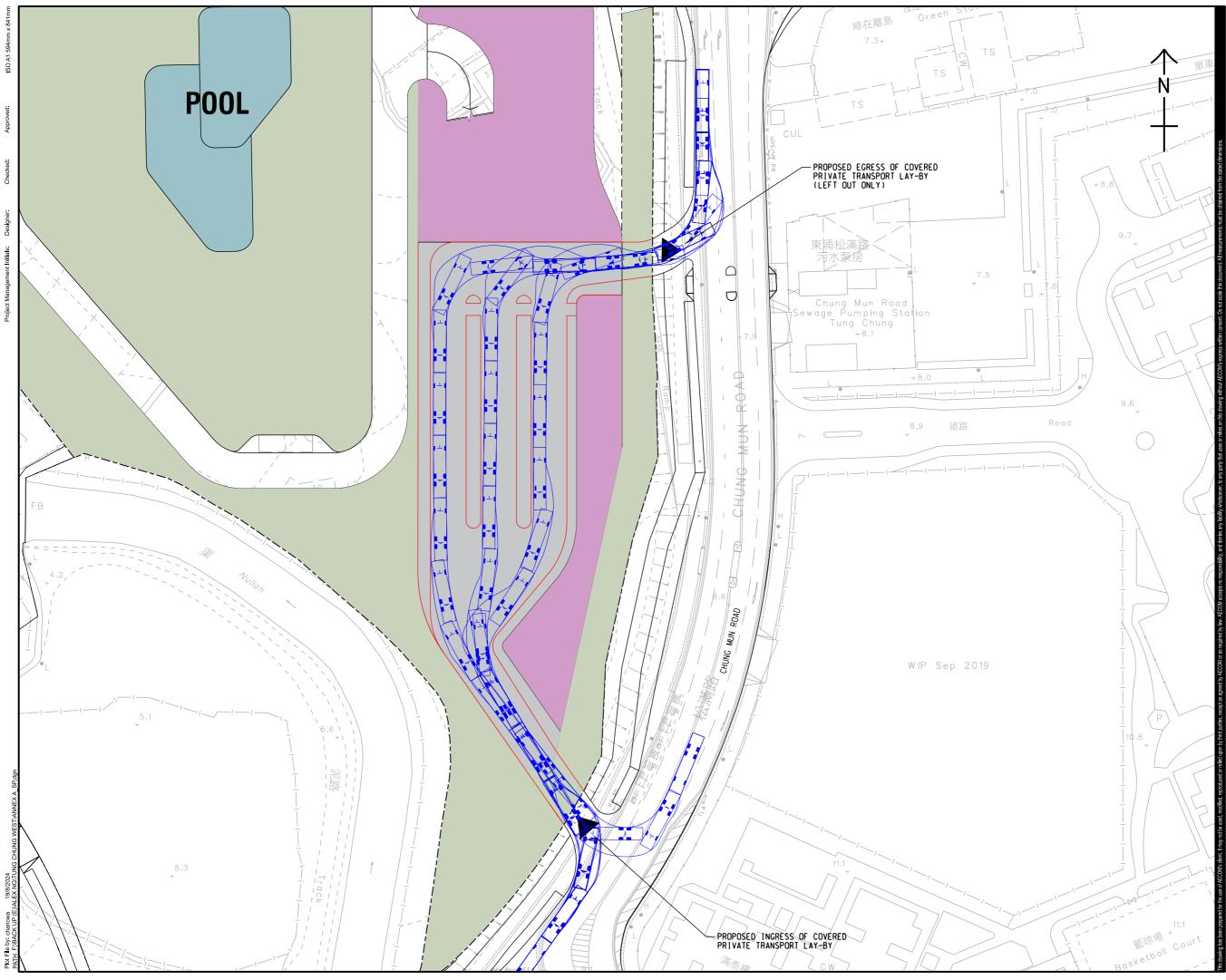
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KEY PLAN

SHEET TITLE INDICATIVE COVERED PRIVATE TRANSPORT LAY-BY LAYOUT PLAN

PROJECT NO.

CONTRACT NO.



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PROJECT

SECTION 12A PLANNING APPLICATION FOR PROPOSED AMENDMENTS TO THE TUNG CHUNG VALLEY OUTLINE ZONING PLAN TO REZONE "RESIDENTIAL (GROUP C)2" ZONE TO "RESIDENTIAL (GROUP B)" ZONE IN SUPPORT OF PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D. 1 TC AND ADJOINING GOVERNMENT LAND, TUNG CHUNG, LANTAU ISLAND CLIENT

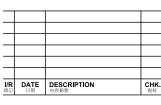


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SHEET TITLE

PROJECT NO.

12.8m BUS SWEPT PATH ANALYSIS

SHEET NUMBER

ANNEX A_SP

CONTRACT NO.

Annex B

Assessment Results of Global Parking Standard under HKPSG Adopted for the Application Site

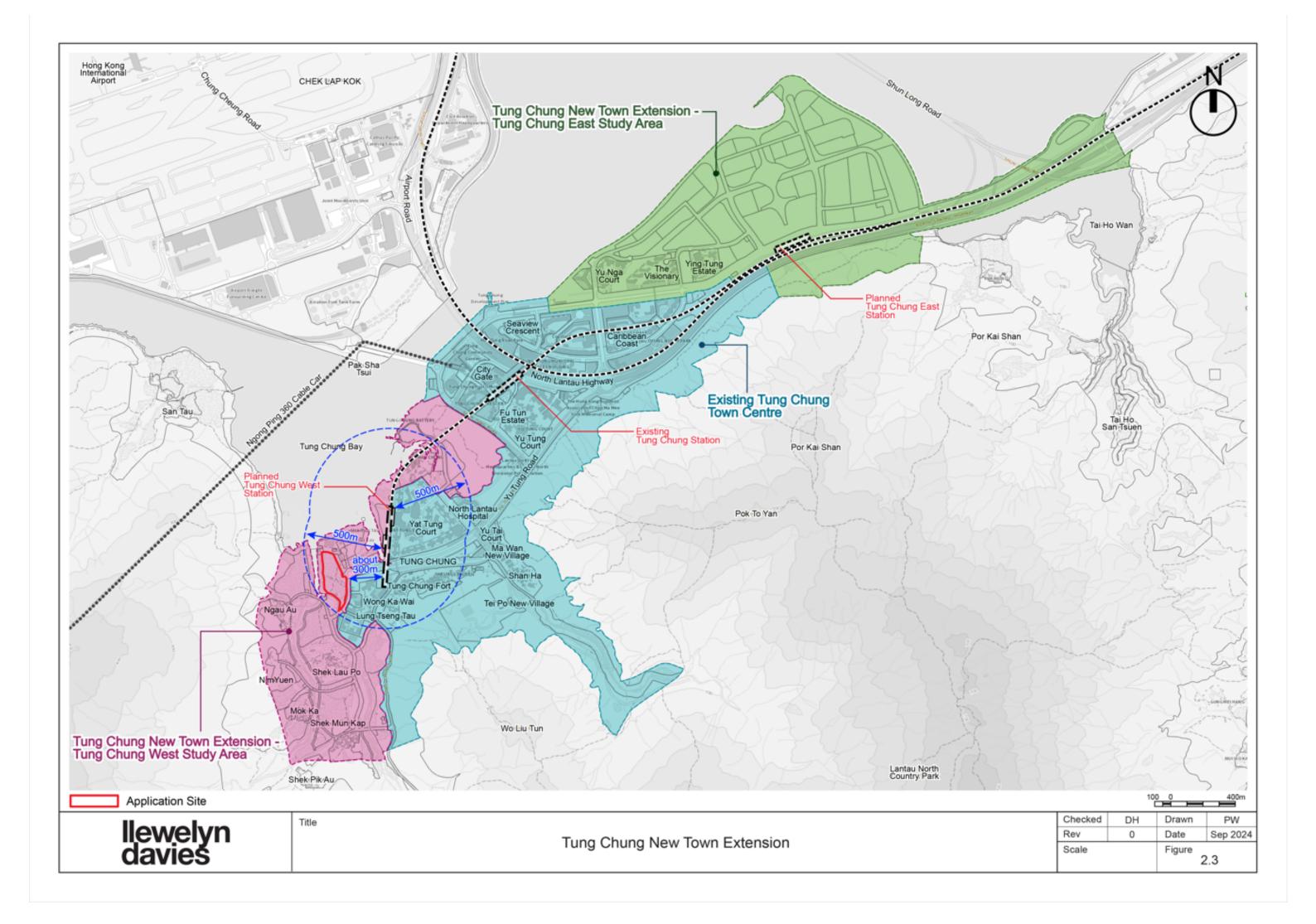
The following Table summarizes our assessment the Global Parking Standard (GPS) under HKPSG adopted for the Subject Site.

	Assessment	Adopted Value	Weighting
Proximity and convenience for access to PT services	There are 3 on-street bus terminus/en-route bus stop covering 15 bus routes at Yu Tung Road and an enroute bus stop covering 2 bus routes at Chung Mun Road. The walking distance from the Subject Site to those stops are about 200m. As stated in TPDM, the ideal walking distance to a bus stop should not exceed 400m. In addition, the proposed transport facilities to the southeast of the Subject Site will be provided to enhance road-based public transport. Hence the development site is considered to be <u>quite accessible</u> to the public transport services.	0.25	20%
Availability of public car parking spaces during peak hours	The nearest Mun Tung Estate car park provides 29 public private car parking spaces, including one designated for disabled drivers, which are available for use by the local community. It is located about 250m from the Subject Site. A recent observation of the Mun Tung Estate car park found that about 30% or more public parking spaces were available during AM and PM peak hours. It indicates that the unused capacity can be allocated to meet additional parking demands from nearby areas. Hence the public car parking spaces are considered to be moderately available for the development site.	0.50	30%
Traffic conditions	The nearby critical junctions in the vicinity has been assess in the TIA. All the assessed junctions including the proposed junction improvement scheme of Junction J3 Yu Tung Road / Chung Yan Road would operate within capacities. Hence the traffic conditions is considered to be <u>moderately congested</u> .	0.50	10%
Level of illegal parking	Illegal parking is observed in the vicinity but the situation is not common. Hence, level of illegal parking is considered <u>slightly</u> <u>severe</u> .	0.25	40%

Based on the above assessment and the adopted values for respective factors, the GPSI is determined as 0.35 (i.e. $0.25 \times 20\% + 0.50 \times 30\% + 0.5 \times 10\% + 0.25 \times 40\%$). Referring to Table -GPS value based on GPSI under HKPSG GPS is 6 if ($0.2 \le GPSI \le 0.4$), a GPSI of 6 would be appropriate for calculating the carparking provision at the proposed development according to HKPSG requirements.

Annex C

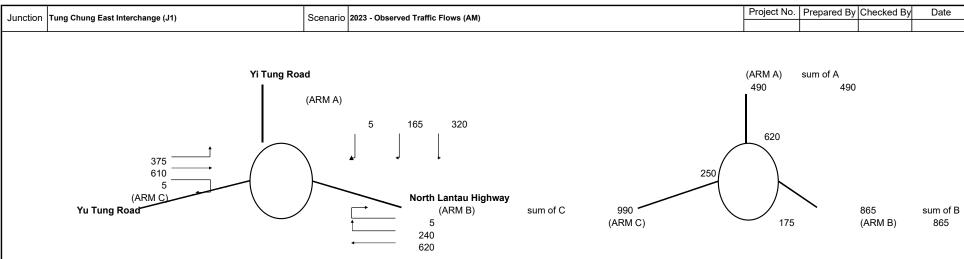
Tung Chung New Town Extension Extracted from Planning Statement



Annex D

Junction Calculation Sheet

ROUNDABOUT CAPACITY CALCULATION



ARM	А	В	С
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	490	865	990
Qc= Circulating flow across entry (pcu/h)	620	175	250
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2560	2638	2774
DFC = Design flow/Capacity = Q/Qe	0.19	0.33	0.36

	2010	100
TOTAL ENTRY FLOWS =	2345	PCU

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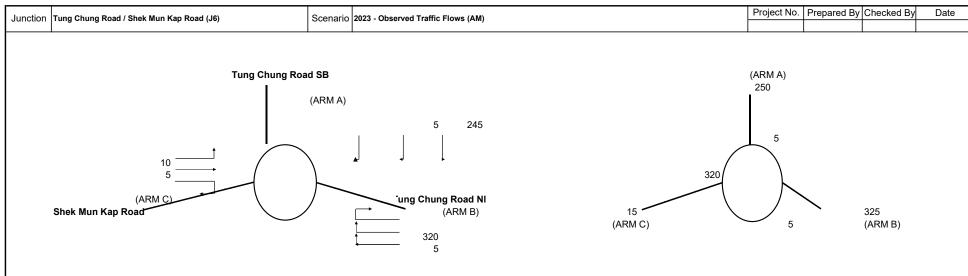
	ung Road	Shun Tu	ng Road					2023 AM Ob	served Traffic	Flows						DESIGN:		CHECK		JOE	3 NO:	DAT	E: N
Traffic Flow E (pcu/hr)	iagram						Shun T	ung Road							·		No. of stages	s per cycle		N :			
														V			Cycle time			C :	= 120	sec	
						650		565	415								Sum(y) Lost time			Y : L :			
								505	415								Total Flow			:	= 18,780	sec pcu	
						565																	
	Yı	I Tung Ro	ad						-				u Tung Ro	ad			Optimum Cy Min. Cycle T		= (1.5×L+5 = L/(1-Y)	5)/(1-Y) = _	56 31	sec sec	
								•	355								Y _{ult}	ine o _m	= 0.9-0.007		0.788	Sec	
								←	425								R.C. _{ult} Practical Cyc	cle Time C,	$= (Y_{ult}-Y)/Y_{x}$ = 0.9×L/(0.		54.5 35	% sec	
																	Y _{max}	-	= 1-L/C	=	0.875		
Stage/Phase	Diagrams																						
в_	٠				l		в	•									Critical	Case :	B,E				
A	-				►D			c ≁ ``	D								R.C.(C)	= (0	.9xY _{max} -	-Y)/Yx1(00% =	54%	
		←			€_	_																	
		F			F																		
	Stage 1			Stage	e 2			Stage 3															
R		I/G =	5			I/G =	12		I/G =														
			RA	DIUS	g	щ			ADDITIONA	STRAIGHT-	F	LOW (pcu/h	nr)			TION OF							
PHASE	LANE WIDTH (m)	NO. OF LANES		m)	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIEN T (%)	GRADIEN T EFFECT (pcu/hr)	L CAPACITY	AHEAD SAT. FLOW	LEFT	STRAIGH	RIGHT	TOTAL FLOW (pcu/hr)	IURNING (%	VEHICLES 6)	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR	CRITICAL y				
			LEFT	RIGHT	9 -	ž	. (///	(pourin)	(pcu/hr)	(pcu/hr)		T AHEAD		(pourir)	LEFT	RIGHT	(pourir)	,					
Fung Road NE B 1,3	4.000	1	50			1		0		2015	650			650	100%		1956	0.332	0.332				
A 1	4.000	2			0	0		0		4310		565		565			4310	0.131					
n Tung Road										1005					1000/		1070						
D 2,3 C 3	3.700 3.700	1 2	25	30	0	1 0		0 0		1985 4250	415		565	415 565	100%	100%	1873 4048	0.222 0.140					
ung Road SE	3																						
	3.650 3.650	2 1		25	0	1 0		0		4100 2120		425	355	425 355		100%	4100 2000	0.104 0.178	0.178				
F 1,2	3.000	'		25	0			U		2120			355	300		100%	2000	0.176	0.176				
F 1,2 E 2																							
,=													1		1			1					
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UNCTIC nction J3 - Yu Tu					902	2A1 U U'		2023 AM OI	oserved Traffi	c Flows						DESIGN:		CHECK		JOB NO:		DATE:	AE Nov
Traffic Flow Di	-	u Tung R	oad ——		30	105 240 30 Å 75	510	ung Yan R	75 335 260 395	465	Yu Tung	Road		Ø			No. of stages Cycle time Sum(y) Lost time Total Flow Optimum Cy Min. Cycle T Y _{uft} Practical Cyt Y _{max}	cle C _o ime C _m	= $(1.5 \times L_{+})$ = $L/(1-Y)$ = $0.9 \times L/(0$ = $(Y_{ut} \times Y)/Y$ = $0.9 \times L/(0$	L = = : 5)/(1-Y) = = 75×L = x100% = 0.9-Y) =	0.455 19 20,510 61 35 0.758 66.5	sec pcu sec sec sec	
Stage/Phase D	iagrams							-															
olager hase b		► A]												Critical	Case :	A,E,D				
	В				c c	 ▲ 		E		┛╻╻		F 🗸					R.C.(C)	= (0	.9xY _{max}	-Y)/Yx100%	6 =	67%	
s	F Stage 1	•		Stag	e 2			Stage 3			Stage 4												
		I/G =				I/G =	5		I/G =	5		I/G =	12			1							
PHASE STAGE	LANE WIDTH	NO. OF		DIUS (m)	SING	SIDE Ve	UPHILL GRADIEN	GRADIEN T EFFECT	ADDITIONA L	STRAIGHT- AHEAD SAT.	-	FLOW (pcu/i	nr)	TOTAL FLOW		TION OF VEHICLES %)	REVISED SAT. FLOW	FLOW FACTOR	CRITICAL				
PHASE STAGE	(m)	LANES	LEFT	RIGHT	OPPC	NEAR SIDE LANE	T (%)	(pcu/hr)	CAPACITY (pcu/hr)	FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	(pcu/hr)	LEFT	RIGHT	(pcu/hr)	y	У				
Tung Road SB F 1,4 B 1 B 1	3.500 3.600 3.600	1 1 1	15	20 10	0 0	1 0 0		0 0 0		1965 2115 2115	395	260	56 279	395 316 279	100%	18% 100%	1786 2087 1839	0.221 0.152 0.152					
Ung Yan Road V D 4 D 4 D 4	3.500 3.500	1	25	25 25	0 0	1 0		0 0		1965 2105	30	75	194 316	299 316	10%	65% 100%	1880 1986	0.159 0.159	0.159				
Tung Road NB	3.500 3.500	1	15	15	0	1 0		0 0		1965 2105	105	72 168	30	177 198	59%	15%	1855 2074	0.095 0.095	0.095				
ung Yan Road E A 1,2 C 2 C 2	3.500	1 1 1	16 18	25	0	1 0		0 0 0		1965 2105 2105	360 105	15 60	65	360 120 125	100% 88%	52%	1797 1962 2041	0.200 0.061 0.061	0.200				
																	1962 2041						

Junction J4 - Tung Chung Road	Chung Ya	an Road	2023 AM Observed Traf	fic Flows	Designed By :	Checked By :	Job No. :	Date :	: No
Tung Chung Road (ARM C) 450 20		•	355 110 ARM B) Yan Road	(ARM A) Tung Chung Road	W = Ma $W cr = Ce$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = Vis$ $V r b-a = Vis$ $V r b-c = Vis$ $V r c-b = Vis$ $D = Sti$ $E = Sti$ $F = Sti$	ne width available to vehi ne width available to vehi ne width available to vehi sibility to the left for vehick sibility to the right for vehic sibilitu to the right for vehic	0) 9.0, kerbed central reserv cle waiting in stream b-a (2 cle waiting in stream b-c (2 cle waiting in stream b-a (2 ses waiting in stream b-a (cles waiting in stream b-c (cles waiting in stream c-b (2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.0 - 250.0) 17.0 - 250.0) 17.0 - 250.0)	J4
GEOMETRIC DETAILS: MAJOR R W W cr q a-b q a-c	OAD (ARN = = = =	1 <i>A)</i> 7.3 (metres) 0 (metres) 110 (pcu/hr) 355 (pcu/hr)	MAJOR ROA W c-b Vrc-b q c-a q c-b	AD (ARM C) = 3.6 (metre = 100 (metre = 450 (pcu/r = 20 (pcu/r	r)	W b-c = VI b-a = Vr b-a = Vr b-c =	= 3.6 (metres) = 3.6 (metres) = 100 (metres) = 100 (metres) = 100 (metres))))	
GEOMETRIC FACTORS : D E F Y	= = =	0.948063 0.977385 0.977385 0.748150		,			= 150 (pcu/hr) = 20 (pcu/hr)		
THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac	= = =	411 622 604 428				CRITICAL DF	C = 0.40		
COMPARISION OF DESIGN FLOV DFC b-a DFC b-c DFC c-b DFC b-ac	V TO CAP/ = = = =	ACITY : 0.36 0.03 0.03 0.40							

lunation IF Chung Mu	m Deed / Vu '	T	had a label of the second seco	2022 AM Observed T			Designed Dr.	Cheeked Du.	Jah Na .		Data	March
Junction J5 - Chung Mu	n Road / Yu	Tung Ro	bad	2023 AM Observed T	raffic Flows		Designed By :	Checked By :	Job No. :		Date :	Nov
Chung Mun Road (ARM C) 215		+	160 (ARN Yu Tung Road (,	Tung Chur	(ARM A) ng Road EB	W = 1 W cr = (W b-a = 1 W b-c = 1 W c-b = 1 V b-a = V Vr b-a = V Vr b-c = V Vr c-b = 1 Vr c-b = 1 E = 5 F = 5	OMETRIC INPUT DATA) Aajor Road Width (6.4 - 20 Central Reserve width (1.2 Lane width available to vef Lane width available to vef Lane width available to vef /isibility to the left for vehic /isibility to the right for veh /isibility to the risibility to the risibility to the right fo	.0) - 9.0, kerbed cent icle waiting in stree icle waiting in stree icle waiting in stree icles waiting in stree icles waiting in stree icles waiting in stree	am b-a (2.05 - 4.0 am b-c (2.05 - 4.0 am c-b (2.05 - 4.0 am b-a (22.0 - 250 am b-a (17.0 - 250 am b-a (17.0 - 250 am b-c (17.0 - 250)	07) 07) 07) 0.0) 50.0) 50.0)	J5
			Tu Tung Koau (
GEOMETRIC DETAILS:												
	MAJOR ROAL		·		OAD (ARM C	,		MINOR ROAD (A	,			
	V	=	8.8 (metres)	W c-b	=	4 (metro	,			δ (metres)		
	V cr	=	0 (metres)	Vr c-b	=	200 (metro	,			δ (metres)		
	₁a-b	=	0 (pcu/hr)	q c-a	=	215 (pcu/ł) (metres)		
c	a-c	=	0 (pcu/hr)	q c-b	=	0 (pcu/ł	nr)) (metres)		
										7 (metres)		
) (pcu/hr)		
GEOMETRIC FACTORS			4 0000 44					q b-c	= () (pcu/hr)		
	D E	=	1.002944 0.903036									
	F	=	1.107269									
	r Y	=	0.696400									
		—	0.000700			`						
THE CAPACITY OF MOV												
	≬b-a	=	594									
) b-c	=	673									
	≀c-b	=	825					CRITICAL D	FC =	0.27		
C	b-ac	=	594									
COMPARISION OF DESI												
	FC b-a	=	0.27									
	FC b-c	=	0.00									
	FC c-b	=	0.00									
	FC b-ac	=	0.27									

ROUNDABOUT CAPACITY CALCULATION

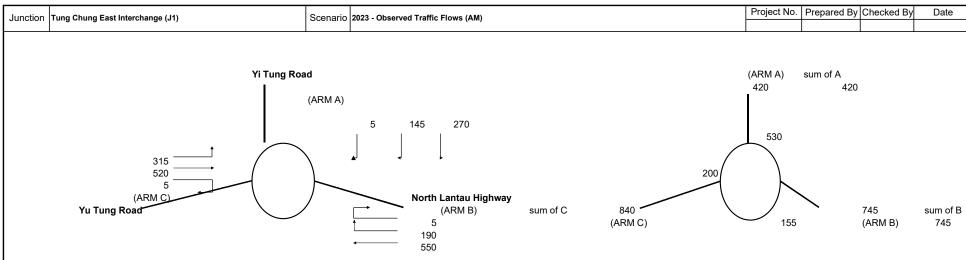


ARM	А	В	С
INPUT PARAMETERS:			
V = Approach half width (m)	3.50	3.50	5.00
E = Entry width (m)	3.50	6.00	4.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	20.00	20.00	20.00
D = Inscribed circle diameter (m)	22.00	22.00	22.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	250	325	15
Qc= Circulating flow across entry (pcu/h)	5	5	320
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.33	-0.13
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.95	0.95
X2= V + ((E-V)/(1+2S))	3.50	5.00	3.64
M = EXP((D-60)/10)	0.02	0.02	0.02
F = 303*X2	1061	1515	1102
Td= 1+(0.5/(1+M))	1.49	1.49	1.49
Fc= 0.21*Td(1+0.2*X2)	0.53	0.63	0.54
Qe= K(F-Fc*Qc)	1021	1433	881
DFC = Design flow/Capacity = Q/Qe	0.24	0.23	0.02

TOTAL ENTRY FLOWS =	590	PCU
CRITICAL DFC =	0.24	

Filename:

ROUNDABOUT CAPACITY CALCULATION



ARM	Α	В	С
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	420	745	840
Qc= Circulating flow across entry (pcu/h)	530	155	200
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2616	2649	2805
DFC = Design flow/Capacity = Q/Qe	0.16	0.28	0.30

CRITICAL DFC =	0.30	
TOTAL ENTRY FLOWS =	2005	PCU

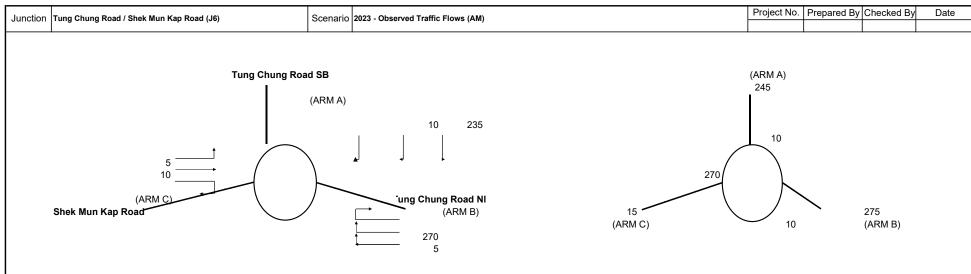
A:COM

	J2 - Yu Ti	ung Road	/ Shun Tu	ng Road					2023 AM Ob	served Traffic	c Flows						DESIGN:		CHECK:		JOB NO	D:	DATE	:: No
	fic Flow Di ı/hr)	agram						Shun T	ung Road						() ¹			No. of stages	s per cycle		N =	3]
																		Cycle time			C =	120	sec	
																		Sum(y) Lost time			Y =	0.388 15	sec	
																		Total Flow			=	18,780	pcu	
					375																			
		Yı	I Tung Ro	ad									Yı	u Tung Ro	ad			Optimum Cy Min. Cycle T		= (1.5×L+5) = L/(1-Y))/(1-Y) = =	45 25	sec sec	
									•	240								Y _{ult}	ine om	= 0.9-0.0075		0.788		
									←	450								R.C. _{ult} Practical Cyc	le Time C _p	$= (Y_{ult}-Y)/Yx$ $= 0.9 \times L/(0.9)$		102.8 26	% sec	
																		Y _{max}		= 1-L/C	=	0.875		
Sta	ge/Phase D	liagrams																						-
	в	و				l		в	•									Critical	Case :	B,E				
	Α	→				ŤD E.			c ⁴ ́``	D								R.C.(C)	= (0	.9xY _{max} -'	Y)/Yx100'	% =	103%]
			←			<	_																	
			F			F																		
Г	S	Stage 1			Stage	e 2			Stage 3															
			I/G =	5			I/G =	12		I/G =	-													
Γ.				RAI	DIUS	g	щ			ADDITIONA	STRAIGHT-	F	LOW (pcu/h	ır)		PROPOR TURNING								
PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	(1	m)	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIEN T (%)	GRADIEN T EFFECT (pcu/hr)	L CAPACITY	AHEAD SAT. FLOW	LEFT	STRAIGH	RIGHT	TOTAL FLOW (pcu/hr)	(%		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y				
		. ,		LEFT	RIGHT	5 F	ž			(pcu/hr)	(pcu/hr)		T AHEAD	-	u · /	LEFT	RIGHT	u · /						
E E	Road NB	4.000	1	50			1		0		2015	525			525	100%		1956	0.268	0.268				
A	. 1	4.000	2			0	0		0		4310		375		375			4310	0.087					
'		В							0		1985	465			465	100%		1873	0.248					
 n Tu	ng Road E		1									400												
	2,3	3.700 3.700	1 2	25	30	0	1 0		0		4250			515	515	10070	100%	4048	0.127					
 n Tu C	2,3	3.700		25	30	0					4250			515		10075	100%		0.127					
 [C Tung	2,3 3 Road SB	3.700 3.700 3.650		25		0	0				4100		450		515 450	10078		4048 4100	0.110	0.120				
n Tu [C Tung	2,3 3 Road SB	3.700 3.700	2	25	30 25		0		0				450	515 240	515		100% 100%	4048		0.120				
 [C Tung	2,3 3 Road SB	3.700 3.700 3.650	2	25			0		0		4100		450		515 450			4048 4100	0.110	0.120				
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					
 n Tu C C fung F E	2,3 3 Road SB 1,2 2	3.700 3.700 3.650 3.650	2 2 1		25	0	0 1 0		0 0 0		4100 2120			240	515 450 240		100%	4048 4100 2000	0.110 0.120					

UNCTIO					JUL			2023 AM Ot	oserved Traffic	c Flows						DESIGN:		CHECK:		JOB NO:	DATE	AEC
Traffic Flow Dia (pcu/hr)								ung Yan Ro						_1	,		No. of stages			N = 4	-] (
u ,														Ø	52		Cycle time			C = 120	sec	
						50		55	65 	395							Sum(y)			Y = 0.346		
						145 25											Lost time Total Flow			L = 19 = 20,510	sec pcu	
	Y	u Tung Ro	oad ——		•		*	~	+	`	Yu Tung	Road					Total Tiow			- 20,010	pou	
						Ī		-	390 150								Optimum Cy	cle Co	= (1.5×L+5)/(1-Y) = 51	sec	
					 15	 60	360	~	425								Min. Cycle Ti	me C _m	= L/(1-Y) = 0.9-0.007	= 29	sec	
					15	00	300										Y _{ult} R.C. _{ult}		= (Y _{ult} -Y)/Yx	100% = 118.7	%	
							Ch	ung Yan Ro	oad								Practical Cyc Y _{max}	le Time C _p	= 0.9×L/(0. = 1-L/C	9-Y) = 31 = 0.842	sec	
																	- max					
Stage/Phase D	iagrams																0.111.11	•				
	l	► A				→ A											Critical					7
					С		_ →	E		D							R.C.(C)	= (0	.9xY _{max} -	Y)/Yx100% =	119%	
	В.	€					•			-	-											
	F	~									I	=										
s	Stage 1			Stage	e 2			Stage 3		5	Stage 4											
		I/G =				I/G =	5		I/G =	5		I/G =	12									
	LANE	NO. OF		DIUS m)		SIDE	UPHILL	GRADIEN	ADDITIONA	STRAIGHT- AHEAD SAT.	F	LOW (pcu/h	nr)	TOTAL	PROPOR TURNING	VEHICLES	REVISED	FLOW	CRITICAL			
PHASE STAGE	WIDTH (m)	LANES			DPP05 TRAF	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	CAPACITY (pcu/hr)	FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	FLOW (pcu/hr)	(%		SAT. FLOW (pcu/hr)	FACTOR	y			
Tung Road SB			LEFT	RIGHT		-									LEFT	RIGHT						
F 1,4	3.500	1	15			1		0		1965	425	450		425	100%	470/	1786	0.238				
B 1 B 1	3.600 3.600	1		20 10	0	0		0 0		2115 2115		150	134 256	284 256		47% 100%	2043 1839	0.139 0.139				
ung Yan Road V	VB																					
D 4	3.500	1	25	25	0	1		0		1965	15	60	137	212	7%	65%	1884	0.112	0.112			
D 4	3.500	1		25	0	0		0		2105			223	223		100%	1986	0.112				
Tung Road NB	3.500	1	15			1		0		1965	50	55		105	48%		1876	0.056				
E 3	3.500	1		15	0	0		0		2105		90	25	115	10,0	22%	2060	0.056	0.056			
ung Yan Road E	B B																					
A 1,2 C 2	3.500 3.500	1	16 18			1		0 0		1965 2105	320 75	21		320 96	100% 78%		1797 1976	0.178 0.049	0.178			
C 2	3.500		10	25	0	0		0		2105	,5	44	55	99	, 570	56%	2037	0.049				
1 1																						
		1		1	1																	

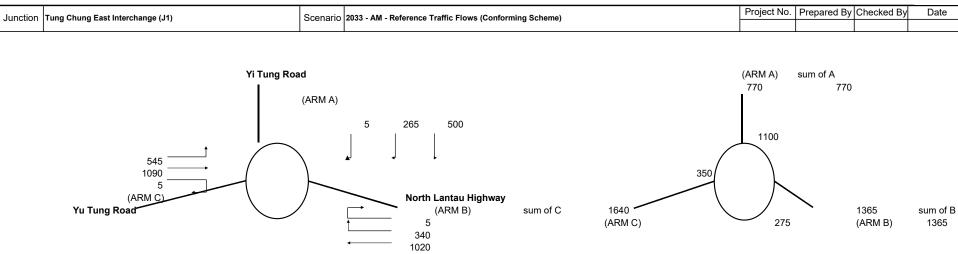
Junction J4 - Tung Chung Road /	Chung Ya	an Road	2023 AM Observed Tra	ffic Flows	Designed By :	Checked By :	Job No. :	Date :	: No\
Tung Chung Road (ARM C) 350 10		•	420 70 ARM B) Yan Road	(ARM A) (ARM A) Tung Chung Road	$W = M_{i}$ $W cr = Ce$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = La$ $V c-b = Vi$ $V r b-a = Vi$ $V r b-c = Vi$ $V r c-b = Vi$ $D = St$ $E = St$ $F = St$	ne width available to vehi ne width available to vehi ne width available to vehi sibility to the left for vehick sibility to the right for vehic sibilitu to the right for vehic	0) 9.0, kerbed central reserve cle waiting in stream b-a (2. cle waiting in stream b-c (2. cle waiting in stream b-a (22 cles waiting in stream b-a (12 cles waiting in stream b-c (1 cles waiting in stream c-b (1) cles waiting cles waiting clear (1) cles waiting clear (1) clear (.05 - 4.07) .05 - 4.07) .05 - 4.07) 2.0 - 250.0) 17.0 - 250.0) 17.0 - 250.0)	J4
GEOMETRIC DETAILS: MAJOR RO W W cr q a-b q a-c GEOMETRIC FACTORS :	DAD (ARM = = = =	7.3 (metres) 0 (metres) 70 (pcu/hr) 420 (pcu/hr)	MAJOR RO/ W c-b Vr c-b q c-a q c-b	AD (ARM C) = 3.6 (metre = 100 (metre = 350 (pcu/h = 10 (pcu/h	s) r)	W b-c = VI b-a = Vr b-a = Vr b-c = q b-a =	= 3.6 (metres) = 3.6 (metres) = 100 (metres) = 100 (metres) = 100 (metres) = 65 (pcu/hr)		
GEOMETRIC FACTORS : D E F Y	= = =	0.948063 0.977385 0.977385 0.748150		,		q b-c =	= 10 (pcu/hr)		
THE CAPACITY OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = =	418 609 598 437				CRITICAL DF	C = 0.17		
COMPARISION OF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b DFC b-ac	TO CAP/ = = = =	ACITY : 0.16 0.02 0.02 0.17							

lum attan 15 Okuma Ma				0000 AM Ob			De sino d De s		1.1. 1.	Duti	. N
Junction J5 - Chung Mu	In Road / Yu	l ung Ro	bad	2023 AM Observed T	raffic Flows		Designed By :	Checked By :	Job No. :	Date	: Nov
Chung Mun Road (ARM C) 85		•	135 (ARI Yu Tung Road	,	Tung Chur	(ARM A) Ig Road EB	W = W cr = W b-a = W c-b = V c-b = V t b-a = V r b-a = V r c-b = E = F =	EOMETRIC INPUT DATA) Major Road Width (6.4 - 20 Central Reserve width (1.2 Lane width available to veh Lane width available to veh Lane width available to veh Visibility to the right for vehic Visibility to the right for vehi Visibility to the right for vehi Stream-specific B-A Stream-specific B-C Stream-specific C-B (1-0.0345W)	.0) - 9.0, kerbed central n icle waiting in stream icle waiting in stream icle waiting in stream b cles waiting in stream icles waiting in stream	b-a (2.05 - 4.07) b-c (2.05 - 4.07) b-b (2.05 - 4.07) -a (22.0 - 250.0) b-a (17.0 - 250.0) b-c (17.0 - 250.0)	J5
GEOMETRIC DETAILS:			4)			•		MINOR ROAD (A			
	MAJOR ROAL W) (ARM / =	4) 8.8 (metres)	W c-b	OAD (ARM C =		aa)	,	= 3.6 (m)	atraa)	
	vv Wcr	-	0 (metres)	Vrc-b Vrc-b	=	4 (metr 200 (metr			= 3.6 (m		
	qa-b	=	0 (pcu/hr)	d c-a	=	85 (pcu/	,		= 3.8 (m = 50 (m	,	
	qa-c	-	0 (pcu/hr) 0 (pcu/hr)	q c-a q c-b	=	0 (pcu/l	,		= 200 (m	,	
	4 a-c	-	o (peanir)	ч с-р	-	0 (peu/	")		= 200 (m = 17 (m	,	
									= 135 (pc		
GEOMETRIC FACTORS									= 0 (pc		
OLOMETRIO I AOTORIO	D	=	1.002944					900	0 (pc	, ann y	
	E	=	0.903036								
	F	=	1.107269								
	Y	=	0.696400								
THE CAPACITY OF MO	VEMENT :					`					
C	ک b-a	=	615								
(¢ b-c	=	673								
C	Ωc-b	=	825					CRITICAL DE	-C = 0.1	22	
C	ຊ b-ac	=	615								
COMPARISION OF DES											
	DFC b-a	=	0.22								
	DFC b-c	=	0.00								
	DFC c-b	=	0.00								
r	DFC b-ac	=	0.22								



ARM	Α	В	С
INPUT PARAMETERS:			
INPUT PARAMETERS.			
V = Approach half width (m)	3.50	3.50	5.00
E = Entry width (m)	3.50	6.00	4.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	20.00	20.00	20.00
D = Inscribed circle diameter (m)	22.00	22.00	22.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	245	275	15
Qc= Circulating flow across entry (pcu/h)	10	10	270
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.00	0.33	-0.13
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.95	0.95
X2= V + ((E-V)/(1+2S))	3.50	5.00	3.64
M = EXP((D-60)/10)	0.02	0.02	0.02
F = 303*X2	1061	1515	1102
Td= 1+(0.5/(1+M))	1.49	1.49	1.49
Fc= 0.21*Td(1+0.2*X2)	0.53	0.63	0.54
Qe= K(F-Fc*Qc)	1019	1430	906
DFC = Design flow/Capacity = Q/Qe	0.24	0.19	0.02

TOTAL ENTRY FLOWS = 535 PCU CRITICAL DFC = 0.24



ARM	A	В	С
INPUT PARAMETERS:			
V = Approach half width (m) E = Entry width (m)	8.00 12.00	7.10 12.00	8.00 12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree) Q = Entry flow (pcu/h)	40.00 770	45.00 1365	45.00 1640
Qc= Circulating flow across entry (pcu/h)	1100	275	350
	1100	210	000
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
$F = 303^{*}X2$	2956	2795	3010
Td = 1 + (0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2) Qe= K(F-Fc*Qc)	0.62 2263	0.60 2579	0.63 2713
	2203	2019	2/13
DFC = Design flow/Capacity = Q/Qe	0.34	0.53	0.60

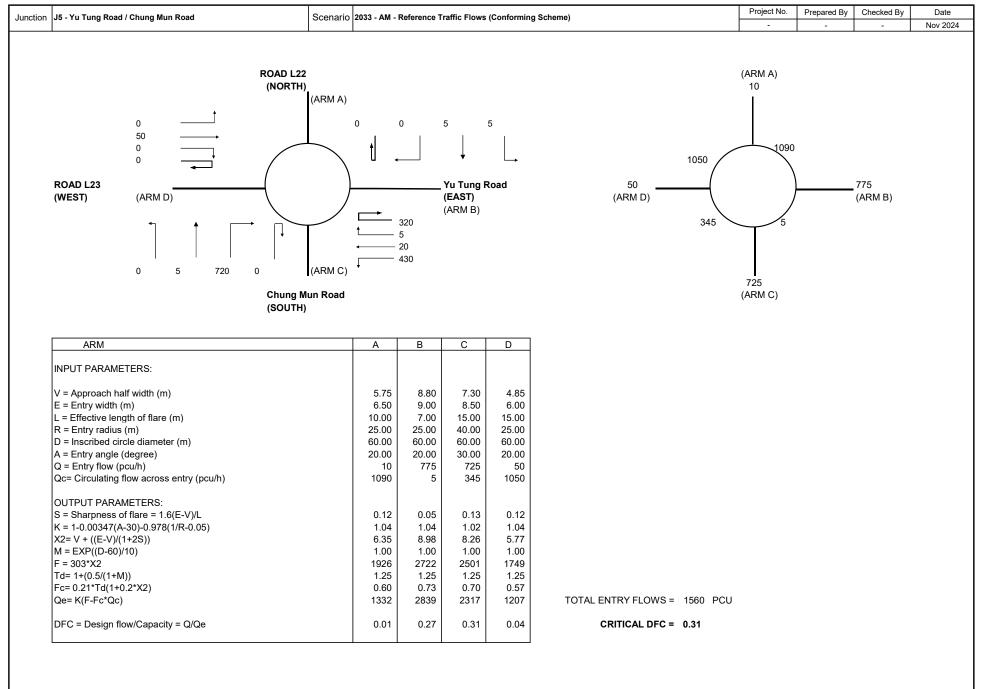
TOTAL ENTRY FLOWS =	3775	PCU
CRITICAL DFC =	0.60	

Filename:

					CAL(2033 AM Re	eference Traffi	c Flows (Confo	rming Sche	me) (With C	EDD Impro	vements)		DESIGN:		CHECK	:	JOB NO:	D	ATE: Nov
Traffi (pcu/ł	ic Flow Dia hr)	agram						Shun T	ung Road						Ø			No. of stages Cycle time	s per cycle		N = 3 C = 120	sec	
							980 1125	و 	725	515								Sum(y) Lost time Total Flow			Y = 0.66 L = 12 = 18,74	3 sec	
		Yı	ı Tung Ro	bad					<u>م</u> م	455 825			Yı	u Tung Ro	ad			Optimum Cy Min. Cycle T Y _{ult} R.C. _{ult} Practical Cyc Y _{max}	ime C _m	$= (1.5 \times L+5)$ = L/(1-Y) = 0.9-0.0075 = (Y _{ult} -Y)/Yx: _ = 0.9 \times L/(0.9) = 1-L/C	= 36 i×L = 0.81 100% = 21.3	% sec	
Stage	e/Phase D	iagrams		1																			
	в А	• •		в•		L D		В	, °⊄∫∫	►D								Critical R.C.(C)			Y)/Yx100% =	21%	_
			• F			[₽] و ۲	_											1	(-	in a second	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	S	tage 1	•		Stage	e 2			Stage 3														
			I/G =	5			I/G =	5		I/G =	5						I						
	ЗE	I/G = 5	SING	SIDE			AHEAD SAT.	F	LOW (pcu/t	ır)	TOTAL	PROPOR TURNING	VEHICLES	REVISED	FLOW	CRITICAL							
PHASE	STA	(m)		LEFT	RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	CAPACITY (pcu/hr)	FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	FLOW (pcu/hr)	(%	6) RIGHT	SAT. FLOW (pcu/hr)	FACTOR y	У			
Tung R	Road NB	4.000 4.000	1 2	50		0	1 0		0 0		2015 4310	980	1125		980 1125	100%		1956 4310	0.501 0.261	0.261			
un Tung D C	g Road E 2,3 3	B 3.700 3.700	1 2	25	30	0	1 0		0 0		1985 4250	515		725	515 725	100%	100%	1873 4048	0.275 0.179	0.179			
Tung R	Road SB 1,2 2	3.650 3.650	2 1		25	0	1 0		0 0		4100 2120		825	455	825 455		100%	4100 2000	0.201 0.228	0.228			

JNCTIO								2033 AM Re	eference Traffi	c Flows (Confo	rmina Sche	eme) (With (CEDD Impro	/ements)		DESIGN:		CHECK:		JOB NO:	D	AEC ATE: Nov
	-			,						(22.00	5	,,		/								
Traffic Flow Dia (pcu/hr)	agram						Ch	ung Yan Re	oad						,		No. of stages	per cycle		N = 4		(
																	Cycle time			C = 120	sec	
							*	105	85	585												
						170 835											Sum(y) Lost time			Y = 0.757 L = 19	sec	
	v	u Tung Ro	bad			100	•	لم ا	Ļ	L_	Yu Tung	Road					Total Flow			= 22,59	5 pcu	
		a rung ru	Juu			t		•	400		rurung	Roud										
									640 510								Optimum Cy Min. Cycle T		= (1.5×L+ = L/(1-Y)	5)/(1-Y) = 138 = 78	sec sec	
					30	90	685	Y									Y _{ult} R.C. _{ult}		= 0.9-0.007 = (Y _{ult} -Y)/Y		%	
							ļ										Practical Cyc	le Time C _p	= 0.9×L/(0	0.9-Y) = 120	sec	
							Ch	ung Yan Ro	oad								Y _{max}		= 1-L/C	= 0.842		
Stage/Phase Di	iagrams															•						
	<u> </u>				111												Critical	Case :	A.E.D			
	l	► A				A 4														20.04 40004		
					С		_ →	E		D							R.C.(C)	= (0	.9xY _{max}	-Y)/Yx100% =	0%	
	в.	•					}					_										
	F	(= f										
s	tage 1			Stage	e 2			Stage 3		ę	Stage 4											
		I/G =				I/G =	5		I/G =	5		I/G =	12									
	I/G = I/G = 5		LUDUIL COADIEN ADDITIONA STRAIGHT-			hr)			ROPORTION OF													
PHASE STAGE	LANE WIDTH	NO. OF LANES		m)	POSIN	AR SIC	UPHILL GRADIEN	GRADIEN T EFFECT	L	AHEAD SAT. FLOW	LEFT	STRAIGH	DIGUT	TOTAL FLOW	TURNING (%		REVISED SAT. FLOW	FLOW FACTOR	CRITICAL			
	(m)		LEFT	RIGHT	d H	ШN	T (%)	(pcu/hr)	(pcu/hr)	(pcu/hr)	LEFI	T AHEAD	RIGHT	(pcu/hr)	LEFT	RIGHT	(pcu/hr)	У				
ung Road SB	3.500	1	20			1		0		1965	510			510	100%		1828	0.279				
B 1	3.500	1				0		0		2105		531		531		700/	2105	0.252				
B 1	3.500	1		28	0			0		2105		109	400	509		79%	2020	0.252				
ng Yan Road V	VB 3.500	1	25	25	0	1		0		1965	30	90	271	391	8%	69%	1878	0.208	0.208			
D 4	3.500	1		25	0	0		0		2105			414	414		100%	1986	0.208				
ung Road NB																						
E 3 E 3	3.500 3.500	1	15			1		0 0		1965 2105	170	471		170 471	100%		1786 2105	0.095 0.224	0.224			
E 3	3.500	1		25	0	0		0		2105		365	100	465		22%	2078	0.224				
ng Yan Road E A 1,2	3.500	1	16			1		0		1965	585			585	100%		1797	0.326	0.326			
C 2 C 2	3.500 3.500	1		18 25	0	0		0 0		2105 2105		85	12 93	97 93		13% 100%	2083 1986	0.047 0.047				

Junction J4 - Tung Chung Road	Chung Va	an Road	2033 AM Reference Ti	affic Flows (Co	nforming Schem		Checked By :	Job N		Date :	No
Junction 34 - Tung Chang Koad	Chung 18	III Koau	2000 AM Reference II			e) Designed D	Checked by .	300 1		Date .	
Tung Chung Road (ARM C) 645 20		•	550 110 RM B) Yan Road		RM A) ng Road	W W cr W b-a W c-b VI b-a Vr b-a Vr b-c Vr c-b D E F	GEOMETRIC INPUT DAT/ = Major Road Width (6.4 - = Central Reserve width (1 = Lane width available to v = Lane width available to v = Visibility to the left for vel = Visibility to the right for v = Visibility to the right for v = Visibility to the right for v = Stream-specific B-A = Stream-specific B-C = Stream-specific C-B = (1-0.0345W)	20.0) .2 - 9.0, kerbed ehicle waiting in ehicle waiting in ehicle waiting in hicles waiting in ehicles waiting ehicles waiting	n stream b-a (2.05 n stream b-c (2.05 n stream c-b (2.05 n stream b-a (22.0 - in stream b-a (17.0 in stream b-c (17.0	nly) - 4.07) - 4.07) - 4.07) - 250.0) - 250.0) - 250.0)	J4
GEOMETRIC DETAILS: MAJOR R W W cr q a-b q a-c GEOMETRIC FACTORS :	OAD (ARM = = = =	A) 7.3 (metres) 0 (metres) 110 (pcu/hr) 550 (pcu/hr)	MAJOR RC W c-b Vrc-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 100 (metres) 645 (pcu/hr) 20 (pcu/hr)		MINOR ROAL W b-a W b-c VI b-a Vr b-a Vr b-c q b-a q b-c	(ARM B) = = = = = = = = =	3.6 (metres) 3.6 (metres) 100 (metres) 100 (metres) 100 (metres) 150 (pcu/hr) 20 (pcu/hr)		
D E F Y	= = = =	0.948063 0.977385 0.977385 0.748150					420				
THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac	= = = =	329 570 552 346					CRITICAL	DFC	= 0.49		
COMPARISION OF DESIGN FLOV DFC b-a DFC b-c DFC c-b DFC c-b DFC b-ac	V TO CAPA = = = = =	ACITY : 0.46 0.04 0.04 0.49									



Junction J6 - Tung	Chung Road / S	Shek Mur	n Kap Road	2033 AM Reference T	raffic Flows (Conforming Sche	eme) Designed E	By : Checked By :	Job No. :	Date	: No
	265			360 360 ARM B) pad L30	5 (i	ARM A) Jung Road	W W cr W b-a W c-b VI b-a Vr b-a Vr b-c Vr c-b D E F	GEOMETRIC INPUT DATA) = Major Road Width (6.4 - 20 = Central Reserve width (1.2 = Lane width available to veh = Lane width available to veh = Visibility to the left for vehicl = Visibility to the right for vehi = Visibility to the right for vehi = Visibility to the right for vehi = Stream-specific B-A = Stream-specific B-C = Stream-specific C-B = (1-0.0345W)	- 9.0, kerbed central res icle waiting in stream b- icle waiting in stream b- icle waiting in stream c- es waiting in stream b- cles waiting in stream b cles waiting in stream b	a (2.05 - 4.07) c (2.05 - 4.07) b (2.05 - 4.07) d (22.0 - 250.0) -a (17.0 - 250.0) -c (17.0 - 250.0)	J6
GEOMETRIC DET	MAJOR RO W W cr q a-b q a-c	AD (ARM = = = = = =	 A) 7.3 (metres) 0 (metres) 5 (pcu/hr) 360 (pcu/hr) 1.098970 1.066962 1.066962 	MAJOR R W c-b Vrc-b q c-a q c-b	OAD (ARM C) = = = =	3.6 (metre 200 (metre 265 (pcu/hi 100 (pcu/hi	r)	W b-c VI b-a Vr b-a Vr b-c q b-a	RM B) = 3.6 (met = 200 (met = 200 (met = 200 (met = 5 (pcu = 50 (pcu	res) res) res) res) /hr)	
THE CAPACITY OF	Y MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = = =	0.748150 488 690 689 665					CRITICAL DF	°C = 0.1	5	
	DFC b-c DFC c-b DFC b-ac	= =	0.07 0.15 0.08								

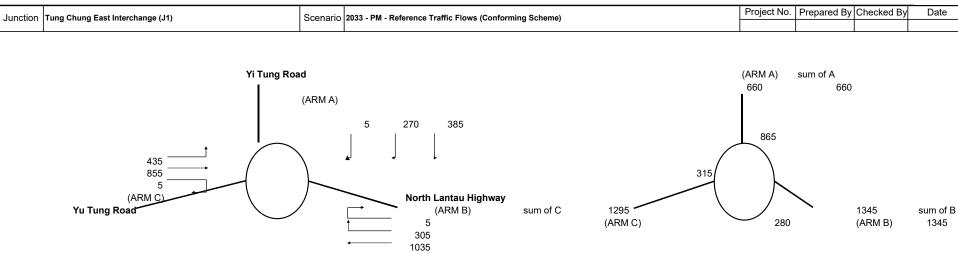
low offers 17 Decide 00	(D			M D. (h a al a al Dia a			Data	
Junction J7 - Road L29	Road L30		2033 A	M Reference Traff	ric Flows (Co	onforming S	cheme) Designed	аву: С	hecked By :	Job N	0. :	Date :	
Road L29 (ARM C) 280		-			*	Ð	NOTES W W cr		Width (6.4 - 20	0.0)	central reserve or	(vlu	J7
5			-	90 155		RM A) oad L29	W b-a W b-c W c-b VI b-a Vr b-a Vr b-c Vr c-b	= Lane width a = Lane width a = Lane width a = Visibility to t = Visibility to t = Visibility to t	available to vel available to vel available to vel available to vel he left for veh he right for veh he right for veh	hicle waiting in hicle waiting in hicle waiting in cles waiting in hicles waiting in hicles waiting in	stream b-a (2.05 stream b-c (2.05 stream c-b (2.05 stream b-a (22.0 n stream b-a (22.0 n stream b-a (17.0 n stream b-c (17.0 n stream c-b (17.0	- 4.07) - 4.07) - 4.07) - 250.0) - 250.0) - 250.0)	
							D	= Stream-spe	cific B-A				
							E	= Stream-spe					
		I 5 14	.0 I				F	= Stream-spe					
			(ARM B)				Y	= (1-0.0345W)				
			Road L30										
GEOMETRIC FACTORS	a-b = a-c = : D =	90 (pcu/hr)		q c-a q c-b	=	280 (pc 5 (pc		V V q	′I b-a ∕r b-a ∕r b-c b-a b-c	= = = =	100 (metres) 100 (metres) 100 (metres) 140 (pcu/hr) 5 (pcu/hr)		
	E =												
	- F =												
	Y =	0.596350											
THE CAPACITY OF MOV	FMENT ·					``							
	b-a =	479											
	1 b-c =												
G								C	RITICAL D	FC =	= 0.30		
	b-ac =							-					
COMPARISION OF DES	GN FLOW TO C	APACITY :											
D	FCb-a =	0.29											
D	FC b-c =	0.01											
	FC c-b =	0.01											
	FCb-ac =												

Junction J8 - Tung	Chung Road / I	Road I 30		2033 AM Reference	Traffic Flows (Conforming Scher		/: Checked By :	Job No. :	Date	: No
Sunction 50 - Fung							Designed D	Checked by .	300 110.	Date	. 11
	345			(ARM B) bad L30	10 (A	ARM A) ung Road	W W cr W b-a W c-b VI b-a Vr b-a Vr b-c Vr c-b D E F	GEOMETRIC INPUT DATA) = Major Road Width (6.4 - 20 = Central Reserve width (1.2 = Lane width available to vel = Lane width available to vel = Visibility to the left for vehic = Visibility to the right for vehic = Visibility to the right for vehic = Visibility to the right for vehic = Stream-specific B-A = Stream-specific B-C = Stream-specific C-B = (1-0.0345W)	0.0) - 9.0, kerbed central re nicle waiting in stream b nicle waiting in stream b nicle waiting in stream b icles waiting in stream l icles waiting in stream l	-a (2.05 - 4.07) -c (2.05 - 4.07) -b (2.05 - 4.07) a (22.0 - 250.0) o-a (17.0 - 250.0) o-c (17.0 - 250.0)	(J8)
GEOMETRIC DETA	<i>MAJOR RO</i> W W cr q a-b q a-c	AD (ARM) = = = = =	4) 7.3 (metres) 0 (metres) 10 (pcu/hr) 400 (pcu/hr) 1.098970 1.066962	MAJOR I W c-b Vr c-b q c-a q c-b	ROAD (ARM C) = = = =	3.6 (metres) 200 (metres) 345 (pcu/hr) 100 (pcu/hr)		Vr b-a Vr b-c q b-a	ARM B) = 3.6 (me = 200 (me = 200 (me = 200 (me = 200 (pc = 175 (pc)	etres) etres) etres) etres) J/hr)	
	F Y	= =	1.066962 0.748150								
THE CAPACITY OF	Q b-a Q b-c Q c-b Q b-ac	= = =	460 678 676 646					CRITICAL D	FC = 0.3	0	
COMPARISION OF		TO CAPA(= = = =	CITY : 0.04 0.26 0.15 0.30								

					<i>(</i> () = 1	(2) (1		
Junction J9 - Road L29	/ Road L25		2033	AM Reference Tra	ffic Flows	(Conforming S	cheme) Designed	By: Checke	ed By :	Job No. :	Date :	
Road L29 (ARM C) 25 65	•	-	-	50 70		(ARM A) Road L29	NOTES : W W cr W b-a W c-b VI b-a Vr b-a Vr c-b D	 Lane width availa Lane width availa Lane width availa Lane width availa Visibility to the left Visibility to the rigt Visibility to the rigt 	h (6.4 - 20.0) width (1.2 - 9.0, ble to vehicle w ble to vehicle w ble to vehicle w t for vehicles w ht for vehicles w ht for vehicles w ht for vehicles w	kerbed central reserve vaiting in stream b-a (2. vaiting in stream b-c (2. vaiting in stream c-b (2. aiting in stream b-a (2 vaiting in stream b-a (1 vaiting in stream b-c (1 vaiting in stream c-b (1	e only) 05 - 4.07) 05 - 4.07) 05 - 4.07) .0 - 250.0) 7.0 - 250.0) 7.0 - 250.0)	el
							E	= Stream-specific E				
		235	5				F	= Stream-specific C	с-в			
			(ARM B) Road L25				Y	= (1-0.0345W)				
	D =	= 1.5 (metres) = 70 (pcu/hr) = 50 (pcu/hr) = 0.831663		W c-b Vrc-b q c-a q c-b	= = =	2.1 (m 100 (m 25 (pc 65 (pc	etres) u/hr)	W b-a W b-c VI b-a Vr b-a Vr b-c q b-a q b-c	= =	2.3 (metres) 2.3 (metres) 100 (metres) 100 (metres) 100 (metres) 5 (pcu/hr) 235 (pcu/hr)		
	E =											
	F = Y =											
THE CAPACITY OF MO	VEMENT :											
	⊋b-a =	503										
(ב ג b-c	623										
(ຊ c-b =	601						CRIT	CAL DFC	= 0.39		
(Qb-ac =	620										
COMPARISION OF DES	IGN FLOW TO C	APACITY :										
	DFC b-a =											
	DFC b-c =											
I	DFC c-b =											
	DFC b-ac =	- 0.39										

Junction J10 - Road L28 / Roa	d L29 / Shek	Mun Kap Road	2033 AM Reference T	raffic Flows (Con	forming Scher	ne) Designed By	: Checked By :	Job No. :	Date	: N
Shek Mun Kap Road (ARM C) 15 100			20 20	(ARM	$\mathbf{\mathfrak{S}}$	NOTES : (G W = W cr = W b-a = W b-c = V c-b = V c-b = V r b-a = V r b-a = V r c-b = D = E =	SEOMETRIC INPUT DATA) Major Road Width (6.4 - 20 Central Reserve width (1.2 Lane width available to vef Lane width available to vef Visibility to the left for vehic Visibility to the right for vehic Visibility to the right for veh Visibility to the right for veh Stream-specific B-A Stream-specific B-C Stream-specific C-B	0.0) - 9.0, kerbed central nicle waiting in stream nicle waiting in stream nicle waiting in stream icles waiting in stream icles waiting in stream	reserve only) h b-a (2.05 - 4.07) h b-c (2.05 - 4.07) h c-b (2.05 - 4.07) b-a (22.0 - 250.0) n b-a (17.0 - 250.0) n b-c (17.0 - 250.0)	JI
W W cr q a-b q a-c GEOMETRIC FACTORS : D E F	ROAD (ARN = = = = = = =	A A) 7.3 (metres) 0 (metres) 20 (pcu/hr) 20 (pcu/hr) 0.867478 0.894307 0.857384	MAJOR RG W c-b Vr c-b q c-a q c-b	DAD (ARM C) = = = =	2.3 (metres) 100 (metres) 15 (pcu/hr) 100 (pcu/hr))	W b-c VIb-a Vrb-a Vrb-c q b-a	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	netres) netres) netres) netres) netres) ncu/hr) ncu/hr)	
Y THE CAPACITY OF MOVEMEN Q b-a Q b-c Q c-b Q b-ac COMPARISION OF DESIGN FL DFC b-ac DFC c-b DFC c-b DFC b-ac	= = = = OW TO CAP = = = =	0.748150 501 659 629 627 ACITY : 0.01 0.04 0.16 0.05					CRITICAL D	FC = 0	.16	

June		4 Chu		oad / Roa			996			0000 414 5	(T (f	ic Flows (Confo	in a Oak					DESIGN:		CHECK		JOB			AECO
	uon J I	T - Chu	ng wun K	oad / Roa	u L29					2033 AM RE	erence Tram	IC Flows (Conto	rming Sche	eme)						CHECK		JOB	NU:	DA	E: NOV 20
	Traffic (pcu/hr	Flow Di	agram							Road L29]	No. of stages	s per cycle		N =	5		J1
																			Cycle time			C =	120	sec	
								0 _	٩	0	10 	55 							Sum(y)			Y =	0.316		
								55 -											Lost time			L =	49	sec	
								0	¢	<u> </u>	ł	6			Chung	Mun Road			Total Flow			=	9,965	pcu	
								t		<u> </u>	25				-										
										,	35 180								Optimum Cy Min. Cycle T		= (1.5×L+ = L/(1-Y)	5)/(1-Y) = =	115 72	sec sec	
							0	10	395	•									Y _{ult}		= 0.9-0.00		0.533	0/	
									I										R.C. _{ult} Practical Cyc	cle Time C _o	$= (Y_{ult}-Y)/Y$ $= 0.9 \times L/(0$		68.3 76	% sec	
										Road L29									Y _{max}		= 1-L/C	=	0.592		
	Stage/	Phase D	iagrams															1							
				JII												<>	>		Critical	Case :	A,B,C,	D,Ep			
			•	Λ → → Α		•									۸ Ep	Ep	A Ep		R.C.(C)	= (0	.9xY _{max}	-Y)/Yx10	0% =	68%	٦
					=	→ В ↓								•			-P: V		,						
						•								\mathbf{r}		<> Ep	•								
		S	itage 1			Stag	e 2			Stage 3	3	5	Stage 4			Stage 5		ł							
		C	6 = 5	I/G =	5	G = 5	i	I/G =	5		I/G =	5		I/G =	5	G = 20	I/G =	2							
ENT		ш	LANE			DIUS	Ů 2 2	Ш.,	UPHILL	GRADIEN	ADDITIONA	STRAIGHT-	F	ELOW (pcu/	hr)	TOTAL		RTION OF VEHICLES	REVISED	FLOW					
MOVEMENT	PHASE	STAGE	WIDTH (m)	NO. OF LANES	(m)	OPPOSING TRAFFIC	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	L	AHEAD SAT. FLOW	LEFT	STRAIGH	RIGHT	FLOW (pcu/hr)		%)	SAT. FLOW (pcu/hr)	FACTOR	CRITICAL y				
ž					LEFT	RIGHT	0	z			(pcu/hr)	(pcu/hr)		T AHEAD			LEFT	RIGHT		-					
♠	А	1	3.500	1	30	25	0	1		0		1965	55	10	0	65	85%	0%	1885	0.034	0.034				
4	В	2	3.500	1	30	25	0	1		0		1965	0	55	0	55	0%	0%	1965	0.028					
♠	с	3	3.500	1	30	25	0	1		0		1965	0	10	395	405	0%	98%	1856	0.218	0.218				
۹																									
4	D D	4 4	3.500 3.500	1	15 15	25	0	1		0		1965 2105	114 66	35	25	114 126	100% 52%	20%	1786 1978	0.064 0.064	0.064				
		Crossir	g	GM		FGM																			
	Ep	5	min.	15	+	5	=	20	sec																



ARM	А	В	С
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	660	1345	1295
Qc= Circulating flow across entry (pcu/h)	865	280	315
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2 = V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2408	2576	2734
DFC = Design flow/Capacity = Q/Qe	0.27	0.52	0.47

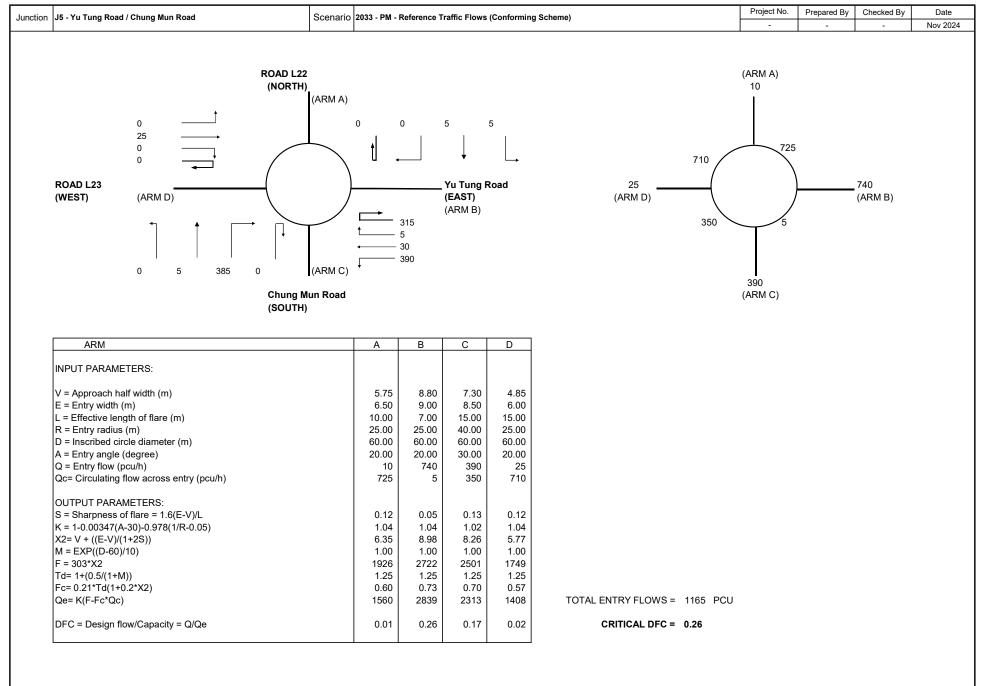
CRITICAL DFC =	0.52	
TOTAL ENTRY FLOWS =	3300	PCU

Filename:

									2033 PM Re	eference Traffi	c Flows (Confo	rming Sche	eme) (With C	EDD Improv	/ements)		DESIGN:		CHECK		JOB NO:	D	AEC ATE: Nov
Traffic (pcu/h	c Flow Dia nr)	gram						Shun T	ung Road							·		No. of stages	s per cycle		N = 3	•	
							725	•	705	565 								Cycle time Sum(y) Lost time Total Flow			C = 120 Y = 0.51 L = 12 = 18,7	4 sec	
		Yı	ı Tung Ro	bad			730			340 960			Yı	J Tung Ro	ad			Optimum Cy Min. Cycle T Y _{ult} R.C. _{ult} Practical Cyc	ime C _m	= $(1.5 \times L+5)$ = $L/(1-Y)$ = $0.9-0.0075$ = $(Y_{ult}-Y)/Yx$ = $0.9 \times L/(0.1)$ = $1-L/C$	= 25 5×L = 0.81 100% = 57.7	0 7 % sec	
Stage	/Phase Di	agrams																Y _{max}		- 1-2/0	- 0.90	0	
	в	<u>ب</u>		₿∳		Ĺ		в	,	▶_								Critical					
	A		4 −−−− F			₽ ₽ ₽ ₽	_		C	D								R.C.(C)	= (0	.9xY _{max} -	Y)/Yx100% =	58%	
	S	tage 1	-		Stage	e 2			Stage 3														
·			I/G =	5			I/G =	5		I/G =	5												
SE	ЭE	LANE	NO. OF		DIUS m)	SING	SIDE IE	UPHILL	GRADIEN		STRAIGHT- AHEAD SAT.	F	LOW (pcu/h	nr)	TOTAL	PROPOR TURNING \	/EHICLES	REVISED	FLOW	CRITICAL			
PHASE	STAGE	WIDTH (m)	LANES	LEFT	RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	CAPACITY (pcu/hr)	FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	FLOW (pcu/hr)	(%	RIGHT	SAT. FLOW (pcu/hr)	FACTOR y	У			
Tung R	oad NB	4.000 4.000	1 2	50		0	1 0		0 0		2015 4310	725	730		725 730	100%		1956 4310	0.371 0.169	0.169			
un Tung D C	Road E 2,3 3	B 3.700 3.700	1 2	25	30	0	1 0		0 0		1985 4250	565		705	565 705	100%	100%	1873 4048	0.302 0.174	0.174			
Tung Ri	oad SB 1,2 2	3.650 3.650	2 1		25	0	1 0		0 0		4100 2120		960	340	960 340		100%	4100 2000	0.234 0.170	0.170			

Inction J3				an Road					2033 PM Re	ference Traffi	c Flows (Confo	rming Sche	me) (With C	EDD Impro	vements)		DESIGN:		CHECK		JOB NO	D:	DATE	AEC
Traffic (pcu/hr	Flow Dia	-	ı Tung Ro	pad ——		•	85 505 95	Ch	ung Yan Ro	80 475 620	465	Yu Tung	Road	<u>.</u>	Ø			No. of stages Cycle time Sum(y) Lost time Total Flow Optimum Cy		= (1.5×L+	N = C = L = = 5)/(1-Y) =	4 120 0.603 16 22,595 73	sec pcu sec	
						15	 70	 485 Ch	vung Yan R	570 oad								Min. Cycle T Y _{ult} R.C. _{ult} Practical Cyc Y _{max}		= L/(1-Y) = 0.9-0.007 = (Y _{ult} -Y)/Y = 0.9 × L/(0 = 1-L/C	x100% =	40 0.780 29.4 48 0.867	sec % sec	
Stage/I	Phase Di	agrams	► A			_) c	→ A				D							Critical R.C.(C)			D -Y)/Yx1009	% =	29%]
		В - F							5			-	=											
	S	tage 1			Stag	e 2			Stage 3			Stage 4												
SE	B	LANE	I/G =	RA	DIUS m)	SING FIC	I/G =	UPHILL	GRADIEN	I/G =		1	I/G =		TOTAL		VEHICLES	REVISED	FLOW	CRITICAL				
PHASE	STAGE	WIDTH (m)	LANES	LEFT	RIGHT	OPPOS TRAFI	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	CAPACITY (pcu/hr)	FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	FLOW (pcu/hr)	(9 LEFT	%) RIGHT	SAT. FLOW (pcu/hr)	FACTOR y	y				
I Tung Ro	oad SB 1,4 1 1	3.500 3.500 3.500	1 1 1	20	28	0	1 0		0 0 0		1965 2105 2105	570	560 60	475	570 560 535	100%	89%	1828 2105 2009	0.312 0.266 0.266	0.266				
nung Yan → D → D	4 4	/B 3.500 3.500	1 1	25	25 25	0 0	1 0		0 0		1965 2105	15	70	192 293	277 293	5%	69% 100%	1881 1986	0.147 0.147	0.147				
I Tung Ro	3 3 3 Road E		1 1 1	15	25	0	1 0		0 0 0		1965 2105 2105	85	303 202	95	85 303 297	100%	32%	1786 2105 2065	0.048 0.144 0.144	0.144				
	1,2 2 2	3.500 3.500 3.500	1 1 1	16	18 25	0	0		0 0 0		1965 2105 2105	465	80	15 90	465 95 90	100%	15% 100%	1797 2078 1986	0.259 0.046 0.046	0.046				

Junction J4 - Tung Chung Roa	L/Chung Y	an Road	2033 PM Reference T	raffic Flows (Co	onforming Schem		y: Checked By:	Job N	o ·	Date :	No
Sunction 34 - Fung Chung Roa			2000 F Mi Relefence T			e) Designed D	y. Checked by.	500 1	0		
Tung Chung Road (ARM C) 475 10		•	660 70 70 XRM B) Yan Road)	RM A) ng Road	W W cr W b-a W c-b VI b-a Vr b-a Vr b-a Vr c-b D E F	GEOMETRIC INPUT DATA = Major Road Width (6.4 - 2 = Central Reserve width (1 = Lane width available to ve = Lane width available to ve = Visibility to the left for veh = Visibility to the right for ve = Visibility to the right for ve = Visibility to the right for ve = Stream-specific B-A = Stream-specific B-C = Stream-specific C-B = (1-0.0345W)	20.0) 2.2 - 9.0, kerbed ehicle waiting ir ehicle waiting ir ehicle waiting in icles waiting in shicles waiting i	a stream b-a (2.05 a stream b-c (2.05 a stream c-b (2.05 stream b-a (22.0 - n stream b-a (17.0 n stream b-c (17.0	nly) - 4.07) - 4.07) - 4.07) - 250.0) 0 - 250.0) 0 - 250.0)	J4
GEOMETRIC DETAILS: MAJOR W W cr q a-b q a-c GEOMETRIC FACTORS : D	ROAD (ARN = = = =	1 A) 7.3 (metres) 0 (metres) 70 (pcu/hr) 660 (pcu/hr) 0.948063	MAJOR R W c-b Vr c-b q c-a q c-b	OAD (ARM C) = = = =	3.6 (metres) 100 (metres) 475 (pcu/hr) 10 (pcu/hr)		MINOR ROAD W b-a W b-c VI b-a Vr b-a Vr b-c q b-a q b-c	(ARM B) = = = = = = =	3.6 (metres) 3.6 (metres) 100 (metres) 100 (metres) 100 (metres) 65 (pcu/hr) 10 (pcu/hr)		
E F Y	= = =	0.948063 0.977385 0.977385 0.748150			,						
THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac	: = = =	336 545 534 354					CRITICAL I	DFC =	= 0.21		
COMPARISION OF DESIGN FLC DFC b-a DFC b-c DFC c-b DFC b-ac	= = =	ACITY : 0.19 0.02 0.02 0.21									



Junction J6 - Tu	ung Chung Road /	Shek Mu	n Kap Road	2033 PM Reference T	raffic Flows (Conforming Schem	e) Designed By	Checked By ·	Job No. :	Date	: No
Junction J6 - Tu Tung Chung Roa (ARM C)	ad 270 115	Shek Mui	n Kap Road	2033 PM Reference T	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ARM A) ung Road	NOTES : (GI W = W cr = W b-a = W b-c = W c-b = V c-b = Vr b-a = Vr b-a = Vr c-b = D =	EOMETRIC INPUT DATA) Major Road Width (6.4 - 20.1 Central Reserve width (1.2 - Lane width available to vehi Lane width available to vehi Visibility to the left for vehicle Visibility to the right for vehicle Visibility to the right for vehicle Visibility to the right for vehicle Stream-specific B-A Stream-specific B-C)) 9.0, kerbed central res cle waiting in stream b- cle waiting in stream b- cle waiting in stream b- s waiting in stream b- les waiting in stream b	serve only) a (2.05 - 4.07) c (2.05 - 4.07) b (2.05 - 4.07) a (22.0 - 250.0) -a (17.0 - 250.0) -c (17.0 - 250.0)	J6
GEOMETRIC D	ETAILS: MAJOR RC W W cr q a-b q a-c	DAD (ARM = = = =	7.3 (metres) 0 (metres) 5 (pcu/hr) 290 (pcu/hr)	L30	DAD (ARM C) = = = =	3.6 (metres) 200 (metres) 270 (pcu/hr) 115 (pcu/hr)		Stream-specific C-B (1-0.0345W) <i>MINOR ROAD (A</i> W b-a = W b-c = VI b-a = Vr b-a = Vr b-c =	3.6 (met 3.6 (met 200 (met 200 (met	tres) tres)	
GEOMETRIC FA	ACTORS : D E F Y	= = =	1.098970 1.066962 1.066962 0.748150					q b-a = q b-c =	- 0		
THE CAPACITY	OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = =	502 710 709 650					CRITICAL DF	C = 0.10	6	
COMPARISION	OF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b	TO CAP/ = = = =	ACITY : 0.02 0.05 0.16 0.07								

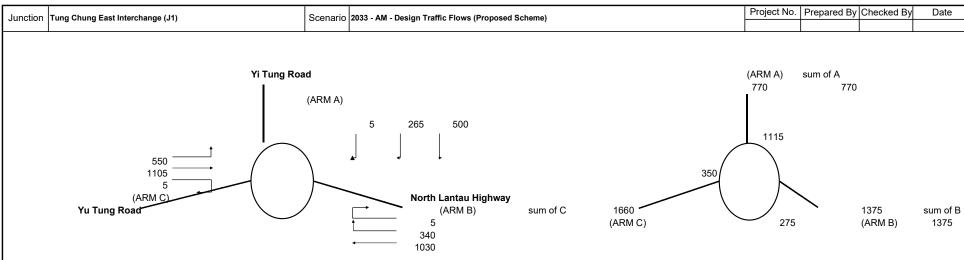
	oad L29 / Road L30	`		2022 DA	Doforonco Tr	offic Flow	c (Conforming S	cheme) Designed	By: Cho	cked By :	Job N		Date :	Ne
ouncion or - no		,		2033 F N	I Relefence TI			cheme) Designed	Che	ckeu by .	1001		Date .	
Road L29 (ARM C)	165 ————————————————————————————————————	_ _					Ĩ,	NOTES : W W cr W b-a W b-c	= Lane width av	idth (6.4 - 20 ve width (1.2 ailable to veh).0) - 9.0, kerbec iicle waiting ii	l central reserve o n stream b-a (2.09 n stream b-c (2.09	only) 5 - 4.07)	J7
			<u>)</u> – ⊢		130 130		(ARM A) Road L29	W b-c W c-b VI b-a Vr b-a Vr b-c Vr c-b	= Lane width av = Visibility to the = Visibility to the = Visibilitu to the	ailable to veh left for vehic right for vehi right for veh	icle waiting in les waiting in icles waiting i icles waiting	n stream b-c (2.00 n stream c-b (2.00 stream b-a (22.0 in stream b-a (17. in stream b-c (17. in stream c-b (17.	5 - 4.07) - 250.0) 0 - 250.0) 0 - 250.0)	
								D	= Stream-specif	c B-A				
								E	= Stream-specif					
			5 155	I				F	= Stream-specif	c C-B				
				(ARM B)				Y	= (1-0.0345W)					
				Road L30										
	W cr	=	1.5 (metres) 130 (pcu/hr)		Vr c-b	=	100 (me 165 (pc	,	W		=	2.3 (metres) 100 (metres)		
GEOMETRIC FA	D E F	= = =	130 (pcu/hr) 0.831663 0.857384 0.857384		q c-a q c-b	=	5 (pc		VI t Vr 1 Vr 1 q t q t	р-а р-с -а	= = =	100 (metres) 100 (metres) 155 (pcu/hr) 5 (pcu/hr)		
GEOMETRIC FA	q a-c ACTORS : D E	= = =	130 (pcu/hr) 0.831663 0.857384		-				Vr I Vr I q t	р-а р-с -а	= = =	100 (metres) 100 (metres) 155 (pcu/hr)		
	q a-c ACTORS : D E F Y OF MOVEMENT :	= = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350		-				Vr I Vr I q t	р-а р-с -а	= = =	100 (metres) 100 (metres) 155 (pcu/hr)		
	q a-c ACTORS : D E F Y OF MOVEMENT : Q b-a	= = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486		-				Vr I Vr I q t	р-а р-с -а	= = =	100 (metres) 100 (metres) 155 (pcu/hr)		
	q a-c ACTORS : D E F Y OF MOVEMENT : Q b-a Q b-c	= = = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486 605		-				Vr Vr q t	0-a 0-C -a −C	=	100 (metres) 100 (metres) 155 (pcu/hr) 5 (pcu/hr)		
	q a-c ACTORS : D E F Y OF MOVEMENT : Q b-a	= = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486		-				Vr Vr q t	р-а р-с -а	=	100 (metres) 100 (metres) 155 (pcu/hr)		
THE CAPACITY	q a-c D E F Y OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = = = = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486 605 590 489		-				Vr Vr q t	0-a 0-C -a −C	=	100 (metres) 100 (metres) 155 (pcu/hr) 5 (pcu/hr)		
THE CAPACITY	q a-c D E F Y OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac OF DESIGN FLOW	= = = = = = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486 605 590 489 ACITY :		-				Vr Vr q t	0-a 0-C -a −C	=	100 (metres) 100 (metres) 155 (pcu/hr) 5 (pcu/hr)		
THE CAPACITY	q a-c D E F Y OF MOVEMENT : Q b-a Q c-b Q c-b Q b-ac OF DESIGN FLOW DFC b-a	= = = = = = = = = = = = = = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486 605 590 489 ACITY : 0.32		-				Vr Vr q t	0-a 0-C -a −C	=	100 (metres) 100 (metres) 155 (pcu/hr) 5 (pcu/hr)		
THE CAPACITY	q a-c D E F Y OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac OF DESIGN FLOW	= = = = = = = =	130 (pcu/hr) 0.831663 0.857384 0.857384 0.596350 486 605 590 489 ACITY :		-				Vr Vr q t	0-a 0-C -a −C	=	100 (metres) 100 (metres) 155 (pcu/hr) 5 (pcu/hr)		

lunction 19 Tune Chung Dood	Deed 1 20		2033 PM Reference Tr	offic Flower (C	onforming Cohon		By : Checked By :	Job No. :	Data	
Junction J8 - Tung Chung Road	Road L30		2033 PM Reference Tr	aπic Flows (C	onforming Schen	ne) Designed i	Ву: Спескеа Ву:	JOD NO. :	Date :	. r
Tung Chung Road (ARM C) 380 165)	305 20 M B)		RM A) Ing Road	NOTES : (W W cr W b-a W c-b VI b-a Vr b-a Vr b-a Vr b-c Vr c-b D E F Y	GEOMETRIC INPUT DATA) = Major Road Width (6.4 - 20 = Central Reserve width (1.2 = Lane width available to vel = Lane width available to vel = Lane width available to vel = Visibility to the left for vehic = Visibility to the right for vehic = Visibility to the right for vehic = Visibility to the right for vehic = Stream-specific B-A = Stream-specific B-C = Stream-specific C-B = (1-0.0345W)	0.0) 2 - 9.0, kerbed central res hicle waiting in stream b-a hicle waiting in stream b-d hicle waiting in stream c-t cles waiting in stream b-a hicles waiting in stream b- hicles waiting in stream b-	erve only) a (2.05 - 4.07) c (2.05 - 4.07) o (2.05 - 4.07) (22.0 - 250.0) a (17.0 - 250.0) c (17.0 - 250.0)	J8
GEOMETRIC DETAILS: MAJOR R W W cr q a-b q a-c GEOMETRIC FACTORS : D E F	OAD (ARM = = = = = = =	A) 7.3 (metres) 0 (metres) 20 (pcu/hr) 305 (pcu/hr) 1.098970 1.066962 1.066962	MAJOR RC W c-b Vr c-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 200 (metres) 380 (pcu/hr) 165 (pcu/hr)		Vr b-c	ARM B) = 3.6 (metr = 200 (metr = 200 (metr = 200 (metr = 5 (pcu/ = 105 (pcu/	res) res) res) res) hr)	
Y THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac COMPARISION OF DESIGN FLO	= = = = •	0.748150 453 704 700 687					CRITICAL D	FC = 0.24	ŀ	
DFC b-a DFC b-c DFC c-b DFC c-ac	= = =	0.01 0.15 0.24 0.16								

lum attant 10 D				0000 DM D	- (Flaura (Camfarmi		and Dece			6 N.L	Dete
Junction J9 - Ro	oad L29 / Road L28)		2033 PM R	eference Traffic	Flows (Conformin	ng Scheme) Desig	ned By :	Checked By :	Jol	b No. :	Date :
Road L29 (ARM C)	35 ——— 95 ———				35 70	(ARM A)	NOTE W W c W b W c V b V c	-a = Central R -a = Lane widt -c = Lane widt -b = Lane widt -a = Visibility to	ad Width (6.4 - : eserve width (1 h available to v h available to v h available to v o the left for veh	.20.0) .2 - 9.0, kerk ehicle waitin ehicle waitin ehicle waitin nicles waiting	bed central reserve o g in stream b-a (2.05 g in stream b-c (2.05 g in stream c-b (2.05 g in stream b-a (22.0 ng in stream b-a (17.0	- 4.07) - 4.07) - 4.07) - 250.0)
				(ARM B)		Road L29		-c = Visibilitu t -b = Visibilitu t = Stream-s = Stream-s = Stream-s	o the right for ve o the right for ve pecific B-A pecific B-C pecific C-B	ehicles waitir	ng in stream b-c (17. ng in stream c-b (17.0) - 250.0)
GEOMETRIC DE GEOMETRIC FA	MAJOR RC W W cr q a-b q a-c	AD (ARM = = = =	10.3 (metres) 1.5 (metres) 70 (pcu/hr) 35 (pcu/hr)		Vr c-b q c-a	= 2.1 = 100 = 35	(metres) (metres) (pcu/hr) (pcu/hr)		MINOR ROAD W b-a W b-c VI b-a Vr b-a Vr b-c q b-a q b-c	(ARM B) = = = = = = = =	2.3 (metres) 2.3 (metres) 100 (metres) 100 (metres) 100 (metres) 5 (pcu/hr) 135 (pcu/hr)	
	D E F Y	= = =	0.831663 0.857384 0.838923 0.644650									
THE CAPACITY	OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = =	496 626 604 620						CRITICAL I	DFC	= 0.23	
COMPARISION	OF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b	TO CAPA = = = =	CITY : 0.01 0.22 0.16 0.23									

Junction J10 - Road L28	/ Road L29 / Shek	k Mun Kap Road	2033 PM Reference T	raffic Flows (Conformi	ing Scheme) Designed	By : Checked By :	Job No. :	Date : N
Shek Mun Kap Road (ARM C) 15 - 95 -	Road L29 / Shek	k Mun Kap Road	2033 PM Reference 1		NOTES : W W cr W b-a W b-c W c-b VI b-a Vr b-a	(GEOMETRIC INPUT DATA) = Major Road Width (6.4 - 20 = Central Reserve width (1.2 = Lane width available to vef = Lane width available to vef = Lane width available to vef = Visibility to the left for vehic = Visibility to the right for veh = Visibility to the right for veh = Visibility to the right for veh	0.0) - 9.0, kerbed central reserve nicle waiting in stream b-a (2. nicle waiting in stream b-c (2. nicle waiting in stream c-b (2. les waiting in stream b-a (22 icles waiting in stream b-a (1 icles waiting in stream b-c (1	J10 e only) 05 - 4.07) 05 - 4.07) 05 - 4.07) 05 - 4.07) .0 - 250.0) 7.0 - 250.0) 7.0 - 250.0)
			(ARM B) Road L29		D E F Y	= Stream-specific B-A = Stream-specific B-C = Stream-specific C-B = (1-0.0345W)		
GEOMETRIC DETAILS:				/				
	AJOR ROAD (ARI			OAD (ARM C)		MINOR ROAD ()		
W		7.3 (metres)	W c-b		3 (metres)		= 2.7 (metres)	
	cr =	0 (metres)	Vr c-b		0 (metres)		= 2.7 (metres)	
	a-b =	10 (pcu/hr)	q c-a		5 (pcu/hr)		= 100 (metres)	
q	a-c =	20 (pcu/hr)	q c-b	= 95	5 (pcu/hr)		= 100 (metres)	
							= 100 (metres)	
GEOMETRIC FACTORS :						I	= 5 (pcu/hr) = 35 (pcu/hr)	
) =	0.967479				q b-c	- 35 (pcu/m)	
	5 = E =	0.867478 0.894307						
ſ		0.857384						
l N		0.748150						
		0.110100						
THE CAPACITY OF MOVI		50.4						
	b-a =	504						
	b-c =	660						
	c-b =	632				CRITICAL D	FC = 0.15	
Q	b-ac =	636						
COMPARISION OF DESIG								
	Cb-a =	0.01						
DF	Cb-c =	0.05						
	=Cc-b =	0.15						
	Cb-ac =	0.06						

			ing Mun R			CALO	906	2/A1 U U		2033 PM Re	eference Traffi	c Flows (Confo	rmina Sche	eme)				DESIGN:		CHECK:		JOB N	0:	DATE	AECO
				00071100	u L20					2000 1 10110		00110	inning ound	anoj				DECICIN.		UNEOK.		000 1	0.	BAR	
	Traffic (pcu/hr	Flow Di	agram							Road L29									No. of stages	s per cycle		N =	5		(J
									1																
										0	10	25							Cycle time			C =	120	sec	
								0 _											Sum(y)			Y =	0.220		
								30 - 0				L							Lost time Total Flow			L = =	50 9,965	sec pcu	
							•		, ,	*	•	*			Chung	Mun Road									
								Ī		↓	30 40								Optimum Cy	cle C _o	= (1.5×L+	5)/(1-Y) =	103	sec	
										•	230								Min. Cycle Ti	me C _m	= L/(1-Y)	=	64	sec	
							0	10	250										Y _{ult} R.C. _{ult}		= 0.9-0.007 = (Y _{ult} -Y)/Y		0.525 138.9	%	
									'										Practical Cyc	le Time C _p	= 0.9×L/(0	.9-Y) =	66	sec	
										Road L29									Y _{max}		= 1-L/C	=	0.583		
	Stage/F	Phase D	liagrams																						_
																<>	•		Critical	Case :	A,B,C,I	D,Ep			
			*	∕ ↓ `► A		•									^ 	Ep	^ 		R.C.(C)	= (0	9xY	-Y)/Yx100	% =	139%	٦
				^		→ B				C			-	<u> </u>	Ep		Ep		11.0.(0)	(0	ion i max	.,	/0	100 /0	
						*								$\overline{}$	l '	<> Ep	. '								
																P									
		S	Stage 1			Stag	e 2			Stage 3	5	S	Stage 4			Stage 5									
		C	G = 5	I/G =	5	G = 5	5	I/G =	5		I/G =	5		I/G =	5	G = 20	I/G =	2							
ENT	ш	ш	LANE			DIUS	₽ 2 2	Ш.,	UPHILL	GRADIEN	ADDITIONA	STRAIGHT-	F	LOW (pcu/i	hr)	TOTAL	PROPOR	TION OF	REVISED	FLOW					
MOVEMENT	PHASE	STAGE	WIDTH (m)	NO. OF LANES	(1	m)	OPPOSING TRAFFIC	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	L CAPACITY	AHEAD SAT. FLOW	LEFT	STRAIGH	RIGHT	FLOW (pcu/hr)	(9		SAT. FLOW (pcu/hr)	FACTOR	CRITICAL y				
ž	_		()		LEFT	RIGHT	9 L	Z	. ()	()	(pcu/hr)	(pcu/hr)		T AHEAD		()	LEFT	RIGHT	()						
♠	Α	1	3.500	1	30	25	0	1		0		1965	25	10	0	35	71%	0%	1897	0.018					
'		·	0.000			20		·		Ū		1000	20					0.0	1007	0.010					
♠	в	2	3.500	1	30	25	0	1		0		1965	0	30	0	30	0%	0%	1965	0.015					
♠	С	3	3.500	1	30	25	0	1		0		1965	0	10	250	260	0%	96%	1858	0.140	0.140				
•	D	4	3.500	1	15			1		0		1965	143			143	100%		1786	0.080	0.080				
♠	D	4	3.500	1	15	25	0	0		0		2105	87	40	30	157	56%	19%	1973	0.080					
י edeי ו		Crossir		GM		FGM																			
	Ep	5	min.	15	+	5	=	20	sec																
			1	I	1	1	1	1	1		1			1	1		1								



ARM	Α	В	С
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	770	1375	1660
Qc= Circulating flow across entry (pcu/h)	1115	275	350
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2 = V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2253	2579	2713
DFC = Design flow/Capacity = Q/Qe	0.34	0.53	0.61

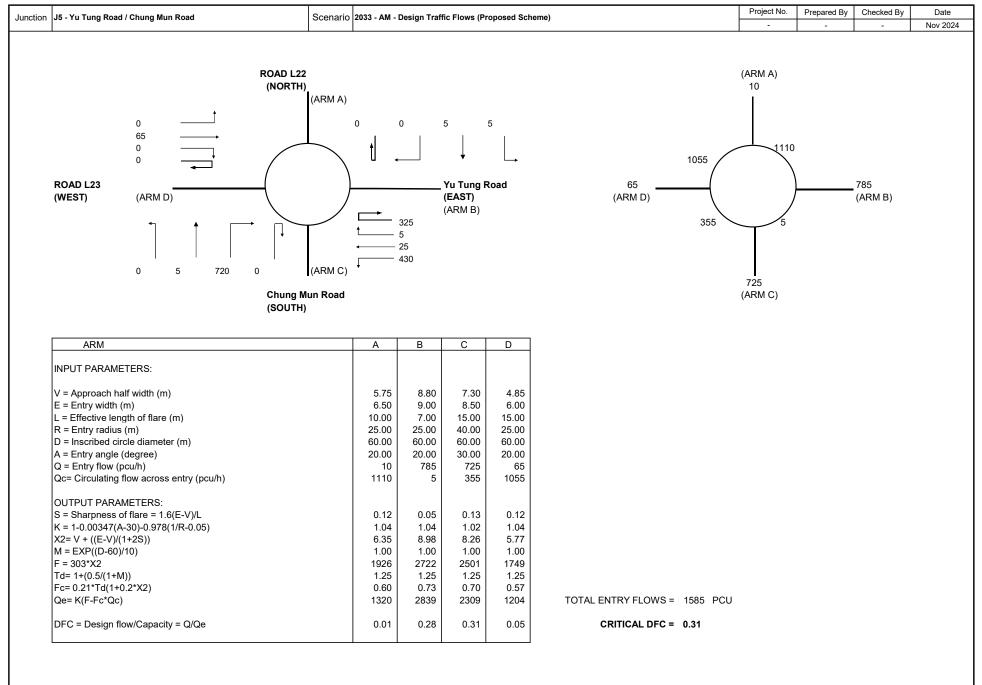
CRITICAL DFC =	0.61	
TOTAL ENTRY FLOWS =	3805	PCU

UNCTI ction J2 - Yu								2033 AM De	sign Traffic Fl	lows (Proposed	Scheme) ((With CEDD	Improveme	nts)		DESIGN:		CHECK	:	JOB NO:	DAT	A TE: No
Traffic Flow (pcu/hr)	Diagram						Shun T	ung Road							<u> </u>		No. of stages Cycle time	s per cycle		N = 3 C = 120	sec	
						985 1145	و 	725	515								Sum(y) Lost time Total Flow			Y = 0.672 L = 12 = 18,78	sec	
	Y	'u Tung R	oad					•	455 835			Yı	ı Tung Ro	ad			Optimum Cy Min. Cycle T Y _{ult} R.C. _{ult} Practical Cyc Y _{max}	ime C _m	$= (1.5 \times L+5)$ = L/(1-Y) = 0.9-0.007 = (Y _{ult} -Y)/Y ₂ = 0.9 × L/(0) = 1-L/C	= 37 5×L = 0.810 x100% = 20.5	% sec	
Stage/Phase	e Diagrams				1												Critical	C 26 2 1	AEC			
в А		◄	в •		► D E & _ F	_	В	• _ (° ▶ D								R.C.(C)			-Y)/Yx100% =	20%	
	Stage 1	F		Stag	- - 2			Stage 3								I.						
	Staye I	I/G :	= 5	Stay	ez	I/G =	5	Slaye S	I/G =	5												
	LANE			DIUS	[©] ⊻ ⊇	Ш.,	UPHILL	GRADIEN	ADDITIONA	STRAIGHT-	F	ELOW (pcu/r	r)	TOTAL	PROPOR	TION OF	REVISED	FLOW				
PHASE	WIDTH (m)	NO. OF LANES	LEFT	m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	L CAPACITY (pcu/hr)	AHEAD SAT. FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	FLOW (pcu/hr)	(%		SAT. FLOW (pcu/hr)	FACTOR	CRITICAL y			
Tung Road N	IB 4.000 4.000	1 2	50		0	1 0		0 0		2015 4310	985	1145		985 1145	100%		1956 4310	0.503 0.266	0.266			
n Tung Road D 2,3 C 3	3 3.700 3.700	1 2	25	30	0	1 0		0 0		1985 4250	515		725	515 725	100%	100%	1873 4048	0.275 0.179	0.179			
Fung Road S F 1,2 E 2	2 3.650	2 1		25	0	1 0		0 0		4100 2120		835	455	835 455		100%	4100 2000	0.204 0.228	0.228			

				An Road					2033 AM De	esign Traffic F	lows (Proposed	Scheme)	(With CEDD	Improveme	nts)		DESIGN:		CHECK:		JOB NO	:	DATE	AEC Nov
Traffic I (pcu/hr	Flow Dia	gram						Ch	ung Yan R	oad					D	ŕ		No. of stages Cycle time	s per cycle		N = C =	4	sec] (
							165 860 100		100	85	580							Sum(y) Lost time Total Flow			Y = L =	0.762 19	sec pcu	
		Yu	ı Tung Ro	oad ——		30	90	690	•	395 655 510		Yu Tung	Road					Optimum Cyr Min. Cycle Ti Y _{ult} R.C. _{ult}		= $(1.5 \times L + 6)$ = $L/(1-Y)$ = 0.9-0.007 = $(Y_{ult}-Y)/Y_{2}$	= ′5×L =	141 80 0.758 -0.6	sec sec %	
								Ch	ung Yan R	oad								Practical Cyc Y _{max}	cle Time C _p		.9-Y) =		sec	
Stage/F	Phase Di	agrams																						-
		l	► A				→ A	•										Critical R.C.(C)			-Y)/Yx100%	6 =	-1%	٦
		в -				-			E		◄		F f					1	(0	ier inax	-,,,		170	J
	S	F tage 1	,		Stag	e 2			Stage 3	;		Stage 4					1							
			I/G =				I/G =	5		I/G =	5		I/G =	12										
PHASE	STAGE	LANE WIDTH	NO. OF LANES		DIUS m)	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIEN	GRADIEN T EFFECT	ADDITIONA L CAPACITY	STRAIGHT- AHEAD SAT. FLOW		ELOW (pcu/i		TOTAL FLOW	PROPOR TURNING (%	VEHICLES	REVISED SAT. FLOW	FLOW FACTOR					
fung Ro		(m)	2.1120	LEFT	RIGHT	AP N	NEA	T (%)	(pcu/hr)	(pcu/hr)	(pcu/hr)	LEFT	T AHEAD	RIGHT	(pcu/hr)	LEFT	RIGHT	(pcu/hr)	У	,				
F B B	1,4 1 1	3.500 3.500 3.500	1 1 1	20	28	0	1 0		0 0 0		1965 2105 2105	510	536 119	395	510 536 514	100%	77%	1828 2105 2022	0.279 0.254 0.254					
ng Yan D D	4 4	/B 3.500 3.500	1 1	25	25 25	0 0	1 0		0 0		1965 2105	30	90	274 416	394 416	8%	70% 100%	1878 1986	0.210 0.210	0.210				
iung Ro E E E E Ng Yan	3 3 3	3.500 3.500 3.500	1 1 1	15	25	0	1 0		0 0 0		1965 2105 2105	165	483 377	100	165 483 477	100%	21%	1786 2105 2079	0.092 0.229 0.229	0.229				
A C C	1,2 2 2	3.500 3.500 3.500	1 1 1	16	18 25	0	1 0		0 0 0		1965 2105 2105	580	85	10 90	580 95 90	100%	10% 100%	1797 2087 1986	0.323 0.045 0.045	0.323				

									2033 AM De	sign Traffic F	lows (Proposed	Scheme) (With Additio	onal Improve	ments)		DESIGN:		CHECK:		JOB NO:	DAT	AEC E: Nov
	Flow Dia	-			•										,							•	-
(pcu/h		gram						Ch	ung Yan Ro	oad						,		No. of stages	per cycle		N = 4		
															D			Cycle time			C = 120	sec	
							165	٠	100	85 I	580							Sum(u)			Y = 0.651		
							860											Sum(y) Lost time			L = 16	sec	
		Yı	ı Tung Ro	oad ——			100	•	٦	ł	<u> </u>	Yu Tung	Road					Total Flow			= 24,700) pcu	
							t		<u> </u>	395								0.1		- (1 5) 1 1	E)/(1)/) - 00		
										655 510								Optimum Cy Min. Cycle Ti		= (1.5×L+ = L/(1-Y)	5)/(1-Y) = 83 = 46	sec sec	
						30	90	690	•									Y _{ult} R.C. _{ult}		= 0.9-0.007 $= (Y_{ult}-Y)/Y$		%	
																		Practical Cyc	le Time C _p	= 0.9×L/(0).9-Y) = 58	sec	
								Ch	ung Yan Ro	oad								Y _{max}		= 1-L/C	= 0.867		
Stage/	Phase D	agrams																					
						111												Critical	Case :	BCF	ח		
		l	► A				A 4																_
						с		⇒	E		D							R.C.(C)	= (0	.9xY _{max}	-Y)/Yx100% =	20%	
		в	•					•			ste												
		F										F	=										
	S	tage 1			Stage	e 2			Stage 3		9,	Stage 4											
			I/G =	5			I/G =	5		I/G =	5		I/G =	5									
												F	LOW (pcu/t	ar)		PROPOR							
PHASE	STAGE	LANE WIDTH	NO. OF		DIUS m)	DSING	NEAR SIDE LANE	UPHILL GRADIEN	GRADIEN T EFFECT		STRAIGHT- AHEAD SAT.			,	TOTAL FLOW	TURNING (%	/EHICLES	REVISED SAT. FLOW	FLOW FACTOR	CRITICAL			
E	ST	(m)	LANES	LEFT	RIGHT	OPP TR/	NEAL	T (%)	(pcu/hr)	CAPACITY (pcu/hr)	FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	(pcu/hr)	LEFT	RIGHT	(pcu/hr)	У	У			
ung Ro																							
FB	1,4 1	3.500 3.500	1 1	20			1		0 0		1965 2105	510	358		510 358	100%		1828 2105	0.279 0.170	0.170			
B B	1	3.500 3.500	1 1		28 25	0	0		0 0		2105 2105		297	57 338	355 338		16% 100%	2087 1986	0.170 0.170				
ng Yan	Road V						0								330				0.170				
D	4	3.500 3.500	1 1	25	25 25	0	1 0		0 0		1965 2105	30	90	274 416	394 416	8%	70% 100%	1878 1986	0.210 0.210	0.210			
UNG RO	ad NB	3.500	1	15			1		0		1965	165	184		349	47%		1876	0.186				
E	3 3	3.500 3.500	1 1		25	0	0		0 0		2105 2105		391 285	100	391 385		26%	2105 2073	0.186 0.186	0.186			
ng Yan	Road E	В			25								205	100			2070			0.100			
A C	1,2 2	3.500 3.500	1 1	16 18			1		0 0		1965 2105	422 158	15		422 173	100% 51%		1797 2019	0.235 0.086	0.086			
с	2	3.500	1		25	0	0		0		2105		70	100	170		100%	1986	0.086				
1																							
														1									

		I				1				
Junction J4 - Tung Chung Road /	Chung Ya	in Road	2033 AM Design Traff	ic Flows (Propo	sed Scheme)	Designed By :	Checked By :	Job No. :	Date :	: Nov
Tung Chung Road (ARM C) 650 20		•	550 110 RM B) Yan Road		MA) g Road	W = M $W cr = Ce$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = La$ $V c-b = Vi$ $V r b-a = Vi$ $V r b-c = Vi$ $V r c-b = Vi$ $D = St$ $E = St$ $F = St$	METRIC INPUT DATA) ajor Road Width (6.4 - 20. entral Reserve width (1.2 - une width available to vehi une width available to vehi sibility to the left for vehicle sibility to the right for vehic sibility to the right for vehic ream-specific B-A ream-specific B-C ream-specific C-B -0.0345W)	9.0, kerbed central reser cle waiting in stream b-a (cle waiting in stream b-c (cle waiting in stream c-b (es waiting in stream b-a (cles waiting in stream b-a cles waiting in stream b-a	2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 22.0 - 250.0) (17.0 - 250.0) (17.0 - 250.0)	J4
GEOMETRIC DETAILS: MAJOR RO W W cr q a-b q a-c GEOMETRIC FACTORS :	DAD (ARM = = = =	A) 7.3 (metres) 0 (metres) 110 (pcu/hr) 550 (pcu/hr)	MAJOR R0 W c-b Vr c-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 100 (metres) 650 (pcu/hr) 20 (pcu/hr)		W b-c = VIb-a = Vrb-a = Vrb-c = q b-a =	= 3.6 (metre: = 3.6 (metre: = 100 (metre: = 100 (metre: = 100 (metre: = 150 (pcu/hr	s) s) s) s)	
GEOMETRIC FACTORS : D E F Y	= = =	0.948063 0.977385 0.977385 0.748150					q b-c =	= 20 (pcu/hr)	
THE CAPACITY OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = =	328 570 552 345					CRITICAL DF	C = 0.49		
COMPARISION OF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC b-ac	7 TO CAPA = = = = =	CITY : 0.46 0.04 0.04 0.49								



Junction J6 - Tung Chung Road /	Shek Mu	n Kap Road	2033 AM Design Traff	ic Flows (Prop	osed Scheme)	Designed By :	Checked By :	Job No. :	Date	: Nov
Tung Chung Road (ARM C) 265 100			360 5 7 8 M B) d L30		RM A) ng Road	W = Ma $W cr = Ce$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = Vis$ $Vr b-a = Vis$ $Vr b-c = Vis$ $Vr c-b = Vis$ $D = Str$ $E = Str$ $F = Str$	ne width available to vehi ne width available to vehi ne width available to vehi sibility to the left for vehicl sibility to the right for vehic sibilitu to the right for vehic	0) • 9.0, kerbed central resen cle waiting in stream b-a (2 cle waiting in stream b-c (2 cle waiting in stream b-a (2 cles waiting in stream b-a (2 cles waiting in stream b-c (2 cles waiting in stream c-b (2 cles waiting cles	2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.0 - 250.0) (17.0 - 250.0) (17.0 - 250.0)	J6
GEOMETRIC DETAILS: MAJOR RO W W cr q a-b q a-c GEOMETRIC FACTORS :	= = =	7.3 (metres) 0 (metres) 5 (pcu/hr) 360 (pcu/hr)	MAJOR R0 W c-b Vrc-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 200 (metres) 265 (pcu/hr) 100 (pcu/hr)		Wb-c = VIb-a = Vrb-a = Vrb-c = qb-a =	RM B) = 3.6 (metres = 3.6 (metres = 200 (metres = 200 (metres = 200 (metres = 5 (pcu/hr) = 50 (pcu/hr)) ;) ;) ;)	
D E F Y	= = =	1.098970 1.066962 1.066962 0.748150			,					
THE CAPACITY OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = = =	488 690 689 665					CRITICAL DF	°C = 0.15		
COMPARISION OF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b DFC b-ac	7 TO CAP = = = = =	ACITY : 0.01 0.07 0.15 0.08								

Junction J7 - Road L2	29 / Road I 30			2033 AM D	esign Traffic Fl	ows (Propo	sed Scheme)	Designed	By · C	hecked By :	loh	No. :	Date :	No
Sunction 37 - Road E	Lo / Road Lou			2000 AW D				Designed	by. C	necked by .	300	110	Date .	
Road L29 (ARM C) 280 5		→	5 140	(ARM B)	90 155		MA) ad L29	NOTES : W W cr W b-a W b-c W c-b VI b-a Vr b-a Vr b-c Vr c-b D E F Y	= Central Res = Lane width a = Lane width a = Lane width a = Visibility to tl = Visibility to tl = Visibility to tl	Width (6.4 - 20 erve width (1.2 available to veh available to veh available to veh he left for vehic he right for vehi he right for vehi cific B-A cific B-C cific C-B	.0) - 9.0, kerbe iicle waiting iicle waiting iicle waiting i iicles waiting iicles waiting	ed central reserve o in stream b-a (2.05 in stream b-c (2.05 in stream c-b (2.05 n stream b-a (22.0 j in stream b-a (17.0 j in stream b-c (17.0 j in stream c-b (17.0	nly) - 4.07) - 4.07) - 4.07) - 250.0) 0 - 250.0) 0 - 250.0)	J7
GEOMETRIC DETAIL	MAJOR ROAL W W cr q a-b q a-c RS : D E	= = = =	11.7 (metres) 1.5 (metres) 155 (pcu/hr) 90 (pcu/hr) 0.831663 0.857384		MAJOR ROAD W c-b Vr c-b q c-a q c-b	(ARM C) = = =	2.3 (metres 100 (metres 280 (pcu/hr 5 (pcu/hr	s)	V V V V q	V b-c /Ib-a /rb-a /rb-c b-a	ARM B) = = = = = =	2.3 (metres) 2.3 (metres) 100 (metres) 100 (metres) 100 (metres) 140 (pcu/hr) 5 (pcu/hr)		
THE CAPACITY OF M	Q b-a Q b-c Q c-b Q b-ac								с	RITICAL DF	=C	= 0.30		
	DFC b-a DFC b-c DFC c-b DFC b-ac	= = =	0.29 0.01 0.01 0.30											

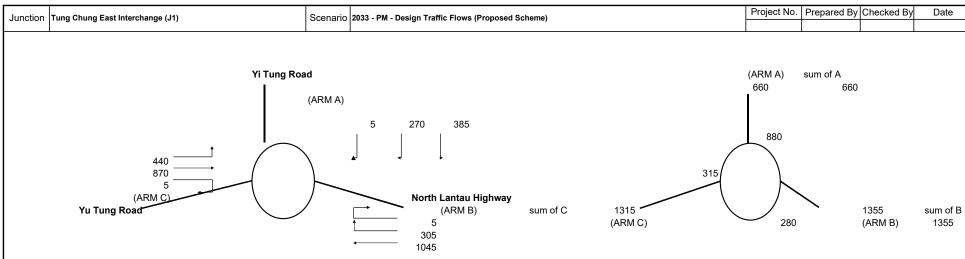
Junction J8 - Tung Chung Road	Road L30)	2033 AM Design Traff	ic Flows (Propose	d Scheme)	Designed By :	Checked By :	Job No. :	Date	: Nov 2
Tung Chung Road (ARM C) 345 100		-	400 10 ARM B) ad L30				ne width available to vehi ne width available to vehi ne width available to vehi sibility to the left for vehick sibility to the right for vehick sibilitu to the right for vehick	0) 9.0, kerbed central reser cle waiting in stream b-a (cle waiting in stream b-c (cle waiting in stream b-a (2 waiting in stream b-a (2 cles waiting in stream b-a cles waiting in stream b-c cles waiting in stream c-b	2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 22.0 - 250.0) (17.0 - 250.0) (17.0 - 250.0)	ß
GEOMETRIC DETAILS: MAJOR R W W or q a-b q a-c GEOMETRIC FACTORS : D E	= = = =	7.3 (metres) 0 (metres) 10 (pcu/hr) 400 (pcu/hr) 1.098970 1.066962	MAJOR R W c-b Vr c-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 200 (metres) 345 (pcu/hr) 100 (pcu/hr)		W b-c = VI b-a =	= 3.6 (metres = 3.6 (metres = 200 (metres = 200 (metres = 200 (metres = 200 (pcu/hr	s) s) s) s)	
F Y THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac	= = = = =	1.066962 0.748150 460 678 676 646					CRITICAL DF	C = 0.30		
COMPARISION OF DESIGN FLOV DFC b-a DFC b-c DFC c-b DFC c-b DFC b-ac	V TO CAP/ = = = =	ACITY : 0.04 0.26 0.15 0.30								

Junction J9 - Ro	ad L29 / Road L2	5		2033 AM Design Traf	fic Flows (P	roposed Scheme)	Designed By :	Checked By :	Job No. :	Date	: No
				2000 All Design Han			Designed by .	Checked by .		Date	
Road L29 (ARM C)	25		-	50 70 70 NRM B) ad L25		(ARM A) Road L29	W = W cr = W b-a = W c-b = V c-b = V c-b = V r b-a = V r b-a = V r c-b = D = E = F =	EOMETRIC INPUT DATA) Major Road Width (6.4 - 20 Central Reserve width (1.2 Lane width available to veh Lane width available to veh Lane width available to veh Visibility to the left for vehicl Visibility to the right for vehi Visibility to the right for vehi Stream-specific B-A Stream-specific B-C Stream-specific C-B (1-0.0345W)	.0) - 9.0, kerbed central rese icle waiting in stream b-a icle waiting in stream b-c icle waiting in stream c-b les waiting in stream b-a cles waiting in stream b-a icles waiting in stream b-6	(2.05 - 4.07) (2.05 - 4.07) (2.05 - 4.07) (22.0 - 250.0) a (17.0 - 250.0) c (17.0 - 250.0)	et
GEOMETRIC DE											
GEOMETRIC DE	MAJOR RC	DAD (ARM	(A)	MAJOR R	OAD (ARM (C)		MINOR ROAD (A	RM B)		
	W	=	10.3 (metres)	W c-b	=	2.1 (metre:	s)		= 2.3 (metro	es)	
	W cr	=	1.5 (metres)	Vr c-b	=	100 (metre	,	W b-c	= 2.3 (metro	,	
	q a-b	=	70 (pcu/hr)	q c-a	=	25 (pcu/hr)	VI b-a	= 100 (metro	es)	
	q a-c	=	50 (pcu/hr)	q c-b	=	65 (pcu/hr		Vr b-a	= 100 (metro		
								Vr b-c	= 100 (metre	es)	
								q b-a	= 5 (pcu/ł	nr)	
GEOMETRIC FA	CTORS :							q b-c	= 235 (pcu/ł	nr)	
	D	=	0.831663								
	E	=	0.857384								
	F	=	0.838923								
	Y	=	0.644650								
THE CAPACITY	OF MOVEMENT :										
	Q b-a	=	503								
	Q b-c	=	623								
	Q c-b	=	601					CRITICAL DF	C = 0.39		
	Q b-ac	=	620								
COMPARISION	OF DESIGN FLOW										
	DFC b-a	=	0.01								
	DFC b-c	=	0.38								
	DFC c-b	=	0.11								

Junction J10 - Ro	ad L28 / Road L	29 / Shek	Mun Kap Road	2033 AM Design Traf	fic Flows (Proposed Scheme)	Designed By :	Checked By :	Job No. :	Date	: No
Shek Mun Kap Roz (ARM C)	ad 15 100			20 20 8 RM B) rd L29		(ARM A) Road L28	W = Ma $W cr = Ce$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = Vis$ $Vr b-a = Vis$ $Vr b-c = Vis$ $Vr c-b = Vis$ $D = Sti$ $E = Sti$ $F = Sti$	ne width available to vehi ne width available to vehi ne width available to vehi sibility to the left for vehick sibility to the right for vehic sibilitu to the right for vehic	0) 9.0, kerbed central reserv cle waiting in stream b-a (2 cle waiting in stream b-c (2 cle waiting in stream c-b (2 es waiting in stream b-a (2 cles waiting in stream b-a (cles waiting in stream b-c (cles waiting in stream c-b (2.05 - 4.07) .05 - 4.07) .05 - 4.07) 2.0 - 250.0) 17.0 - 250.0) 17.0 - 250.0)	J10
GEOMETRIC DET	MAJOR RC W W cr q a-b q a-c TORS : D	= = =	7.3 (metres) 0 (metres) 20 (pcu/hr) 20 (pcu/hr) 0.867478	MAJOR R W c-b Vr c-b q c-a q c-b	OAD (ARM = = = =	1 C) 2.3 (metres 100 (metres 15 (pcu/hr) 100 (pcu/hr))	MINOR ROAD (A W b-a W b-c VI b-a Vr b-a Vr b-a q b-a q b-a q b-c	2.7 (metres 2.7 (metres 100 (metres 100 (metres 100 (metres 5 (pcu/hr))	
THE CAPACITY O	E F Y	= =	0.894307 0.857384 0.748150								
	Q b-a Q b-c Q c-b Q b-ac	= = =	501 659 629 627					CRITICAL DF	C = 0.16		
COMPARISION O	F DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b	7 TO CAPA = = = =	CITY : 0.01 0.04 0.16 0.05								

				Oad / Roa			SOL			2033 AM De	esign Traffic F	lows (Proposed	Scheme)					DESIGN:		CHECK:		JOB N	D:	DAT	AECC
	Traffic I (pcu/hr)	Flow Dia	agram						1	Road L29									No. of stages	s per cycle		N =	5	-	
								0 _		0	10	55							Cycle time Sum(y)			C = Y =	120 0.316	sec	
							•	55 - 0 -		<u> </u>	25	Ļ			Chung	Mun Road			Lost time Total Flow			L = =	49 9,965	sec pcu	
							0	10	395	Road L29	35 180								Optimum Cyu Min. Cycle Ti Y _{ult} R.C. _{ult} Practical Cyc	me C _m	$= (1.5 \times L+5)$ = L/(1-Y) = 0.9-0.007 = (Y _{ult} -Y)/Y ₂ = 0.9 × L/(0) = 1-L/C	= 5×L = :100% =	115 72 0.533 68.3 76	sec sec % sec	
l	04//									Koau L29									Y _{max}		- 1-1/0	_	0.592		
	Stage/F	hase D	iagrams] [<>			Critical	Case :	A,B,C,[),Ep			
			*	A		∲ ► В ↓			•				C		Ep V	Ep <> Ep	Ep¦		R.C.(C)	= (0	.9xY _{max} -	Y)/Yx100	% =	68%	
ŀ		s	tage 1			Stage	e 2			Stage 3	3	5	Stage 4			Stage 5									
•		G	6 = 5	I/G =	5	G = 5		I/G =	5		I/G =	5		I/G =	5	G = 20	I/G =	2							
MOVEMENT	PHASE	STAGE	LANE WIDTH	NO. OF LANES		DIUS m)	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIEN	GRADIEN T EFFECT	ADDITIONA L CAPACITY	STRAIGHT- AHEAD SAT. FLOW		ELOW (pcu/i		TOTAL FLOW	TURNING	TION OF VEHICLES	REVISED SAT. FLOW	FLOW FACTOR					
MOV	•	°.	(m)		LEFT	RIGHT	A A	L REA	T (%)	(pcu/hr)	(pcu/hr)	(pcu/hr)	LEFT	T AHEAD	RIGHT	(pcu/hr)	LEFT	RIGHT	(pcu/hr)	У	,				
♠	A	1	3.500	1	30	25	0	1		0		1965	55	10	0	65	85%	0%	1885	0.034	0.034				
♠	в	2	3.500	1	30	25	0	1		0		1965	0	55	0	55	0%	0%	1965	0.028					
♠	с	3	3.500	1	30	25	0	1		0		1965	0	10	395	405	0%	98%	1856	0.218	0.218				
¶ ♣	D D	4 4	3.500 3.500	1 1	15 15	25	0	1 0		0 0		1965 2105	114 66	35	25	114 126	100% 52%	20%	1786 1978	0.064 0.064	0.064				
Pede		Crossin 5	g min.	GM 15	+	FGM 5	=	20	sec																

ROUNDABOUT CAPACITY CALCULATION



ARM	А	В	С
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	660	1355	1315
Qc= Circulating flow across entry (pcu/h)	880	280	315
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2399	2576	2734
DFC = Design flow/Capacity = Q/Qe	0.28	0.53	0.48

CRITICAL DFC =	0.53	
TOTAL ENTRY FLOWS =	3330	PCU

Filename:

A COM

UNCTI ction J2 - Yu								2033 PM De	esign Traffic Fl	lows (Proposed	Scheme) (With CEDD	Improveme	nts)		DESIGN:		CHECK	:	JOB NO:		A DATE: No
Traffic Flow (pcu/hr)	Diagram						Shun T	ung Road						Ø	·		No. of stages Cycle time	s per cycle			3 20 sec	
						725 750	و 	710	565								Sum(y) Lost time Total Flow			L =	519 12 sec 5,780 pcu	
	Y	u Tung R	bad					•	340 965			Yı	ı Tung Ro	ad			Optimum Cy Min. Cycle T Y _{ult} R.C. _{ult} Practical Cyc Y _{max}	ime C _m	$= (1.5 \times L + 5)$ = L/(1-Y) = 0.9-0.007 = (Y _{ult} -Y)/Y ₂ = 0.9 × L/(0) = 1-L/C	= 2 5×L = 0. ×100% = 5 .9-Y) = 2	48 sec 25 sec 810 5.9 % 28 sec 900	
Stage/Phase	e Diagrams		I		1																	
в А	<u> </u>		в <u></u> •		لہ ₀	_	В	¢ call	` ▶ D								Critical R.C.(C)			-Y)/Yx100%	= 569	%
	Stage 1	← F		Store	F	_		Stage 2								1						
	Stage 1	I/G =	5	Stage	ez	I/G =	5	Stage 3	I/G =	5												
PHASE STAGE	LANE WIDTH	NO. OF LANES		DIUS m)	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIEN		ADDITIONA L CAPACITY	STRAIGHT- AHEAD SAT. FLOW		LOW (pcu/h		TOTAL FLOW	PROPOR TURNING (%	VEHICLES	REVISED SAT. FLOW	FLOW FACTOR				
ung Road N	IB		LEFT	RIGHT	Ч Б Щ		T (%)	(pcu/hr)	(pcu/hr)	(pcu/hr)	LEFT	T AHEAD	RIGHT	(pcu/hr)	LEFT	RIGHT	(pcu/hr)	У	,			
A 1	4.000	1 2	50		0	1		0		2015 4310	725	750		725 750	100%		1956 4310	0.371 0.174	0.174			
n Tung Road D 2,3 C 3	3 3.700	1 2	25	30	0	1 0		0 0		1985 4250	565		710	565 710	100%	100%	1873 4048	0.302 0.175	0.175			
Tung Road S F 1,2 E 2	2 3.650	2 1		25	0	1 0		0 0		4100 2120		965	340	965 340		100%	4100 2000	0.235 0.170	0.170			

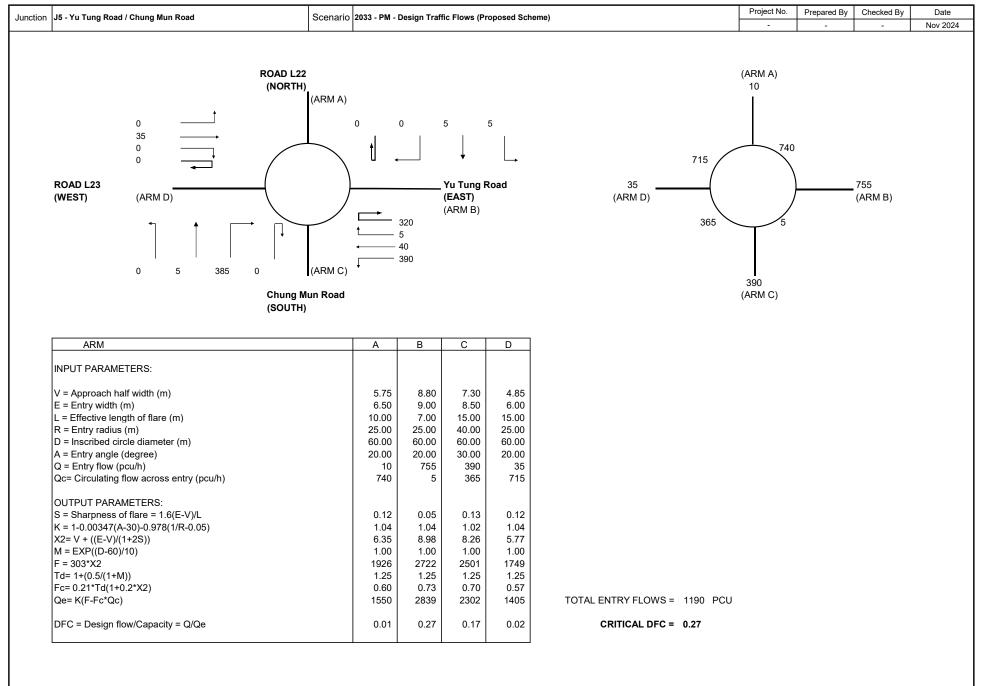
		DN C							2033 PM De	sign Traffic F	lows (Proposed	Scheme)	(With CEDD	Improveme	nts)		DESIGN:		CHECK	:	JOB NO:	DATE	AEC
Traffi	ic Flow D		u Tung Re	oad ——		15	80 525 95 *	485	ung Yan R	80 470 635 570	465	Yu Tung	Road		Ø			No. of stage: Cycle time Sum(y) Lost time Total Flow Optimum Cy Min. Cycle T Y _{ut} R.C. _{uit} Practical Cy Y	rcle C _o ïme C _m	= (1.5 × L+6 = L/(1-Y) = 0.9-0.007 = (Y _{ult} -Y)/Y ₂	= 41 5×L = 0.780 x100% = 27.9	sec pcu sec sec sec %	
								Ch	ung Yan R	bad								Y _{max}		= 1-L/C	= 0.867		
Stage	e/Phase	Diagrams	► A			_↓↓ c	→ A		E		₽		F (Critical R.C.(C)) Y)/Yx100% =	28%]
	:	F Stage 1	,		Stag	e 2			Stage 3		\$	Stage 4											
			I/G =	5			I/G =	5		I/G =	5		I/G =	5									
PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES		(m)	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIEN T (%)	GRADIEN T EFFECT (pcu/hr)	ADDITIONA L CAPACITY (pcu/hr)	STRAIGHT- AHEAD SAT. FLOW (pcu/hr)	F LEFT	ELOW (pcu/l STRAIGH T AHEAD	nr) RIGHT	TOTAL FLOW (pcu/hr)	TURNING	RTION OF VEHICLES %) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL			
u Tung R 1 F 1 B	1,4 1	3.500 3.500 3.500 3.500	1 1 1	20	28	0	1 0		0 0 0		1965 2105 2105	570	565 70	470	570 565 540	100%	87%	1828 2105 2011	0.312 0.268 0.268	0.268			
hung Yai ▶ D ▶ D	4	WB 3.500 3.500	1	25	25 25	0 0	1 0		0 0		1965 2105	15	70	192 293	277 293	5%	69% 100%	1881 1986	0.147 0.147	0.147			
u Tung R ¶ E ↑ E ↑ E hung Yau	3 3 3	3.500 3.500 3.500	1 1 1	15	25	0	1 0		0 0 0		1965 2105 2105	80	313 212	95	80 313 307	100%	31%	1786 2105 2067	0.045 0.149 0.149	0.149			
	1,2 2	3.500 3.500 3.500	1 1 1	16	18 25	0	0		0 0 0		1965 2105 2105	465	80	15 90	465 95 90	100%	15% 100%	1797 2078 1986	0.259 0.046 0.046	0.046			

ction J	3 - Yu T	ung Road	Chung Y	an Road -	Improve	d Scher	me		2033 PM De	sign Traffic F	lows (Proposed	I Scheme)					DESIGN:		CHECK:		JOB NO:	DATE	E: No
Traffi (pcu/ł	c Flow Di hr)	agram						Ch	ung Yan R	oad								No. of stages	s per cycle		N = 4		
									105	80	465				V			Cycle time			C = 120		
							80 525											Sum(y) Lost time			Y = 0.505 L = 16		
		v					95			Ļ	Ļ	V. T	B					Total Flow			= 24,70		
		Ŷ	I Tung Ro	aa ——		٦	t	-	۲.	470		Yu Tung	Road										
									—	635 570								Optimum Cy Min. Cycle T		= (1.5×L+5 = L/(1-Y)	5)/(1-Y) = 59 = 32	sec sec	
						15	70	485	*									Y _{ult} R.C. _{ult}		= 0.9 - 0.007 $= (Y_{ult} - Y)/Y_{2}$	75×L = 0.780		
																		Practical Cyc	le Time C _p	= 0.9×L/(0	.9-Y) = 36	sec	
								Ch	ung Yan R	oad								Y _{max}		= 1-L/C	= 0.867	7	
Stage	e/Phase E	liagrams																					
		l	► A			_) c	→ A											Critical	Case :	B,C,E,I	כ		
						c		<u> </u>	E		D							R.C.(C)	= (0	.9xY _{max} .	-Y)/Yx100% =	55%	
		В	<u>د</u>								ste	•											
		F	ſ									I	F F										
	5	Stage 1			Stage	e 2			Stage 3			Stage 4											
			I/G =	5			I/G =	5		I/G =	5		I/G =	5									
		LANE		RAI	DIUS	ųσ	н	UPHILL	GRADIEN	ADDITIONA	STRAIGHT-	F	LOW (pcu/r	ır)	TOTAL		TION OF	REVISED	FLOW				
PHASE	STAGE	WIDTH (m)	NO. OF LANES	(r	n)	PPOSI	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	L	AHEAD SAT. FLOW	LEFT	STRAIGH	RIGHT	FLOW (pcu/hr)	(9		SAT. FLOW (pcu/hr)	FACTOR	CRITICAL y			
	load SB			LEFT	RIGHT	0'	z			(pcu/hr)	(pcu/hr)		T AHEAD			LEFT	RIGHT						
F	1,4	3.500	1	20			1		0		1965	570			570	100%		1828	0.312				
B	1	3.500 3.500	1 1		28	0	0		0 0		2105 2105		377 258	114	377 371		31%	2105 2071	0.179 0.179				
B B	1 n Road N	3.500 VB	1		25	0	0		0		2105			356	356		100%	1986	0.179	0.179			
D	4	3.500	1	25	25	0	1		0		1965	15	70	192	277	5%	69%	1881	0.147	0.147			
D	4	3.500	1		25	0	0		0		2105			293	293		100%	1986	0.147				
Fung R	load NB	3.500	1	15			1		0		1965	80	139		219	37%		1896	0.116	0.116			
E	3 3	3.500 3.500	1 1		25	0	0		0		2105 2105		243 143	95	243 238		40%	2105 2056	0.116 0.116				
ng Yar	n Road I	в		10		ľ						400				100%							
A C C	1,2 2	3.500 3.500	1 1	16 18			1		0		1965 2105	400 65	61		400 126	100% 52%		1797 2018	0.223 0.062	0.062			
C	2	3.500	1		25	0	0		0		2105		19	105	124		85%	2003	0.062				
1																							
													1										

		I								
Junction J4 - Tung Chung Road /	Chung Ya	an Road	2033 PM Design Traf	fic Flows (Prop	osed Scheme)	Designed By :	Checked By :	Job No. :	Date	: Nov
Tung Chung Road (ARM C) 475 10		•	665 70 70 RM B) Yan Road)	RM A) ng Road	W = Ma $W cr = Ce$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = Vis$ $V r b-a = Vis$ $V r b-c = Vis$ $V r c-b = Vis$ $D = Stu$ $E = Stu$ $F = Stu$	ne width available to vehi ne width available to vehi ne width available to vehi sibility to the left for vehick sibility to the right for vehic sibilitu to the right for vehic	0) 9.0, kerbed central reserv cle waiting in stream b-a (2 cle waiting in stream b-c (2 cle waiting in stream c-b (2 swaiting in stream b-a (2 cles waiting in stream b-a (cles waiting in stream b-c (cles waiting in stream c-b (2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.0 - 250.0) 17.0 - 250.0) 17.0 - 250.0)	J4
GEOMETRIC DETAILS: MAJOR RC W W cr q a-b q a-c	DAD (ARM = = = =	A) 7.3 (metres) 0 (metres) 70 (pcu/hr) 665 (pcu/hr)	MAJOR R W c-b Vr c-b q c-a q c-b	OAD (ARM C) = = = =	3.6 (metres) 100 (metres) 475 (pcu/hr) 10 (pcu/hr)		W b-c = VI b-a = Vr b-a = Vr b-c =	RM B) = 3.6 (metres = 3.6 (metres = 100 (metres = 100 (metres = 100 (metres = 65 (pcu/hr))))	
GEOMETRIC FACTORS : D E F Y	= = =	0.948063 0.977385 0.977385 0.748150			,		q b-c =	ŭ ,		
THE CAPACITY OF MOVEMENT : Q b-a Q b-c Q c-b Q b-ac	= = =	335 544 533 353					CRITICAL DF	C = 0.21		
COMPARISION OF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC b-ac	TO CAP4 = = = = =	ACITY : 0.19 0.02 0.02 0.21								

ROUNDABOUT CAPACITY CALCULATIO

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		K		EI						
Junction J6 - Tung Chung Road	/ Shek Mui	n Kap Road	2033 PM Design Traffi	c Flows (Propos	ed Scheme)	Designed By :	Checked By :	Job No. :	Date :	: Nov
Tung Chung Road (ARM C) 270	•	•	290 5 RM B) ad L30				ne width available to vehi ne width available to vehi ne width available to vehi ibility to the left for vehicl ibility to the right for vehic ibility to the right for vehic	0) • 9.0, kerbed central reserv cle waiting in stream b-a (2 cle waiting in stream c-b (2 es waiting in stream b-a (2 cles waiting in stream b-c (cles waiting in stream c-b (2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.0 - 250.0) 17.0 - 250.0) 17.0 - 250.0)	J6
W W cr q a-b q a-c GEOMETRIC FACTORS :	OAD (ARM = = = =	7.3 (metres) 0 (metres) 5 (pcu/hr) 290 (pcu/hr)	MAJOR RC W c-b Vrc-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 200 (metres) 270 (pcu/hr) 115 (pcu/hr)		W b-c = VI b-a = Vr b-a = Vr b-c = q b-a =	RM B) = 3.6 (metres) = 3.6 (metres) = 200 (metres) = 10 (pcu/hr) = 35 (pcu/hr)))	
D E F Y	= = =	1.098970 1.066962 1.066962 0.748150			·					
THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac	= = = =	502 710 709 650					CRITICAL DF	C = 0.16		
COMPARISION OF DESIGN FLO DFC b-a DFC b-c DFC c-b DFC b-ac	N TO CAP/ = = = =	ACITY : 0.02 0.05 0.16 0.07								

Junction J7 - Road	L29 / Road L30			2033 PM D	esign Traffic Fl	ows (Propos	ed Scheme)	Designed By	: Checked By		Job No. :	Date :	- No
				2000 1 11 2				Designed by	. Oneoked by			Date	
Road L29 (ARM C) 1	65 5			-	130 130	- (ARI Roz	1 A) Id L29	W = W cr = W b-a = W b-c = W c-b = VI b-a = Vr b-a = Vr b-c =	EOMETRIC INPUT DA Major Road Width (6.4 Central Reserve width Lane width available to Lane width available to Lane width available to Visibility to the left for Visibility to the right for	(1.2 - 9.0, ke vehicle wait vehicle wait vehicles wait vehicles wait vehicles wait vehicles wa	ting in stream b-a (2.0 ting in stream b-c (2.0 ting in stream c-b (2.0 ng in stream b-a (22.0 iting in stream b-a (17 iting in stream b-c (17	5 - 4.07) 5 - 4.07) 5 - 4.07) 0 - 250.0) 0 - 250.0) 0 - 250.0)	J7
			5 155	(ARM B) Road L30				D = E = F =	Visibility to the right for Stream-specific B-A Stream-specific B-C Stream-specific C-B (1-0.0345W)			.0 - 230.0)	
GEOMETRIC DETA													
	MAJOR RO				MAJOR ROAD				MINOR RO.				
	W	=	11.7 (metres)		W c-b	=	2.3 (metres)		W b-a	=	2.3 (metres)		
	W cr	=	1.5 (metres)		Vr c-b	=	100 (metres)		W b-c	=	2.3 (metres)		
	q a-b	=	130 (pcu/hr)		q c-a	=	165 (pcu/hr)		VI b-a	=	100 (metres)		
	q a-c	=	130 (pcu/hr)		q c-b	=	5 (pcu/hr)		Vr b-a	=	100 (metres)		
									Vr b-c	=	100 (metres)		
									q b-a	=	155 (pcu/hr)		
GEOMETRIC FACT	DRS:	=	0.831663						q b-c	=	5 (pcu/hr)		
	E	=	0.831663										
	F	=	0.857384										
	Y	=	0.596350										
THE CAPACITY OF							`						
	Q b-a	=	486										
	Q b-c	=	605										
	Q c-b	=	590						CRITICA	DFC	= 0.33		
	Q b-ac	=	489							-			
COMPARISION OF	DESIGN FLOW	ТО САРА	ACITY :										
	DFC b-a	=	0.32										
	DFC b-c	=	0.01										
	DFC c-b	=	0.01										
	DIOOD												

Junction J8 - Tung Chung Road	/ Road L30)	2033 PM Design Trafi	ic Flows (Propo	sed Scheme)	Designed By :	Checked By :	Job No. :	Date :	: Nov
Tung Chung Road (ARM C) 380 165) - (AR 105 5 (AR Road	305 20 M B) L30	1	MA) g Road		ne width available to vehi ne width available to vehi ne width available to vehi ibility to the left for vehicl ibility to the right for vehic ibility to the right for vehic	0) • 9.0, kerbed central resen cle waiting in stream b-a (cle waiting in stream b-c (cle waiting in stream c-b (es waiting in stream b-a (cles waiting in stream b-a (cles waiting in stream b-c (cles waiting in stream c-b (2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.05 - 4.07) 2.0 - 250.0) (17.0 - 250.0) (17.0 - 250.0)	(BL
GEOMETRIC DETAILS: MAJOR I W W cr q a-b q a-c GEOMETRIC FACTORS : D	ROAD (ARN = = = =	1 A) 7.3 (metres) 0 (metres) 20 (pcu/hr) 305 (pcu/hr) 1.098970	MAJOR R W c-b Vr c-b q c-a q c-b	DAD (ARM C) = = = =	3.6 (metres) 200 (metres) 380 (pcu/hr) 165 (pcu/hr)		W b-c == VI b-a == Vr b-a == Vr b-c == q b-a ==	RM B) = 3.6 (metres = 200 (metres = 200 (metres = 200 (metres = 5 (pcu/hr = 105 (pcu/hr	;; ;; ;; ;;	
E F Y	= = =	1.066962 1.066962 0.748150								
THE CAPACITY OF MOVEMENT Q b-a Q b-c Q c-b Q b-ac	: = = = =	453 704 700 687					CRITICAL DF	°C = 0.24		
COMPARISION OF DESIGN FLC DFC b-a DFC b-c DFC c-b DFC c-b	= = =	ACITY : 0.01 0.15 0.24 0.16								

Junction J9 - Ro	ad L29 / Road L2	5		2033 PM Desig	n Traffic Flow	s (Proposed Schem) Des	igned By :	Checked By :	Job No		Date :	No
				2000 1 11 20319		, in reposed deficition	., Des		Oneoked by .	000 110		Date .	
Road L29 (ARM C)	35 <u></u> 95			(ARM B)	35 70	(ARM A) Road L29	W W W W V V V V V V r	= Majc cr = Cen b-a = Lanc b-c = Lanc c-b = Lanc b-a = Visit b-a = Visit b-a = Visit c-b = Visit c-b = Visit D = Stre E = Stre F = Stre	ETRIC INPUT DATA) or Road Width (6.4 - 20 tral Reserve width (1.2 e width available to ver e width available to ver e width available to ver oility to the left for vehic oility to the right for veh oility to the right for veh am-specific B-A am-specific B-C am-specific C-B .0345W)	9.0) - 9.0, kerbed c iicle waiting in s iicle waiting in s iicle waiting in s icles waiting in iicles waiting in icles waiting in	stream b-a (2.05 stream b-c (2.05 stream c-b (2.05 tream b-a (22.0 - stream b-a (17.0 stream b-c (17.0	nly) - 4.07) - 4.07) - 4.07) 250.0) - 250.0) - 250.0)	et
GEOMETRIC DE	MAJOR RC W W cr q a-b q a-c CTORS : D	DAD (ARM = = = =		Road L25 MA W Vr q c q c	c-b = c-a =	2.1 (me 100 (me 35 (pc)	tres) /hr)		W b-c VI b-a Vr b-a Vr b-c q b-a	= = = = =	2.3 (metres) 2.3 (metres) 100 (metres) 100 (metres) 100 (metres) 5 (pcu/hr) 135 (pcu/hr)		
	E F Y	= = =	0.857384 0.838923 0.644650										
THE CAPACITY (Q b-a Q b-c Q c-b Q b-ac	= = =	496 626 604 620							FC =	0.23		
COMPARISION C	DF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b DFC b-ac	TO CAPA = = = =	CITY : 0.01 0.22 0.16 0.23										

lum attain 140 D				AAAA DM Daalaa Taaf		new second Calescove)	Destinged Dest		Late Nie	Data	
Junction J10 - R	oad L28 / Road L	29 / Shek M	lun Kap Road	2033 PM Design Traff	IC Flows (P	roposed Scheme)	Designed By :	Checked By :	Job No. :	Date	: N
Shek Mun Kap R (ARM C)	95			20 10 JRM B)		(ARM A) Road L28	W = M $W cr = Cr$ $W b-a = La$ $W b-c = La$ $W c-b = La$ $V c-b = Cr$ $V b-a = Vi$ $V r b-a = Vi$ $V r b-c = Vi$ $V r c-b = Vi$ $D = St$ $E = St$ $F = St$	ane width available to vehi ane width available to vehi ane width available to vehi sibility to the left for vehicl sibility to the right for vehic sibilitu to the right for vehic	0) 9.0, kerbed central reserv cle waiting in stream b-a (2 cle waiting in stream b-c (2 cle waiting in stream b-a (22 es waiting in stream b-a (23 es waiting in stream b-a (les waiting in stream b-c (1 les waiting in stream c-b (1	.05 - 4.07) .05 - 4.07) .05 - 4.07) 2.0 - 250.0) 17.0 - 250.0) 17.0 - 250.0)	01L
GEOMETRIC DE	MAJOR RC W W cr q a-b q a-c	DAD (ARM) = = = = = =	4) 7.3 (metres) 0 (metres) 10 (pcu/hr) 20 (pcu/hr) 0.867478 0.894307	MAJOR R W c-b Vr c-b q c-a q c-b	DAD (ARM (= = = =	C) 2.3 (metres 100 (metres 15 (pcu/hr) 95 (pcu/hr))	MINOR ROAD (A W b-a = W b-c = VI b-a = Vr b-a = q b-a = q b-c =	 2.7 (metres) 2.7 (metres) 100 (metres) 100 (metres) 100 (metres) 5 (pcu/hr) 		
THE CAPACITY	Q b-a Q b-c Q c-b	= = = =	0.857384 0.748150 504 660 632					CRITICAL DF	C = 0.15		
COMPARISION (Q b-ac DF DESIGN FLOW DFC b-a DFC b-c DFC c-b DFC c-b DFC b-ac	= TO CAPA = = = =	636 CITY : 0.01 0.05 0.15 0.06								

							906			2033 PM De	esign Traffic F	lows (Proposed	Scheme)					DESIGN:		CHECK:		JOB N	10:	DA	AECO
	Traffic (pcu/hr	Flow Di	agram							Road L29									No. of stages	por ovelo		N =	5	•	L) (1
	(pcu/m)							1	KUAU L29										s per cycle					
										0	10	25							Cycle time			C =	120	sec	
								0 _ 30 [_]											Sum(y) Lost time			Y = L =	0.220 50	sec	
								0	€	J	Ļ	Ļ			Chung	Mun Road			Total Flow			=	9,965	pcu	
							▲	t	ا م	<u> </u>	30				onung	Man Road									
										• •	40 230								Optimum Cy Min. Cycle Ti		= (1.5×L+5 = L/(1-Y)	5)/(1-Y) = =	103 64	sec sec	
							0	10	250										Y _{ult} R.C. _{ult}		= 0.9-0.007 = (Y _{ult} -Y)/Y		0.525 138.9	%	
										D									Practical Cyc	le Time C _p	$= 0.9 \times L/(0$.9-Y) =	66	sec	
										Road L29									Y _{max}		= 1-L/C	=	0.583		
	Stage/F	Phase D	iagrams																						
			*	Щ.												<> Ep	> ^		Critical	Case :	A,B,C,I	D,Ep			
				A		∲ ► В				с				•	Ep		Ep		R.C.(C)	= (0	.9xY _{max} -	-Y)/Yx100)% =	139%	
						}			•	t (~			D		Ý	<>	Ý.								
														v		Ep									
		S	Stage 1			Stage	e 2			Stage 3	3	5	Stage 4			Stage 5									
-		C	6 = 5	I/G =	5	G = 5	i	I/G =	5		I/G =	5		I/G =	5	G = 20	I/G =	2							
ENT	ų	ш	LANE			DIUS	UN D	Щ.	UPHILL	GRADIEN	ADDITIONA	STRAIGHT-	F	LOW (pcu/i	hr)	TOTAL		TION OF	REVISED	FLOW					
MOVEMENT	PHASE	STAGE	WIDTH (m)	NO. OF LANES		m)	OPPOSING TRAFFIC	NEAR SIDE LANE	GRADIEN T (%)	T EFFECT (pcu/hr)	L CAPACITY (pcu/hr)	AHEAD SAT. FLOW (pcu/hr)	LEFT	STRAIGH T AHEAD	RIGHT	FLOW (pcu/hr)		%) I	SAT. FLOW (pcu/hr)	FACTOR	CRITICAL y				
N					LEFT	RIGHT	0	Z			(pourn)	(pou,iii)					LEFT	RIGHT							
♠	A	1	3.500	1	30	25	0	1		0		1965	25	10	0	35	71%	0%	1897	0.018					
♠	в	2	3.500	1	30	25	0	1		0		1965	0	30	0	30	0%	0%	1965	0.015					
															050				1050						
†	С	3	3.500	1	30	25	0	1		0		1965	0	10	250	260	0%	96%	1858	0.140	0.140				
¶ ♠	D D	4 4	3.500 3.500	1	15 15	25	0	1 0		0		1965 2105	143 87	40	30	143 157	100% 56%	19%	1786 1973	0.080 0.080	0.080				
								ľ					5.												
Pede	strian (Crossir	-	GM		FGM																			
	Ep	5	min.	15	+	5	=	20	sec																
			1	1	1	1	1	1	I	I	1				1		1	I			I				