Annex C

Traffic Impact Assessment

ARUP

S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15, to rezone the Application Site from "Comprehensive Development Area" to "Residential (Group A)" in Lot 2160 RP (Part) in D.D. 106, and Adjoining Government Land, Kam Sheung Road, Kam Tin, Yuen Long

Traffic Impact Assessment Report

1st Submission | October 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 309160-04

Ove Arup & Partners Hong Kong Ltd

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1. Introduction

1.1 Background

1.1.1 This Traffic Impact Assessment (TIA) is prepared in support of the Planning Application under Section 12A of the Town Planning Ordinance (Cap. 131) for the Amendment of Plan for Proposed Residential Development at Lot 2160 RP (Part) in D.D. 106, and Adjoining Government Land, Kam Sheung Road, Kam Tin, Yuen Long, New Territories (the Application Site).

1.1.2 The Applicant proposes to amend the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15 (the OZP) by rezoning the Application Site from "Comprehensive Development Area" ("CDA") zone to "Residential (Group A)" ("R(A)") zone, with a maximum domestic plot ratio (PR) of 3 and a maximum building height (BH) of 69mPD, to facilitate the proposed residential development.

1.1.3 The Application Site, with an area of about 7,166 m², is located northwest of Tung Wui Road and west of Kam Wui Road. It is currently occupied by a temporary transitional housing development known as "The NAScenT". The location of the Application Site is shown in **Figure 1.1**.

1.1.4 Another concurrent planning application is under preparation at the Kong Ha Wai (KHW) Site, as shown in **Figure 1.2**. The Applicant proposes to rezone the KHW Site from "Residential (Group D)" ("R(D)") and "Agriculture" ("AGR") zones to "Residential (Group A)1" ("R(A)1") zone for residential development with supporting facilities. Given its close proximity to the Application Site, traffic associated with the KHW Site is incorporated into the Design Scenario as an additional development assumption. The development assumptions adopted for the KHW Site are summarised in **Section 4.5**.

1.1.5 Given the irregular configuration of the Application Site boundary, adjoining areas outside the Application Site are incorporated to form a more rationalised boundary for sensitivity testing. While these adjoining areas do not form part of this Planning Application, a sensitivity assessment is undertaken for reference purposes to evaluate the potential traffic implications should these areas be included in future planning considerations. The sensitivity test area is shown in **Figure 1.3**, and the assessment is presented in **Section 5**.

1.1.6 Arup Hong Kong Limited (Arup) has been commissioned to prepare this report in support of the S12A Planning Application submitted by the Applicant.

1.2 Objective of this Report

1.2.1 The purpose of this report is to evaluate the traffic impacts associated with the proposed development at the Application Site in support of the S12A Planning Application for the Amendment of Plan.

1.3 Scope of Study

1.3.1 The key tasks for this TIA study are outlined as follows:

- Conduct traffic and pedestrian surveys at critical junctions, road links, and footpaths to determine existing traffic and pedestrian conditions;
- Update the inventory of traffic circulation patterns, traffic conditions, public transport services, pedestrian facilities and any constraints within the existing and future committed road network in the vicinity of the Application Site, based on the latest available information;
- Review the proposed vehicular access arrangement and make recommendation;
- Recommend internal transport facilities provision, including car parking spaces and loading and unloading facilities;
- Assess the future traffic conditions at the identified key junctions and links, taking into account background traffic growth, committed road network changes, traffic generated by the proposed development, and any other planned, under-construction, or recently completed developments in the vicinity;
- Establish a Reference Scenario incorporating background traffic growth and other planned or committed developments in the vicinity;
- Establish a Design Scenario incorporating traffic generated by the proposed development at the Application Site. Traffic associated with the concurrent KHW Site is also incorporated into the assessment;
- Compare the Reference and Design Scenarios to evaluate the traffic impact associated with the proposed development at the Application Site, with traffic associated with the concurrent KHW Site also taken into account;
- Evaluate the future pedestrian conditions at the identified key footpaths, taking into account the pedestrian demand generated by the proposed development and other planned or committed developments in the vicinity; and
- Undertake a sensitivity assessment, for reference purposes only, to illustrate the potential traffic implications associated with a rationalised development boundary incorporating adjoining areas outside the Application Site.

1.4 Structure of this Report

1.4.1 The structure of this TIA report is as follows:

Chapter	Title	Objective
1	Introduction	Provide project background and scope of the Study
2	Existing Traffic Condition	Review and assess the existing traffic conditions
3	The Subject Development	Provide details of the proposed development
4	Traffic Impact Assessment	Illustrate the results of Traffic Impact Assessment
5	Sensitivity Assessment	Illustrate the results of Traffic Impact Assessment associated with the sensitivity test area
6	Conclusion	Summarise the findings of the Study

2. Existing Traffic Condition

2.1 Site Characteristics

2.1.1 The Application Site is located at Lot 2160 RP (Part) in D.D. 106, and Adjoining Government Land in Kam Sheung Road, Kam Tin, Yuen Long, New Territories. It is bounded by Kam Tin River to its north and west, Tung Wui Road to its southeast, and Kam Sheung Road to its northeast. **Figure 1.1** shows the location and environs of the Application Site.

2.2 Existing Road Network

2.2.1 The Application Site is well served by a comprehensive road network to and from other districts. Some major roads in the vicinity of the Application Site are described as follows:

- Tsing Long Highway is a dual 3-lane expressway, connecting San Tin Highway and Yuen Long Highway at the north and Tsing Kwai Highway at the south. It is a major strategic road link connecting northwest New Territories with Kowloon.
- Kam Tin Road is a rural road, dual-two carriageway linking up to Au Tau Interchange at its western end.
- Kam Tin Bypass is a dual 2-lane carriageway running parallel to Kam Tin Road between Kam Ho Road and Tung Wui Road and bypassing the Kam Tin town centre.
- Kam Ho Road is a single 2-lane carriageway running in north-south direction parallel to Tsing Long Highway, between Kam Tin Road and Pat Heung Road.
- Tung Wui Road, a dual 2-lane carriageway, is another major rural road running in east-west direction. It connects with Kam Ho Road on its western end and Kam Tin Road on its eastern end.
- Kam Sheung Road is a single 2-lane carriageway running in north-south direction between Kam Tin Road and Pat Heung Road and east-west direction between Pat Heung Road and Kam Tin Road. It connects with Kam Tin Road at both western and eastern ends.
- Pat Heung Road is a single 2-lane carriageway running in east-west direction to the south of Kam Tin South. It connects with Tsing Long Highway on its west and Kam Sheung Road on its east. Therefore, it serves as the major southern access between Tsing Long Highway and Kam Tin South.

2.3 Existing Junction and Link Performance

2.3.1 To establish the existing traffic conditions, comprehensive classified traffic counts were conducted at the identified key junctions and road links in the vicinity of the Application Site. The surveyed junctions and links are listed below in **Table 2.3.1** and **Table 2.3.2**, respectively, and shown in **Figure 2.1**.

Table 2.3.1 List of Surveyed Junctions

Junctions		Type
J1	Kam Tin Road / Tsing Long Highway Slip Road	Signalised Junction
J2	Kam Tin Road / Kam Tin Bypass / Kam Ho Road	Roundabout
J3	Kam Tin Road / Kam Sheung Road (Western Junction)	Signalised Junction
J4	Kam Tin Road / Kam Tin Bypass / Tung Wui Road	Roundabout
J5	Tung Wui Road / Kam Sheung Road	Signalised Junction
J6	Kam Ho Road / Tung Wui Road	Roundabout
J7	Tung Wui Road / Kam Wui Road	Priority Junction

Table 2.3.2 List of Surveyed Road Links

Road Links	
L1	Kam Tin Road (Section between Tsing Long Highway Slip Road and Kam Ho Road)
L2	Kam Tin Bypass
L3	Kam Tin Road (Section between Kam Sheung Road and Tung Wui Road)
L4	Kam Sheung Road (Section north of Tung Wui Road)
L5	Kam Sheung Road (Section between Tung Wui Road and Kam Shui South Road)
L6	Tung Wui Road (Section east of Kam Sheung Road)
L7	Tung Wui Road (Section between Kam Wui Road and Kam Sheung Road)
L8	Kam Ho Road (Section between Kam Tin Road and Tung Wui Road)
L9	Kam Tin Road (Section between Tung Wui Road and Fan Kam Road)

2.3.2 The counts were conducted on a typical weekday, 9 July 2026, during the periods of 06:00 – 09:00 and 17:00 – 20:00 hours. The morning and evening peak hours were identified as 07:45 – 08:45 and 17:45 – 18:45, respectively. The observed traffic flows during these peak hours are illustrated in **Figure 2.2**.

Junction Capacity Assessment

2.3.3 A junction capacity analysis was carried out at the identified key junctions. The assessment results are presented in **Table 2.3.3** below, with the detailed calculation sheets provided in **Appendix A**.

Table 2.3.3 Year 2026 Existing Junction Performance

Junctions		Type	Performance (1)	
			AM	PM
J1	Kam Tin Road / Tsing Long Highway Slip Road	Signalised	40%	24%
J2	Kam Tin Road / Kam Tin Bypass / Kam Ho Road	Roundabout	0.51	0.47
J3	Kam Tin Road / Kam Sheung Road (Western Junction)	Signalised	69%	64%
J4	Kam Tin Road / Kam Tin Bypass / Tung Wui Road	Roundabout	0.43	0.38
J5	Tung Wui Road / Kam Sheung Road	Signalised	>100%	>100%
J6	Kam Ho Road / Tung Wui Road	Roundabout	0.26	0.24
J7	Tung Wui Road / Kam Wui Road	Priority	< 0.1	< 0.1

Note:

(1) Figures shown represent "Reserve Capacity" (RC) in % for signalised junctions and "Design Flow Capacity" (DFC) ratio for roundabouts and priority junctions.

2.3.4 The results indicate that all identified key junctions are currently operating within capacity during both the morning and evening peak hours in Year 2026.

Link Capacity Assessment

2.3.5 A road link capacity assessment was also carried out to examine the volume to capacity (V/C) ratios of the identified key road links. The assessment results are presented in **Table 2.3.4** below.

Table 2.3.4 Year 2026 Existing Link Performance

Road Link (1)		Dir.	Link Capacity (pcu/hr)	Traffic Flow (2)		V/C Ratio (3)	
				AM	PM	AM	PM
L1	Kam Tin Road (Section between Tsing Long Highway Slip Road and Kam Ho Road)	EB	5400	2130	1830	0.39	0.34
		WB	3600	2120	1970	0.59	0.55
L2	Kam Tin Bypass	EB	3600	765	735	0.21	0.20
		WB	3600	585	650	0.16	0.18
L3	Kam Tin Road (Section between Kam Sheung Road and Tung Wui Road)	EB	900	240	225	0.27	0.25
		WB	900	355	325	0.39	0.36
L4	Kam Sheung Road (Section north of Tung Wui Road)	EB	900	235	320	0.26	0.36
		WB	900	365	380	0.41	0.42
L5	Kam Sheung Road (Section between Tung Wui Road and Kam Shui South Road)	EB	900	475	580	0.53	0.64
		WB	900	465	455	0.52	0.51
L6	Tung Wui Road (Section east of Kam Sheung Road)	NE	3600	260	470	0.07	0.13
		SB	3600	470	420	0.13	0.12
L7	Tung Wui Road (Section between Kam Wui Road and Kam Sheung Road)	NE	3600	390	595	0.11	0.17
		SB	3600	460	360	0.13	0.10
L8	Kam Ho Road (Section between Kam Tin Road and Tung Wui Road)	NE	3600	595	530	0.17	0.15
		SB	3600	665	585	0.18	0.16
L9	Kam Tin Road (Section between Tung Wui Road and Fan Kam Road)	EB	1100	1005	995	0.91	0.90
		WB	1100	935	830	0.85	0.75

Notes:

(1) For a conservative approach, the road links are assessed based on the greatest traffic flows at the road sections of corresponding roads within the area of influence (AOI).

(2) Figures are rounded to the nearest 5.

(3) The assessment framework for the road links is based on the ratio of surveyed traffic volume over the link capacity (V/C) to measure the utilisation of the road link. A V/C ratio below 1.0 is considered acceptable. A V/C ratio above 1.0 indicates the onset of mild congestion and a V/C ratio between 1.0 and 1.2 would indicate a manageable degree of congestion. A V/C ratio above 1.2 indicates the onset of more serious congestion.

2.3.6 The results indicate that all identified key road links are currently operating within capacity during both the morning and evening peak hours in Year 2026.

2.4 Existing Public Transport Facilities

2.4.1 Currently, the Application Site is served by various public transport services. It is located approx. 350m from MTR Kam Sheung Road Station, equivalent to an estimated 4-minute walk. Several franchised bus and public light bus service routes also operate on the surrounding road network.

2.4.2 A summary of public transport services operating in the vicinity of the Application Site is presented in **Table 2.4.1** and illustrated in **Figure 2.3**.

Table 2.4.1 Existing Franchised Bus and Public Light Bus Services

Route No.	Origin	↔	Destination	Peak Headway (min.)
Franchised Bus				
54	Yuen Long (West)	↻	Sheung Tsuen	30
64K	Yuen Long (West)	↔	Tai Po Market Station	8 – 12
64S (1)	Sheung Tsuen Playground	↔	Kam Sheung Road Station	15
77K	Sheung Shui	↔	Yuen Long (Fung Cheung Road)	12 – 25
77K (1)	Fan Kam Road (Ping Kong)	↔	Yuen Long (West)	-
77K (1)	Sheung Shui	↔	Kam Sheung Road Station	-
251A	Kam Sheung Road Station	↻	Sheung Tsuen	15 – 20
251B	Kam Sheung Road Station	↻	Sheung Tsuen	20 – 25
251C	Kong Ha Wai	↻	Yuen Long	30
251C (1)	Kong Ha Wai	↔	Yuen Long (Hong Lok Road)	-
268	Yau Pok Road Light Public Housing (South)	↔	Pat Heung Road	30
A36 (2)	Long Ping Station	↔	Airport (Ground Transportation Centre)	15 – 20
E36P (3)	Pat Heung Road	↔	Airport (Ground Transportation Centre)	-
NA36	Cathay Pacific City	↔	Kam Sheung Road Station	-
Green Minibus (GMB)				
71	Yuen Long (Yuen Long Tai Hang Street)	↔	Shek Wu Tong (Ho Pui)	15
71A	Kam Sheung Road Station	↔	Cheung Po Tsuen	20 – 30
72	Yuen Long (Yuen Long Tai Hang Street)	↔	Lui Kung Tin	10
72M	Kam Sheung Road Station	↔	Lui Kung Tin	15 – 20
78	Tai Lam Tunnel Toll Plaza	↔	Lok Ma Chau PTI	20 – 25
78A (1)	Kam Sheung Road Station	↔	Tai Lam Tunnel Toll Plaza	15 – 17
601B	Yuen Long (Fung Cheung Road)	↔	Pak Wai Tsuen	20
602	Yuen Long (Fung Cheung Road)	↔	Tai Kong Po	15 – 20
602C	Riva	↔	Kam Sheung Road Station	20
608	Yuen Long (Fung Cheung Road)	↔	Wang Toi Shan	10 – 13
608S	Kam Sheung Road Station	↻	Concordia Tsat Sing Kong	15 – 30

Route No.	Origin	↔	Destination	Peak Headway (min.)
620	Park Yoho Transport Terminus	↔	Kam Sheung Road Station PTI	10 – 15
Red Minibus (RMB)				
-	Yuen Long (Yu King Square)	↔	Sheung Tsuen	-

Note:

(1) Morning peak special departure from Monday to Friday (except public holiday)

2.4.3 In summary, the Application Site has good accessibility to MTR Kam Sheung Road Station and other public transport services via the adjacent road network.

2.5 Existing Pedestrian Walking Condition

2.5.1 To establish the existing pedestrian conditions, pedestrian counts were conducted at two critical footpaths in the vicinity, F1 and F2, as shown in **Figure 2.4**. These footpaths represent the primary pedestrian routes associated with trips generated by the Application Site. The surveys were conducted on a typical weekday, 9 July 2026, during the periods of 06:00 – 09:00 and 17:00 – 20:00 hours.

2.5.2 The operational performance of a footpath is evaluated in terms of Level of Service (LOS). The LOS assessment is conducted in accordance with the definitions set out in the Highway Capacity Manual (HCM) 2000. **Table 2.5.1** summarises the LOS categories, each "quantified" in terms of pedestrian flow rates.

Table 2.5.1 Description of Level of Service (LOS) for a Walkway

LOS	Flow Rate for Walkway (ped/min/m)	Description
A	≤ 16	Pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.
B	16 – 23	Sufficient space is provided for pedestrians to freely select their walking speeds, to bypass other pedestrians and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians and to respond to their presence in the selection of walking paths.
C	23 – 33	Sufficient space is available to select normal walking speeds and to bypass other pedestrians primarily in unidirectional stream. Where reverse direction or crossing movement exists, minor conflicts will occur, and speed and volume will be somewhat lower.
D	33 – 49	Freedom to select individual walking speeds and bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflicts is high and its avoidance requires changes of speed and position. The LOS provides reasonable fluid flow; however considerable friction and interactions between pedestrians are likely to occur.
E	49 – 75	Virtually, all pedestrians would have their normal walking speeds restricted. At the lower range of this LOS, forward movement is possible only by shuffling. Space is insufficient to pass over slower pedestrians. Cross- and reverse-movement are possible only with extreme difficulties. Design volumes approach the limit of walking capacity with resulting stoppages and interruptions to flow.

LOS	Flow Rate for Walkway (ped/min/m)	Description
F	> 75	Walking speeds are severely restricted. Forward progress is made only by shuffling. There are frequent and unavoidable conflicts with other pedestrians. Cross- and reverse-movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams.

Source: Extracted from Exhibit 18-3 of Highway Capacity Manual (HCM) 2000

2.5.3 Footpaths operating at LOS A to C are considered desirable, with adequate space for pedestrians to maintain normal walking speeds to bypass other pedestrians.

2.5.4 Footpaths operating at LOS D or poorer represent restricted freedom to select individual walking speeds and bypass other pedestrians. Subject to site constraints, improvement measures should be considered to enhance pedestrian comfort and safety.

2.5.5 A LOS assessment was carried out at the identified critical footpaths. The assessment results are presented in **Table 2.5.2** below.

Table 2.5.2 Year 2026 Existing Level of Service at Key Footpaths

Footpath		Actual Width (m)	Effective Clear Width (1) (m)	Two-way Peak Hour Flow (2) (ped/hr)		Flow Rate (3) (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tung Wui Road	4.5	3.5	365	405	2.1	2.3	A	A
F2	Kam Wui Road	1.8	0.8	100	70	2.5	1.8	A	A

Notes:

(1) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides

(2) Figures are rounded to the nearest 5.

(3) Pedestrian flow rate is computed based on effective clear width, with 1.2 peak factor applied for the peak minute flow rate.

2.5.6 The results indicate that the identified critical footpaths are operating at LOS "A" during both the morning and evening peak hours in Year 2026.

3. The Subject Development

3.1 Development Schedule

3.1.1 The Applicant intends to develop the Application Site for residential use. The proposed development is envisaged to be completed by Year 2035.

3.1.2 The development schedule for the proposed development is summarised in **Table 3.1.1**, with its master layout plan shown in **Figure 3.1**.

Table 3.1.1 Proposed Development Parameters

Site Area (m^2)	Domestics Facilities			
	Plot Ratio	No. of Blocks	Flat Mix	
7,166	3.0	2	$40m^2 < FS \leq 70m^2$	416 flats

3.2 Vehicular Access Arrangement

3.2.1 The vehicular access to the Application Site is proposed via Kam Wui Road, as shown in **Figure 3.2**. The section of Kam Wui Road between Kam Po Road and Tung Wui Road is currently substandard, and part of this section does not allow simultaneous two-way traffic.

3.2.2 Modification works are proposed along this section to provide a minimum 6.75m-wide two-lane carriageway, with a 2.5m-wide footpath. The proposed road widening works and associated swept path analysis are illustrated in **Figure 3.3** and **Figure 3.4**, respectively.

3.2.3 Swept path analysis for critical vehicle movements entering and leaving the Application Site is demonstrated in **Figure 3.5**.

3.2.4 The major ingress and egress routes for vehicular traffic approaching and leaving the Application Site are illustrated in **Figure 3.6** and **Figure 3.7**, respectively.

3.3 Internal Transport Facilities Provision

3.3.1 The internal transport facilities for the proposed residential development are provided in accordance with the high-end requirements of the Hong Kong Planning Standards and Guidelines (HKPSG).

3.3.2 The internal transport facilities provision for the proposed development is summarised in **Table 3.3.1** below.

Table 3.3.1 Proposed Internal Transport Facilities Provision

Type of Development	Facilities	HKPSG Requirement				HKPSG Required Low-end Provision	HKPSG Required High-end Provision	Proposed Provision
Private Housing Total Flat Nos.: 416 Total Block Nos.: 2	Parking	**Residential Car Parking (5m (L) × 2.5m (W) × 2.4m (H))**						
		Parking Requirement = GPS × R1 × R2 × R3						
		Global Parking Standard (GPS)	1 car space per 4 – 7 flats		Flat Nos.			
		Demand Adjustment Ratio (R1)	Flat Size (FS) (m^2 GFA)	FS ≤ 40	0.5	-	-	-
				40 < FS ≤ 70	**1.2**	416	54	94
				70 < FS ≤ 100	2.4	-	-	-
				100 < FS ≤ 130	4.1	-	-	-
				130 < FS ≤ 160	5.5	-	-	-
				FS > 160	7.0	-	-	-
				Total		416	54	94
		Accessibility Adjustment Ratio (R2)	**Within a 500m-radius of rail station**		**0.75**			
			Outside a 500m-radius of rail station		1.0			
		Development Intensity Adjustment Ratio (R3)	Domestic Plot Ratio (PR)	0.00 < PR ≤ 1.00	1.3			
				1.00 < PR ≤ 2.00	1.1			
				2.00 < PR ≤ 5.00	**1.0**			
				5.00 < PR ≤ 8.00	0.9			
				PR > 8.00	0.75			
		Visitor Car Parking (5m (L) × 2.5m (W) × 2.4m (H))						
		Developments with more than 75 units per block should be provided at 5 visitor spaces per block in addition to the requirements, or as determined by the Authority.				10	10	10
		Total Private Car Parking Spaces (incl. accessible car parking spaces)				64	104	**104**
		Accessible Car Parking (5m (L) × 3.5m (W) × 2.4m (H))						
		Total Provision of Private Car Parking Spaces in the Lot	Required No. of Accessible Car Parking Spaces			2	2	2
		1 – 50	1					
		51 – 150	2					
		151 – 250	3					
		251 – 350	4					
		351 – 450	5					
		Above 45	6					
		Motorcycle Parking (2.4m (L) × 1m (W) × 2.4m (H))						
		1 motorcycle parking space per 100 – 150 flats excluding non-residential elements.				3	5	**5**
		Bicycle Parking						
		1 bicycle parking space for every 7.5 flats.				-		**56**
	L/UL Bay	**M/HGV Loading / Unloading (11m (L) × 3.5m (W) × 4.7m (H))**						
		Minimum of 1 loading / unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority.				1	2	**2**

3.3.3 The proposed internal transport facilities will be self-contained within the Application Site and will be provided at ground-floor and basement levels.

4. Traffic Impact Assessment

4.1 Trip Generation and Attraction of Proposed Development

4.1.1 The likely amount of traffic generated and attracted by the proposed development are estimated based on "Traffic Rates for Residential Developments at 95% Confidence Level" adopted in the TPDM Vol. 1 Table 1. The adopted trip rates are presented in **Table 4.1.1**.

Table 4.1.1 Adopted Trip Generation and Attraction Rates for Proposed Development

Development Use	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Domestic Use				
Private Housing: High-Density / R(A) (pcu/hr/flat) (1)	0.0718	0.0425	0.0286	0.0370

Note:

(1) Trip Rate based on "Traffic Rates for Residential Developments at 95% Confidence Level" in the Transport Planning and Design Manual (TPDM) Vol.1 Table 1, for average flat size 60m^2.

4.1.2 The estimated traffic generation and attraction of the proposed development are presented in **Table 4.1.2**.

Table 4.1.2 Traffic Generation and Attraction of Proposed Development (pcu/hr)

Development Parameters		AM Peak		PM Peak	
		Generation	Attraction	Generation	Attraction
40m^2 < FS ≤ 70m^2	416 flats	30	18	12	15
Total		**48**		**27**	

4.1.3 As indicated, the proposed development is estimated to generate approx. 48 pcu/hr and 27 pcu/hr (two-way) during the morning and evening peak hours, respectively.

4.2 Future Traffic Growth

4.2.1 The proposed development is targeted for completion in Year 2035. In order to assess the traffic impact of the development-related traffic on the adjacent road network, Year 2038 (i.e. 3 years after completion) is adopted as the design year of the traffic assessment.

4.2.2 A two-tier transport modelling approach is adopted: the Strategic Transport Model (STM) at the upper tier, and the Local Area Traffic Model (LATM) at the lower tier.

Upper Tier: Strategic Transport Model (STM) Structure

4.2.3 The STM is a link-based transport model that produces transport demand forecasts at both strategic and inter-district levels. It is primarily used to estimate the district-to-district travel demand by different private and public transport modes with respect to the territory-wide transport infrastructures.

4.2.4 The STM follows the conventional four-step modelling approach, comprising trip generation, trip distribution, modal split and trip assignment. It forecasts passenger and vehicular flows on the transport network system for different periods throughout the day. This approach offers the advantage to reflect the influence of socio-economic assumptions and transport infrastructure provision on travel demand and mode choice.

4.2.5 The strategic and inter-district vehicular demand derived from the STM serves as the primary input to the LATM.

Lower Tier: Local Area Traffic Model (LATM) Structure

4.2.6 The LATM is a junction-based assignment model that simulates local traffic demand at the intra-district level. By incorporating local junction characteristics, it estimates junction delays and traffic queues and accounts for their influence on route choice.

4.2.7 The development of the LATM follows the approach adopted in Transport Department's 2019-based Base District Traffic Model (BDTM), with a forecast year of 2038. The LATM serves as a peak hour trip assignment model, comprising two key components: (i) the "trip matrix", which specifies the number of morning and evening peak hour trips from zone i to zone j; and (ii) the "network", which specifies the physical structure of road links and junctions where trips take place. Both the matrix and the network are fed into a "route choice" model, which allocates trips to specific "routes" through the network through the model assignment process.

4.2.8 There are three vehicle types represented in the LATM: private vehicles, goods vehicles and road-based public transport services. Private vehicles and goods vehicles are fed into the model using trip matrices, while public transport vehicles operate on fixed routes and are pre-loaded into the network.

4.2.9 The LATM matrices are developed from cordoned matrices extracted from the STM, maintaining the same model area coverage. Compatibility between the STM and LATM is ensured by controlling external trip ends, which correspond to the link flows of major roads along the cordon. In other words, the LATM is consistent with the STM in terms of socio-economic assumptions, transport infrastructure and road network configurations.

4.2.10 Link and junction performance in this TIA is evaluated based on the traffic forecasts generated by the LATM.

Model Validation

4.2.11 As the road network and traffic flows in the 2019-based BDTM were validated only up to the base year 2019, the LATM was further validated against the latest surveyed traffic conditions. This validation used observed peak-hour traffic flows obtained from the traffic survey carried out in July 2026 at the identified key junctions and road links, as summarised in **Section 2.3** and shown in **Figure 2.1**, taking into account the latest traffic aids, junction layouts and method of control within the study area. The validation criteria adopted for the 2026 LATM are consistent with those used in the Transport Department's BDTM.

4.3 Adjacent Developments

4.3.1 The traffic forecast takes into account the major planned, under construction and recently completed developments in the vicinity that are anticipated to generate traffic demand affecting the identified key junctions and road links.

4.3.2 Under the 2019-based BDTM, the major planned, under-construction and recently completed developments in the vicinity of the Application Site incorporated into the Design Year 2038 BDTM trip matrices are listed in **Table 4.3.1**.

Table 4.3.1 Adjacent Planned / Under Construction / Recently Completed Developments under 2019-based BDTM

Developments Incorporated in 2019-based BDTM		Ref. Index in BDTM
Kindergarten / Primary School	1 Ko Po Path, Yuen Long, N.T. 5.2.6/(5)	A22-T01
Private Housing	Kam Sheung Road Station Phase 1 Property Development, New Territories D.D. 103 Lot 1040 5.3.1/(27)	B21-T02
Industrial	Kam Tin North, Yuen Long, New Territories Various Lots in D.D. 109 4.1.4/(1)	C20-T02
Private Housing	Ha Ko Po Tsuen, Kam Tin, Yuen Long, New Territories D.D.103 Lot 215 s.C, 242 s.B R.P., 264 s.B R.P., 266 s.A, 266 R.P., 267, 268, 269, 269 s.B R.P., 269 s.B ss.2 R.P., 270, 271, 272, 275, 277, 295 and 296 s.B 5.2.6/(5)	C22-T06
Private Housing	Lots 215 S.C, 242 S.B RP, 264 S.B RP, 266 S.A, 266 RP, 267, 268, 269 S.B RP, 269 S.B ss.2 RP, 270, 271, 272, 275, 277 (part), 295 (part) and 296 S.B RP (part) in D.D.103 and Adjoining Government Land, Ha Ko Po Tsuen, Kam Tin, Yuen Long	D20-T09
Private Housing	Lot 2206 in D.D. 109, Kam Tai Road, Kam Tin, Yuen Long, N.T.	D22-T02
Private Housing	Lots 624 and 787 in D.D. 110 and Adjoining Government Land, Kam Tin Road, Shek Kong San Tsuen, Yuen Long	D24-T02
Private Housing	Lot 1071 in D.D. 103, Ha Ko Po Tsuen, Kam Tin, Yuen Long	D24-T05
Private Housing	Kam Sheung Road Station Packages 1 & 2	MN15, MN16
Private Housing	Pat Heung Maintenance Centre	MN17
Public Housing	Kam Sheung Road Site 1 Phase 2, Site 4a Phases 1 & 2 & Part, Site 6 Phases 1 & 2	HN006, HN025, HN034, HN035, HN046, HN090
New Development District	Kam Tin South	
New Development District	Yuen Long South	
Infrastructure	Route 11 (section between Yuen Long and North Lantau)	
Infrastructure	Tuen Mun Bypass	

4.3.3 In addition to the developments listed in **Table 4.3.1**, the following major planned, under construction and recently completed developments were further incorporated in the traffic forecast and are summarised in **Table 4.3.2** below.

Table 4.3.2 Adjacent Planned / Under Construction / Recently Completed Developments to be Further Incorporated

Developments in addition to 2019-based BDTM		Planning Application No.	Parameters
Private Housing, Retail	Various Lots in D.D. 107 and Adjoining Government Land, Cheung Chun San Tsuen Road, Kam Tin, Yuen Long	A/YL-KTN/604	3,891 flats, 8,088 m^2 GFA
Private Housing	Lots 1783 (Part), 1784 RP, 1788 RP, 1789 RP, 1790 RP (Part), 1791 RP, 1795 (Part),1796 (Part), 1797 (Part), 1836 (Part), 1927 S.A and 1927 RP (Part) in D.D. 107 and Adjoining Government Land, Kam Tin, Yuen Long	A/YL-KTN/663	4,282 flats

4.4 Other Road & Junction Improvement Schemes

4.4.1 Planned, under construction and recently completed road and junction improvement works in the vicinity of the Application Site are identified below:

- "Site Formation and Infrastructure Works for Developments at Kam Tin South, Yuen Long – Advance Works", under Civil Engineering and Development Department (Contract No. YL/2017/01)

4.4.2 The corresponding discussion paper or Gazette Plans of the above improvement schemes are provided in **Appendix B**.

4.5 Additional Development Assumptions

4.5.1 As outlined in **Section 1.1**, another concurrent application is under preparation for the KHW Site. Given its close proximity to the Application Site, the traffic associated with the KHW Site is incorporated in the assessment as an additional development assumption.

4.5.2 The corresponding traffic generation and attraction associated with the KHW Site are presented in **Table 4.5.1**. The development assumptions and trip generation estimates adopted for the KHW Site are used solely for this assessment and remain subject to separate review and refinement under the corresponding planning application.

Table 4.5.1 Traffic Generation and Attraction of KHW Development (pcu/hr)

Development Parameters	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Domestic Use				
$40m^2 < FS \leq 70m^2$	234	139	93	121
$FS > 160m^2$	5	3	3	4
Retail	8	9	11	13
Sub-total	**247**	**151**	**107**	**138**
Non-domestic Facilities				
Public Transport Interchange	51	51	51	51
Total	**500**		**347**	

4.5.3 As indicated, the KHW Site is estimated to generate approx. 500 pcu/hr and 347 pcu/hr (two-way) during the morning and evening peak hours, respectively.

4.6 Assessment Scenarios

4.6.1 To evaluate the traffic impact associated with the proposed development at the Application Site, two scenarios are analysed and compared. Scenario 1 is the Reference Scenario (without the proposed development) in Year 2038. Scenario 2 is the Design Scenario (with the proposed development) in Year 2038.

Scenario 1: Reference Scenario (without the proposed development at the Application Site and the KHW Site)

Year 2038 Reference Scenario

= Adjusted Year 2038 Two-Tier Transport Model traffic flows

Plus traffic generation of major planned, under construction and recently completed developments in the vicinity that are not incorporated in 2019-based BDTM

Scenario 2: Design Scenario (with the proposed development at the Application Site and traffic associated with the KHW Site)

Year 2038 Design Scenario

= Year 2038 Reference Scenario

Plus trip generation and attraction associated with the proposed development at the Application Site as indicated in **Table 4.1.2**; and

Plus trip generation and attraction associated with the KHW Site as indicated in **Table 4.5.1**.

4.6.2 The forecasted traffic flows for the Reference and Design Scenarios are presented in **Figure 4.1** and **Figure 4.2**, respectively. The traffic flows associated with the proposed development at the Application Site and the concurrent KHW Site are presented in **Figure 4.3** and **Figure 4.4**, respectively.

4.7 Junction Capacity Assessment

4.7.1 A junction capacity assessment was carried out at the identified key junctions for Year 2038 Reference and Design Scenarios. The assessment results are presented in **Table 4.7.1** below, with the detailed junction calculation sheets provided in **Appendix A**.

Table 4.7.1 Year 2038 Reference & Design Junction Performance

Junctions		Type	Performance (1)			
			2038 Reference		2038 Design	
			AM	PM	AM	PM
J1	Kam Tin Road / Tsing Long Highway Slip Road	Signalised	26%	24%	20%	19%
J2	Kam Tin Road / Kam Tin Bypass / Kam Ho Road	Roundabout	0.61	0.55	0.65	0.60
J3	Kam Tin Road / Kam Sheung Road (Western Junction)	Signalised	47%	42%	43%	38%
J4	Kam Tin Road / Kam Tin Bypass / Tung Wui Road	Roundabout	0.58	0.54	0.59	0.56
J5	Tung Wui Road / Kam Sheung Road	Signalised	>100%	82%	55%	51%
J6	Kam Ho Road / Tung Wui Road	Roundabout	0.27	0.38	0.32	0.43
J7	Tung Wui Road / Kam Wui Road	Priority	< 0.1	< 0.1	< 0.1	< 0.1

Note:

(1) Figures shown represent "Reserve Capacity" (RC) in % for signalised junctions and "Design Flow Capacity" (DFC) ratio for roundabouts and priority junctions.

4.7.2 The results indicate that all identified key junctions would operate within capacity under both the Year 2038 Reference and Design Scenarios. Accordingly, the proposed development at the Application Site, with traffic associated with the KHW Site taken into account, would not impose adverse traffic impacts.

4.8 Link Capacity Assessment

4.8.1 A road link capacity assessment was also carried out for Year 2038 Reference and Design Scenarios. The assessment results are presented in **Table 4.8.1** below.

Table 4.8.1 Year 2038 Reference & Design Link Performance

Road Link (1)		Dir.	Link Capacity (pcu/hr)	2038 Reference				2038 Design			
				Traffic Flow (2)		V/C Ratio (3)		Traffic Flow (2)		V/C Ratio (3)	
				AM	PM	AM	PM	AM	PM	AM	PM
L1	Kam Tin Road (Section between Tsing Long Highway Slip Road and Kam Ho Road)	EB	5400	2445	2225	0.45	0.41	2620	2375	0.49	0.44
		WB	3600	2640	2210	0.73	0.61	2855	2350	0.79	0.65
L2	Kam Tin Bypass	EB	3600	760	845	0.21	0.23	815	890	0.23	0.25
		WB	3600	895	780	0.25	0.22	975	820	0.27	0.23
L3	Kam Tin Road (Section between Kam Sheung Road and Tung Wui Road)	EB	900	300	270	0.33	0.30	300	270	0.33	0.30
		WB	900	430	400	0.48	0.44	430	400	0.48	0.44
L4	Kam Sheung Road (Section north of Tung Wui Road)	EB	900	460	440	0.51	0.49	480	460	0.53	0.51
		WB	900	455	425	0.51	0.47	475	440	0.53	0.49
L5	Kam Sheung Road (Section between Tung Wui Road and Kam Shui South Road)	EB	900	560	570	0.62	0.63	760	755	0.84	0.84
		WB	900	485	535	0.54	0.59	720	705	0.80	0.78
L6	Tung Wui Road (Section east of Kam Sheung Road)	NE	3600	340	515	0.09	0.14	430	560	0.12	0.16
		SB	3600	415	455	0.12	0.13	480	515	0.13	0.14
L7	Tung Wui Road (Section between Kam Wui Road and Kam Sheung Road)	NE	3600	450	625	0.13	0.17	595	740	0.17	0.21
		SB	3600	455	545	0.13	0.15	610	665	0.17	0.18
L8	Kam Ho Road (Section between Kam Tin Road and Tung Wui Road)	NE	3600	600	715	0.17	0.20	715	800	0.20	0.22
		SB	3600	700	930	0.19	0.26	800	1015	0.22	0.28
L9	Kam Tin Road (Section between Tung Wui Road and Fan Kam Road)	EB	1100	995	1095	0.90	1.00	1005	1100	0.91	1.00
		WB	1100	1260	1195	1.15	1.09	1270	1210	1.15	1.10

Notes:

(1) For conservative approach, the road links are assessed based on the greatest traffic flows at the road sections of corresponding roads within the area of influence (AOI).

(2) Figures are rounded to the nearest 5.

(3) The assessment framework for the road links is based on the ratio of surveyed traffic volume over the link capacity (V/C) to measure the utilisation of the road link. A V/C ratio below 1.0 is considered acceptable. A V/C ratio above 1.0 indicates the onset of mild congestion and a V/C ratio between 1.0 and 1.2 would indicate a manageable degree of congestion. A V/C ratio above 1.2 indicates the onset of more serious congestion.

4.8.2 The results indicate that all identified key road links would operate within capacity during the morning and evening peak hours under both the Year 2038 Reference and Design Scenarios. Accordingly, the proposed development at the Application Site, with traffic associated with the KHW Site taken into account, would not impose adverse traffic impacts.

4.9 Pedestrian Impact Assessment

Baseline Pedestrian Growth

4.9.1 With reference to the "2021-based Territorial Population and Employment Data Matrix (TPEDM)" for Yuen Long District published by the Planning Department, an average annual growth rate of **+1.98%** between Years 2026 and 2031, is adopted for projecting the baseline pedestrian demand to the Design Year 2038, as summarised in **Table 4.9.1**.

Table 4.9.1 Annual Average Growth Rate by 2021-based TPEDM (Yuen Long District)

Year	2021	2026	2031
Population	668,100	685,000	760,600
Employment	152,850	238,500	258,200
Total	820,950	923,500	1,018,800
Average Annual Growth Rate	**1.98% (2026 to 2031)**		

Passenger Trip Generation of Proposed Development

4.9.2 The anticipated population of the proposed development is approx. 1,207. According to the "Travel Characteristics Survey (TCS) 2022" published by the Transport Department, the anticipated passenger demand generated by the proposed development is summarised in **Table 4.9.2**.

Table 4.9.2 Passenger Trip Generation of Proposed Development (pax/hr)

Proposed Development Parameters		
No. of Flats	416 flats	
Population (1)	1,207	
Mechanised Trip Generation	**AM**	**PM**
Daily Mechanised Trip Rate (2)	1.69 trips/person	
Proportion of Daily Trips (2)	13%	14%
Peak Hour Trips	265 pax/hr (1,207 × 1.69 × 13%)	286 pax/hr (1,207 × 1.69 × 14%)

Notes:

(1) An average domestic household size of 2.9 of the Tertiary Planning Unit 531 is assumed based on the "2021 Population Census" published by the Census and Statistics Department.

(2) According to "Travel Characteristics Survey (TCS) 2022" published by the Transport Department, the daily mechanised trip rate is 1.69 trips per person, with the morning and evening peak hours each accounting for about 13% and 14% of daily trips, respectively.

Pedestrian Demand associated with External Trips

4.9.3 Having considered the good accessibility to nearby public transport facilities, as discussed in **Section 2.4**, it is anticipated that residents would mainly access the MTR, franchised bus and public light bus services via the two critical footpaths identified in **Section 2.5**.

4.9.4 The modal split for residents in Yuen Long District, extracted from the "2021 Population Census" published by the Census and Statistics Department, is summarised in **Table 4.9.3**.

Table 4.9.3 Main Mode of Transport to Place of Work and Study in Yuen Long District

Mode of Transport	Number of Persons											
	MTR (Local Line)	Bus	Public Light Bus	MTR (Light Rail)	Residential Coach Service	Ferry / Vessel	On Foot Only	Private Car / Passenger Van	Company Bus / Van / School Bus	Taxi	Others	Total
To Place of Work	90,523	59,345	7,913	20,458	2,628	468	16,860	24,012	6,848	1,275	4,146	234,476
To Place of Study	24,201	13,300	3,240	15,468	1,039	9	25,776	8,536	7,186	397	801	99,953
Total	114,724	72,645	11,153	35,926	3,667	477	42,636	32,548	14,034	1,672	4,947	334,429
Spilt	34.3%	21.7%	3.3%	10.7%	1.1%	0.1%	12.7%	9.7%	4.2%	0.5%	1.5%	100%

Sources: Tables B203 and C204 (under the District Council District "Yuen Long") in the "2021 Population Census", published by the Census and Statistics Department

4.9.5 With the consideration of the location of the Application Site, "MTR (Light Rail)", "Residential Coach Service", "Ferry / Vessel" and "On Foot Only" transport modes, are assumed not to be accessible to the residents. For a conservative assessment, the corresponding passenger trips are therefore reassigned amongst the major public transport modes available in the vicinity, namely "MTR (Local Line)", "Bus" and "Public Light Bus".

4.9.6 Trips associated with "Private Car / Passenger Van", "Company Bus / Van / School Bus", "Taxi" and "Others" private transport modes are assumed to be accommodated by on-site transport facilities and were unlikely to generate pedestrian movements on the external footpath network.

4.9.7 For the purpose of assessing future pedestrian walking conditions, only trips requiring access via the two critical footpaths are assumed to contribute to pedestrian demand. The resulting pedestrian demand adopted for the assessment is summarised in **Table 4.9.4**.

Table 4.9.4 Transport Modes Considered in Pedestrian Demand Assessment

Mode of Transport	Adjusted Modal Split (%)	Contribution to Pedestrian Demand	Pedestrian Demand (3) (ped/hr)	
			AM	PM
MTR (Local Line)	49.1%	✓ Yes	130	140
Bus	30.4%	✓ Yes	81	87
Public Light Bus	4.6%	✓ Yes	12	13
MTR (Light Rail)	0% (1)	-	-	-
Residential Coach Service	0% (1)	-	-	-
Ferry / Vessel	0% (1)	-	-	-
On Foot Only	0% (1)	-	-	-
Private Car / Passenger Van	9.7%	× No (2)	-	-
Company Bus / Van / School Bus	4.2%	× No (2)	-	-
Taxi	0.5%	× No (2)	-	-
Others	1.5%	× No (2)	-	-
Total	**100%**	**-**	**223 ped/hr**	**240 ped/hr**

Notes:

(1) Considered not accessible to future residents and corresponding trips were therefore reassigned amongst "MTR (Local Line)", "Bus" and "Public Light Bus".

(2) Assumed to be accommodated by on-site transport facilities and are therefore not expected to generate pedestrian movements on the external footpaths.

(3) Derived from the peak hour passenger trips in **Table 4.9.2** based on the adjusted modal split and pedestrian demand assumptions.

Footpath LOS Assessment

4.9.8 An LOS assessment was carried out at the identified critical footpaths for Year 2038 Reference and Design Scenarios. The assessment results are presented in **Table 4.9.5** and **Table 4.9.6** below.

Table 4.9.5 Year 2038 Reference Level of Service at Key Footpaths

Footpath		Actual Width (m)	Effective Clear Width [1] (m)	Two-way Peak Hour Flow [2] (ped/hr)		Flow Rate [3] (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tung Wui Road	4.5	3.5	465	510	2.7	2.9	A	A
F2	Kam Wui Road	2.5 [4]	1.5	125	90	1.7	1.2	A	A

Notes:

(1) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides

(2) Figures are rounded to the nearest 5.

(3) Pedestrian flow rate is computed based on effective clear width, with 1.2 peak factor applied for the peak minute flow rate.

(4) With the implementation of proposed road modification works as discussed in **Section 3.2**.

Table 4.9.6 Year 2038 Design Level of Service at Key Footpaths

Footpath		Actual Width (m)	Effective Clear Width [1] (m)	Two-way Peak Hour Flow [2] (ped/hr)		Flow Rate [3] (ped/min/m)		LOS (Level)	
				AM	PM	AM	PM	AM	PM
F1	Tung Wui Road	4.5	3.5	690	755	3.9	4.3	A	A
F2	Kam Wui Road	2.5 [4]	1.5	350	335	4.7	4.5	A	A

Notes:

(1) Effective clear width = Actual width (on-site measurement) minus 0.5m dead width on both sides

(2) Figures are rounded to the nearest 5.

(3) Pedestrian flow rate is computed based on effective clear width, with 1.2 peak factor applied for the peak minute flow rate.

(4) With the implementation of proposed road modification works as discussed in **Section 3.2**.

4.9.9 The results indicate that the identified critical footpaths would operate at LOS "A" during the morning and evening peak hours under both the Year 2038 Reference and Design Scenarios. Accordingly, the proposed development would not impose adverse pedestrian impacts.

5. Sensitivity Assessment

5.1 Background

5.1.1 As outlined in **Section 1.1.5**, a sensitivity assessment is undertaken for reference purposes to evaluate the potential traffic implications associated with a more rationalised development boundary incorporating adjoining areas outside the Application Site. The location of such areas is shown in **Figure 1.3**.

5.1.2 The additional areas comprise three sites, namely Site 2, Site 3 and Site 4 (hereinafter "sensitivity test area"). They do not form part of this Planning Application. For assessment purposes, they are assumed to be developed for residential use with a domestic plot ratio (PR) of 3, which is consistent with the proposed development at the Application Site.

5.1.3 The sensitivity assessment is based on the Design Scenario presented in **Section 4**, with additional traffic generated by the assumed residential development within the sensitivity test area incorporated into the assessment.

5.2 Development Schedule of Sensitivity Test Area

5.2.1 The indicative development schedule for the sensitivity test area is summarised in **Table 5.2.1**.

Table 5.2.1 Indicative Development Parameters of Sensitivity Test Area

Sensitivity Test Area	Site Area (m^2)	Non-domestic Facilities	Domestics Facilities			
			Plot Ratio	No. of Blocks	Flat Mix	
Site 2	11,610	Nil	3.0	7	$40m^2 < FS \leq 70m^2$	744
Site 3	1,738	Nil	3.0	1	$40m^2 < FS \leq 70m^2$	102
Site 4	1,447	Nil	3.0	1	$70m^2 < FS \leq 100m^2$	60
			Total	**9**	**-**	**906**

5.3 Trip Generation and Attraction of Sensitivity Test Area

5.3.1 The adopted trip rates and corresponding traffic generation and attraction for the sensitivity test area are presented in **Table 5.3.1**.

Table 5.3.1 Traffic Generation and Attraction of Sensitivity Test Area

Development Use			AM Peak		PM Peak	
			Generation	Attraction	Generation	Attraction
Residential 906 flats	Flat Size		Adopted Trip Rates (pcu/hr/flat) (1)			
	$40m^2 < FS \leq 70m^2$		0.0718	0.0425	0.0286	0.0370
	$70m^2 < FS \leq 100m^2$		0.0888	0.0515	0.0356	0.0480
	Flat Mix		Trips (pcu/hr)			
	$40m^2 < FS \leq 70m^2$	846 flats	61	36	24	31
	$70m^2 < FS \leq 100m^2$	60 flats	5	3	2	3

Development Use	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Total (pcu/hr)	66	39	26	34
	105		60	

Notes:

(1) Trip Rates based on "Traffic Rates for Residential Developments at 95% Confidence Level" in the Transport Planning and Design Manual (TPDM) Vol.1 Table 1, for average flat sizes 60m^2 and 70m^2 respectively.

5.3.2 As indicated, the sensitivity test area is estimated to generate approx. 105 pcu/hr and 60 pcu/hr (two-way) during the morning and evening peak hours, respectively.

5.4 Sensitivity Assessment Scenario

5.4.1 To evaluate the potential traffic implications associated with the sensitivity test area, Scenario 3 is analysed and compared. Scenario 3 is the Sensitivity Scenario (with the sensitivity test area) in Year 2038.

Scenario 3: Sensitivity Scenario (with sensitivity test area)

Year 2038 Sensitivity Scenario

= Year 2038 Design Scenario

Plus trip generation and attraction associated with the indicative development within the sensitivity test area as indicated in **Table 5.3.1**.

5.4.2 The forecasted traffic flow for the above scenario is presented in **Figure 5.1**. The traffic flow generated by the indicated development within the sensitivity test area is presented in **Figure 5.2**.

5.5 Junction Capacity Assessment

5.5.1 A junction capacity assessment was carried out at the identified key junctions for the Year 2038 Sensitivity Scenario. The assessment results are presented in **Table 5.5.1** below, with the detailed junction calculation sheets provided in **Appendix C**.

Table 5.5.1 Year 2038 Sensitivity Junction Performance

Junctions		Type	Performance (1)	
			AM	PM
J1	Kam Tin Road / Tsing Long Highway Slip Road	Signalised	18%	18%
J2	Kam Tin Road / Kam Tin Bypass / Kam Ho Road	Roundabout	0.68	0.61
J3	Kam Tin Road / Kam Sheung Road (Western Junction)	Signalised	43%	38%
J4	Kam Tin Road / Kam Tin Bypass / Tung Wui Road	Roundabout	0.60	0.56
J5	Tung Wui Road / Kam Sheung Road	Signalised	55%	51%
J6	Kam Ho Road / Tung Wui Road	Roundabout	0.33	0.45
J7	Tung Wui Road / Kam Wui Road	Priority	0.13	0.06

Note:

(1) Figures shown represent "Reserve Capacity" (RC) in % for signalised junctions and "Design Flow Capacity" (DFC) ratio for roundabouts and priority junctions.

5.5.2 The results indicate that all identified key junctions would operate within capacity under the Year 2038 Sensitivity Scenario. Accordingly, the indicative development under the sensitivity test area would not result in adverse traffic implications.

5.6 Link Capacity Assessment

5.6.1 A road link capacity assessment was also carried out for the Year 2038 Sensitivity Scenario. The assessment results are presented in **Table 5.6.1** below.

Table 5.6.1 Year 2038 Sensitivity Link Performance

Road Link (1)		Dir.	Link Capacity (pcu/hr)	Traffic Flow (2)		V/C Ratio (3)	
				AM	PM	AM	PM
L1	Kam Tin Road (Section between Tsing Long Highway Slip Road and Kam Ho Road)	EB	5400	2655	2410	0.49	0.45
		WB	3600	2915	2375	0.81	0.66
L2	Kam Tin Bypass	EB	3600	815	890	0.23	0.25
		WB	3600	1015	835	0.28	0.23
L3	Kam Tin Road (Section between Kam Sheung Road and Tung Wui Road)	EB	900	300	270	0.33	0.30
		WB	900	430	400	0.48	0.44
L4	Kam Sheung Road (Section north of Tung Wui Road)	EB	900	480	460	0.53	0.51
		WB	900	495	450	0.55	0.50
L5	Kam Sheung Road (Section between Tung Wui Road and Kam Shui South Road)	EB	900	760	755	0.84	0.84
		WB	900	720	705	0.80	0.78
L6	Tung Wui Road (Section east of Kam Sheung Road)	NE	3600	475	575	0.13	0.16
		SB	3600	485	515	0.13	0.14
L7	Tung Wui Road (Section between Kam Wui Road and Kam Sheung Road)	NE	3600	660	765	0.18	0.21
		SB	3600	615	665	0.17	0.18
L8	Kam Ho Road (Section between Kam Tin Road and Tung Wui Road)	NE	3600	715	800	0.20	0.22
		SB	3600	835	1050	0.23	0.29
L9	Kam Tin Road (Section between Tung Wui Road and Fan Kam Road)	EB	1100	1010	1100	0.92	1.00
		WB	1100	1275	1210	1.16	1.10

Notes:

(1) For conservative approach, the road links are assessed based on the greatest traffic flows at the road sections of corresponding roads within the area of influence (AOI).

(2) Figures are rounded to the nearest 5.

(3) The assessment framework for the road links is based on the ratio of surveyed traffic volume over the link capacity (V/C) to measure the utilisation of the road link. A V/C ratio below 1.0 is considered acceptable. A V/C ratio above 1.0 indicates the onset of mild congestion and a V/C ratio between 1.0 and 1.2 would indicate a manageable degree of congestion. A V/C ratio above 1.2 indicates the onset of more serious congestion.

5.6.2 The results indicate that all identified key road links would operate within capacity during both the morning and evening peak hours under the Year 2038 Sensitivity Scenario. Accordingly, the indicative development under the sensitivity test area would not result in adverse traffic implications.

6. Conclusion

6.1 Summary

6.1.1 This Traffic Impact Assessment (TIA) is prepared in support of the Planning Application under Section 12A of the Town Planning Ordinance (Cap. 131) for the Amendment of Plan for Proposed Residential Development at Lot 2160 RP (Part) in D.D. 106, and Adjoining Government Land, Kam Sheung Road, Kam Tin, Yuen Long, New Territories (the Application Site). The location of the Application Site is shown in **Figure 1.1**.

6.1.2 The Applicant intends to develop the Application Site for residential use. The proposed development is envisaged to be completed by Year 2035, with Year 2038 (i.e. 3 years after completion) adopted as the design year for the traffic assessment.

6.1.3 Vehicular access to and from the Application Site is proposed via Kam Wui Road, a section of which is currently substandard. Modification works are proposed to widen this section to facilitate simultaneous two-way traffic.

6.1.4 The proposed provisions of internal transport facilities are in full compliance with the high-end requirements of the latest Hong Kong Planning Standards and Guidelines (HKPSG). These facilities will be provided on both the ground floor and basement parking floors of the Application Site.

6.1.5 In order to assess the future traffic impacts associated with the proposed development in Year 2038, a two-tier transport modelling approach comprising the Strategic Transport Model (STM) and the Local Area Traffic Model (LATM) has been adopted for the traffic assessment. The assessment is based on the latest available 2019-based Base District Traffic Model (BDTM), which has been further validated against Year 2026 observed traffic conditions.

6.1.6 Another concurrent application is under preparation for the Kong Ha Wai (KHW) Site, shown in **Figure 1.2**. Given its close proximity to the Application Site, traffic associated with the KHW Site is incorporated into the Design Scenario as an additional development assumption.

6.1.7 Two traffic assessment scenarios are established for Year 2038. Scenario 1 is the Reference Scenario, excluding traffic associated with the proposed development at the Application Site and the KHW Site. Scenario 2 is the Design Scenario, including traffic associated with Application Site, with the KHW Site incorporated as an additional development assumption.

6.1.8 The assessment results indicate that all identified key junctions and road links would operate within capacity under both the Year 2038 Reference and Design scenarios. Accordingly, the proposed development at the Application Site, with traffic associated with the KHW Site taken into account, would not impose adverse traffic impacts.

6.1.9 Given the irregular configuration of the Application Site boundary, adjoining areas outside the Application Site are incorporated to form a more rationalised boundary for sensitivity testing, shown in **Figure 1.3**. While these adjoining areas do not form part of this Planning Application, a sensitivity assessment is undertaken for reference purposes to evaluate the potential traffic implications should these areas be included in future planning considerations.

6.1.10 The assessment results indicate that all identified key junctions and road links would operate within capacity under the Year 2038 Sensitivity Scenario. Accordingly, the indicative development under the sensitivity test area would not result in adverse traffic implications.

6.2 Conclusion

6.2.1 It is concluded that the proposed development at the Application Site would not impose adverse traffic impacts on the surrounding road network and is therefore considered feasible from a traffic engineering perspective. Traffic associated with the nearby KHW Site has been taken into account in reaching this conclusion.

FIGURES

N

KAM TIN BYPASS

KAM TIN ROAD

KAM TIN ROAD

KAM TIN ROAD

KAM HO ROAD

KAM SHEUNG ROAD

KAM WUI ROAD

TUNG WUI ROAD

TSING LONG HIGHWAY

APPLICATION SITE

KAM HO ROAD

TUNG WUI ROAD

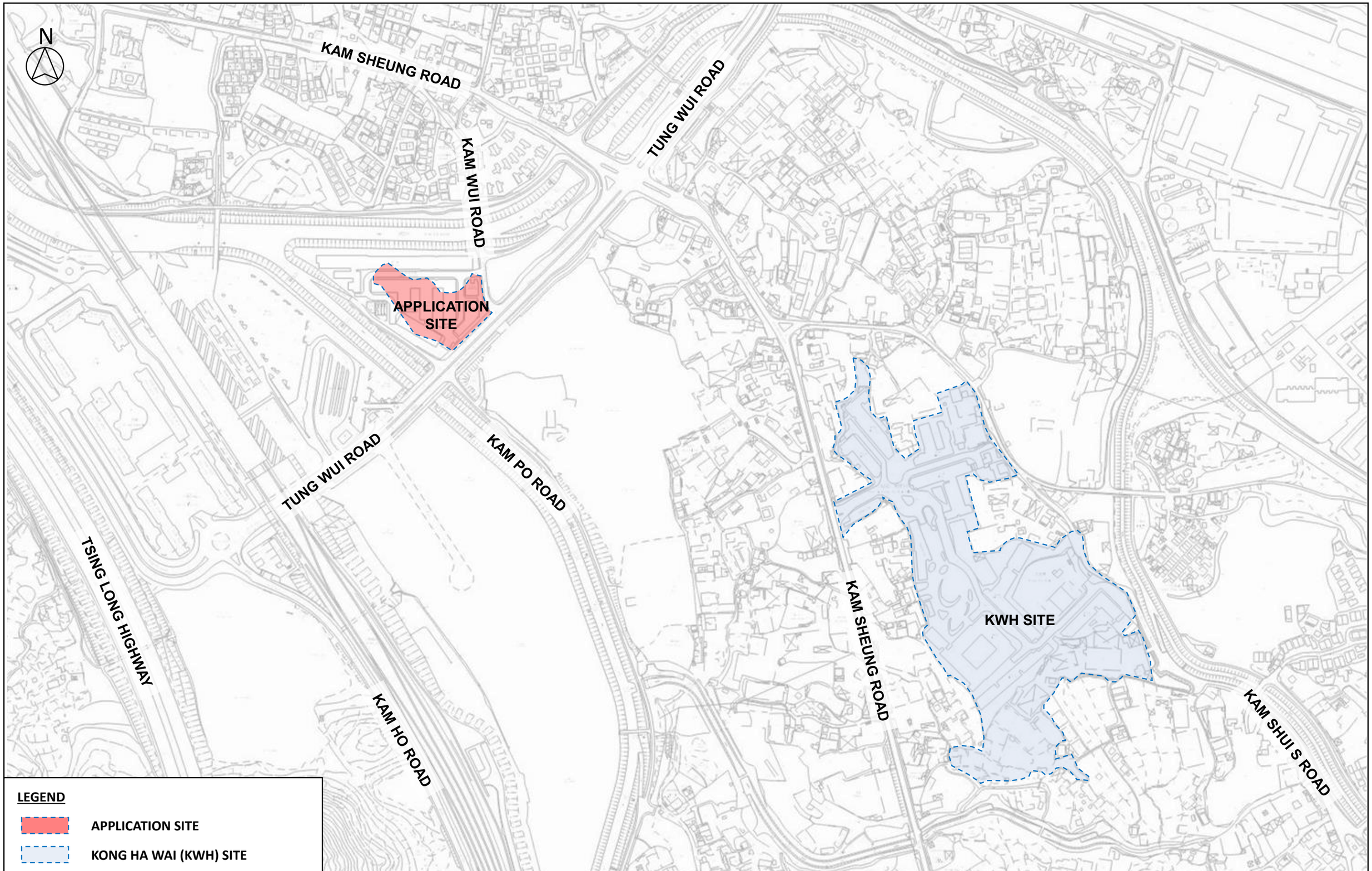
KAM PO ROAD

KAM SHEUNG ROAD

LEGEND

APPLICATION SITE

Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 1.1
Date: OCT 26 / Scale: NTS	Drawing Title: LOCATION OF APPLICATION SITE	ARUP
Drawn / Job No.: 309160-04		



Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 1.2
Date: OCT 26 / Scale: NTS / Drawn / Job No.: 309160-04	Drawing Title: LOCATION OF KONG HA WAI (KHW) SITE	ARUP

N

KAM TIN BYPASS

KAM TIN ROAD

KAM TIN ROAD

KAM TIN ROAD

KAM HO ROAD

KAM SHEUNG ROAD

KAM WUI ROAD

TUNG WUI ROAD

TSING LONG HIGHWAY

(SENSITIVITY TEST AREA)

APPLICATION SITE

KAM HO ROAD

TUNG WUI ROAD

KAM PO ROAD

KAM SHEUNG ROAD

LEGEND

APPLICATION SITE

SENSITIVITY TEST AREA

Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 1.3
Date: OCT 26 / Scale: NTS	Drawing Title: LOCATION OF SENSITIVITY TEST AREA OF APPLICATION SITE	ARUP
Drawn / Job No.: 309160-04		

N

KAM TIN BYPASS

KAM TIN ROAD

J1

L1

J2

L2

J3

L3

KAM TIN ROAD

J4

L9

KAM TIN ROAD

KAM HO ROAD

L4

KAM SHEUNG ROAD

KAM WUI ROAD

L6

TUNG WUI ROAD

L8

TSING LONG HIGHWAY

J5

L7

L5

APPLICATION SITE

J7

KAM HO ROAD

TUNG WUI ROAD

J6

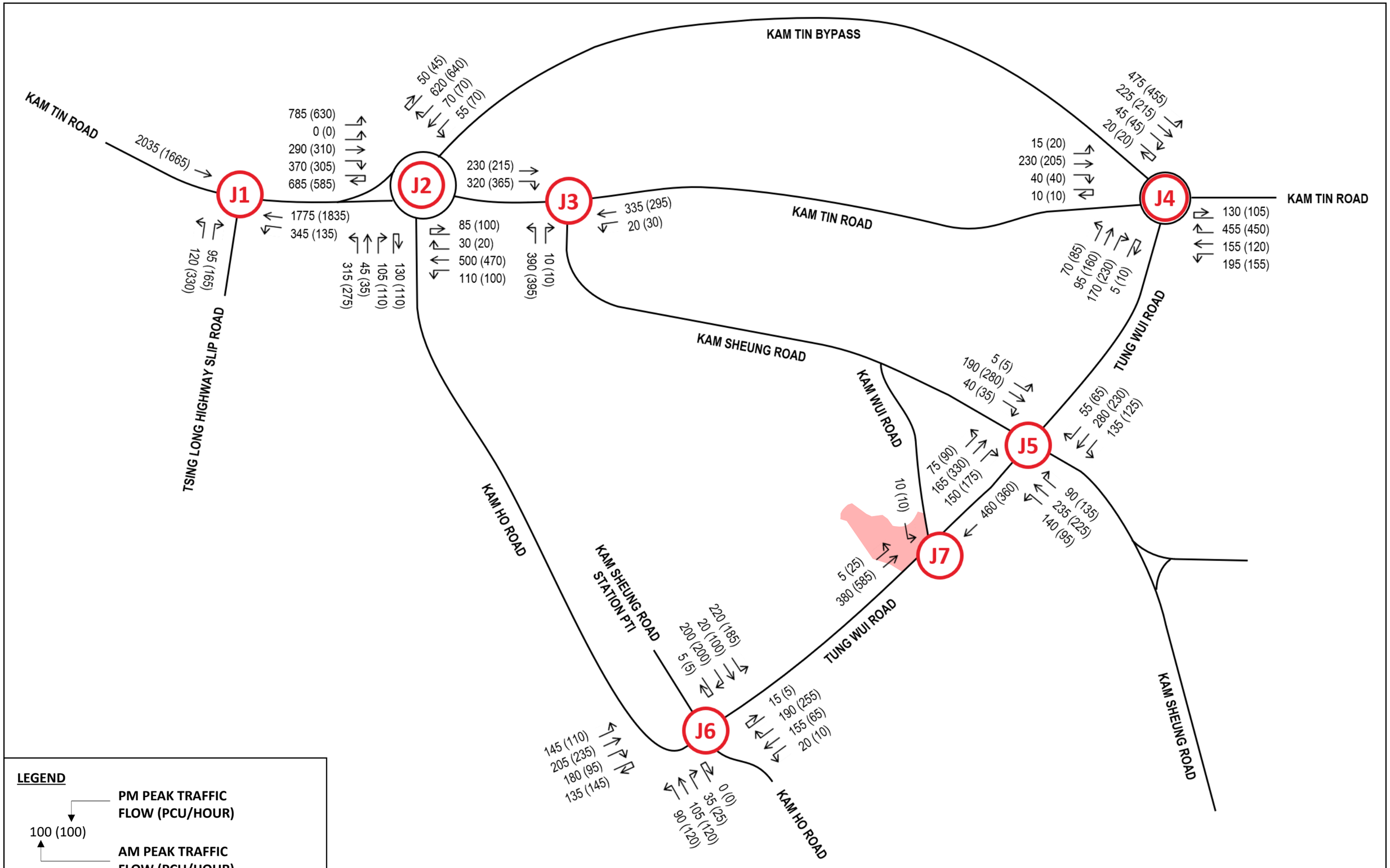
KAM PO ROAD

KAM SHEUNG ROAD

LEGEND

- APPLICATION SITE
- AREA OF INFLUENCE
- J5 — SURVEYED JUNCTION
- L1 — SURVEYED ROAD LINK

Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 2.1
Date: OCT 26 / Scale: NTS	Drawing Title: LOCATIONS OF SURVEYED JUNCTIONS AND LINKS IN THE VICINITY OF APPLICATION SITE	ARUP
Drawn / Job No.: 309160-04		



LEGEND

PM PEAK TRAFFIC FLOW (PCU/HOUR)

100 (100)

AM PEAK TRAFFIC FLOW (PCU/HOUR)

Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 2.2
Date: OCT 26 / Scale: NTS	Drawing Title: YEAR 2026 EXISTING TRAFFIC FLOW	ARUP
Drawn / Job No.: 309160-04		

N

Bus Route:
64K
GMB Route:
71, 72
RMB Route:
Yuen Long – Sheung Chuen

Bus Route:
64K
GMB Route:
78
RMB Route:
Yuen Long – Sheung Chuen

Bus Route:
54, 64K, 77K, 251A, 251C
GMB Route:
602, 608

Bus Route:
54, 64K, 64S, 77K, 251A, 251B, 251C, 268, A36, NA36
GMB Route:
71, 71A, 72, 72M, 78, 78A, 601B, 602, 602C, 608, 608S, 620

Bus Route:
54, 77K

Bus Route:
54, 77K

Bus Route:
64K, 64S, 251A, 251C, E36P
GMB Route:
71, 71A, 72, 78
RMB Route:
Yuen Long – Sheung Chuen

GMB Route:
71, 71A, 72, 78

Bus Route:
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GMB Route:
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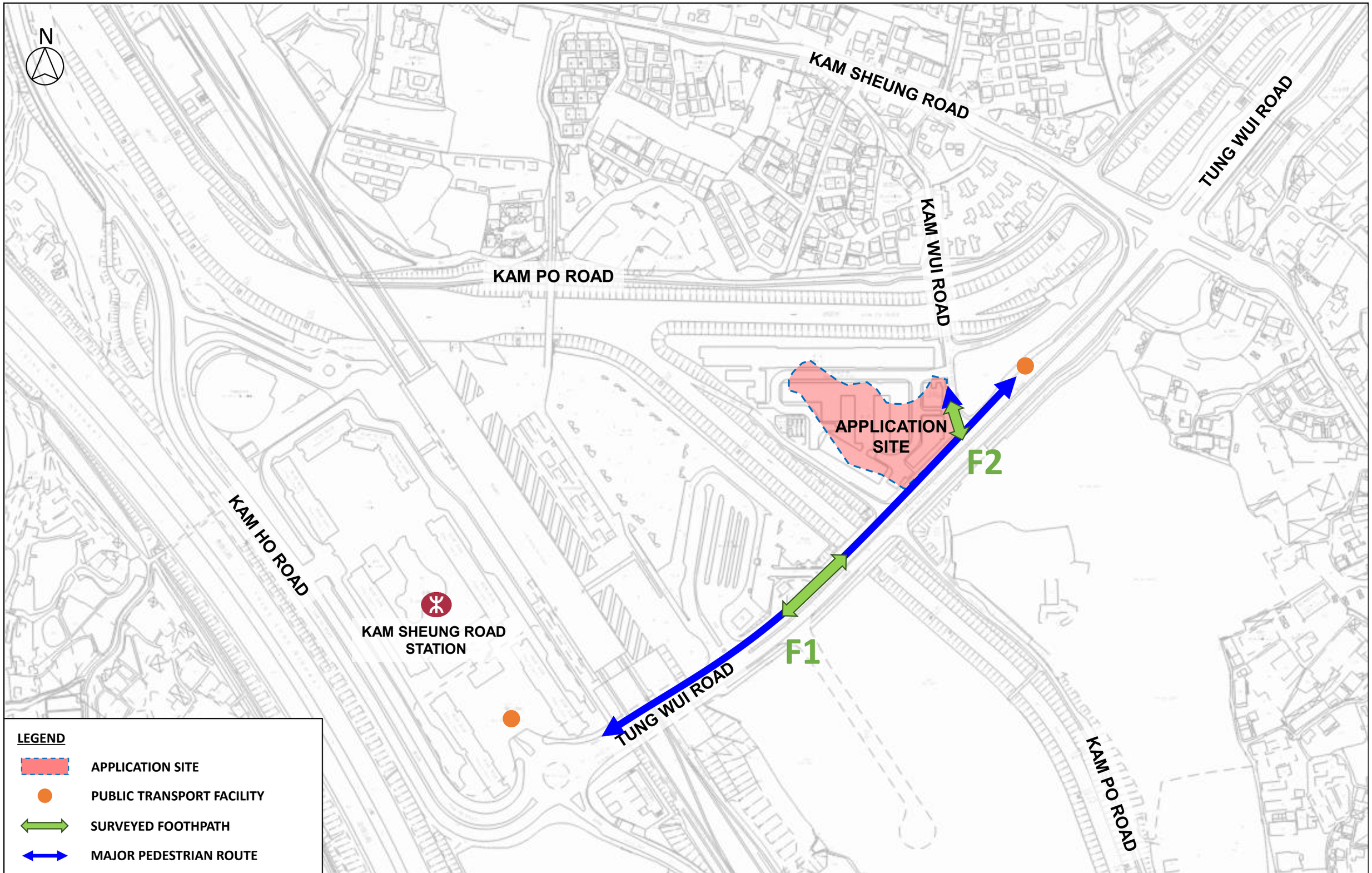
KAM SHEUNG ROAD
KAM WUI ROAD
TUNG WUI ROAD
KAM PO ROAD
KAM HO ROAD
APPLICATION SITE
KAM SHEUNG ROAD STATION
TUNG WUI ROAD
KAM PO ROAD

LEGEND

APPLICATION SITE

PUBLIC TRANSPORT FACILITY

Job Title: S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG		FIGURE 2.3
Date: OCT 26	Scale: NTS	Drawing Title: PUBLIC TRANSPORT FACILITIES IN THE VICINITY OF APPLICATION SITE
Drawn	Job No.: 309160-04	ARUP



Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 2.4
Date: OCT 26 / Scale: NTS / Drawn / Job No.: 309160-04	Drawing Title: PEDESTRIAN FACILITIES ALONG MAJOR PEDESTRIAN ROUTES IN THE VICINITY OF APPLICATION SITE	ARUP



LEGEND

APPLICATION SITE

MLP Update: 21 Sep 2026
(REFERENCE ONLY)

Job Title: **S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG**		**FIGURE 3.1**
Date: **OCT 26** / Scale: **NTS** / Drawn / Job No.: **309160-04**	Drawing Title: **MASTER LAYOUT PLAN OF APPLICATION SITE**	**ARUP**

N

KAM SHEUNG ROAD

TUNG WUI ROAD

KAM WUI ROAD

KAM PO ROAD

APPLICATION SITE

KAM HO ROAD

TUNG WUI ROAD

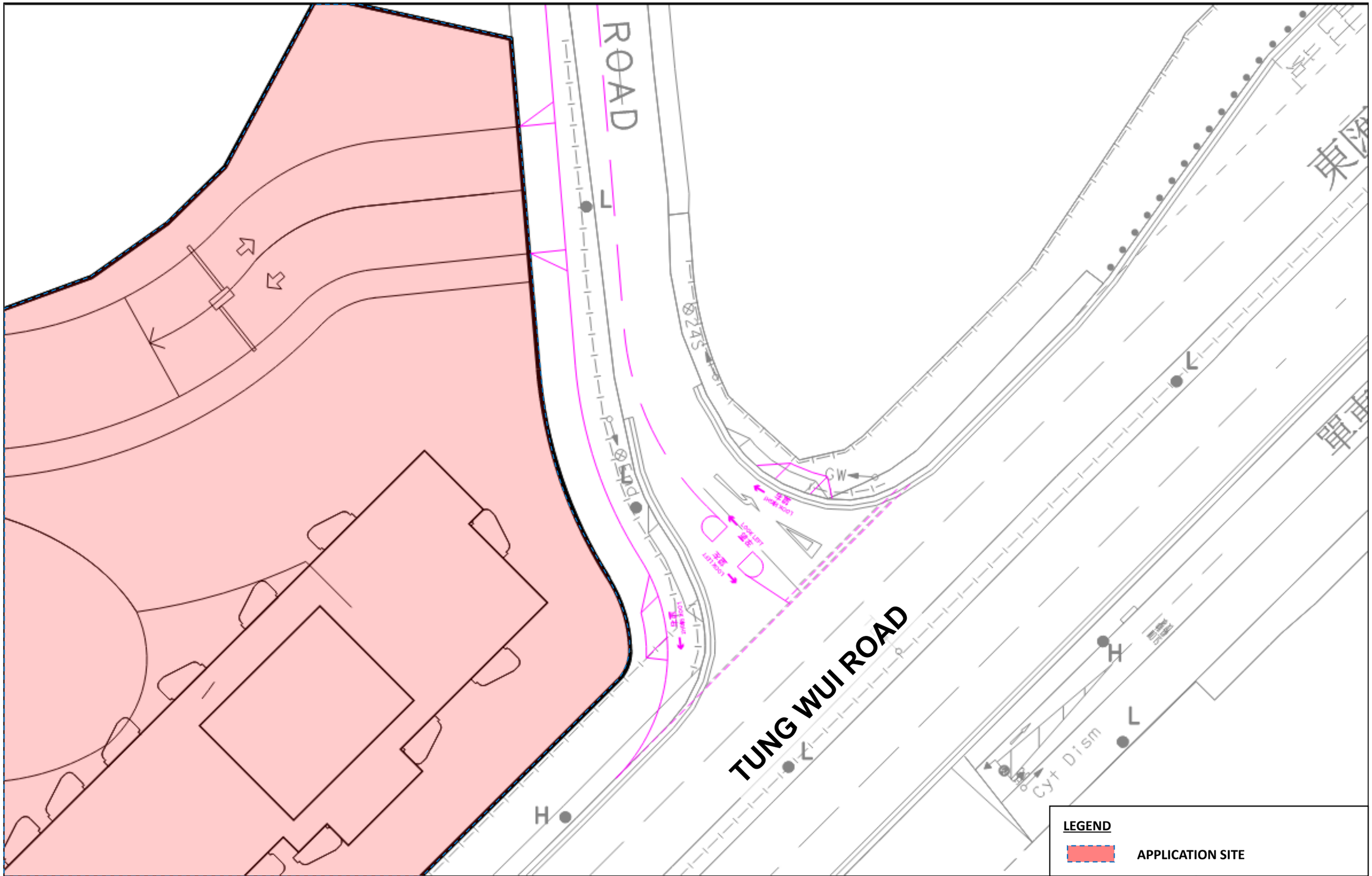
KAM PO ROAD

LEGEND

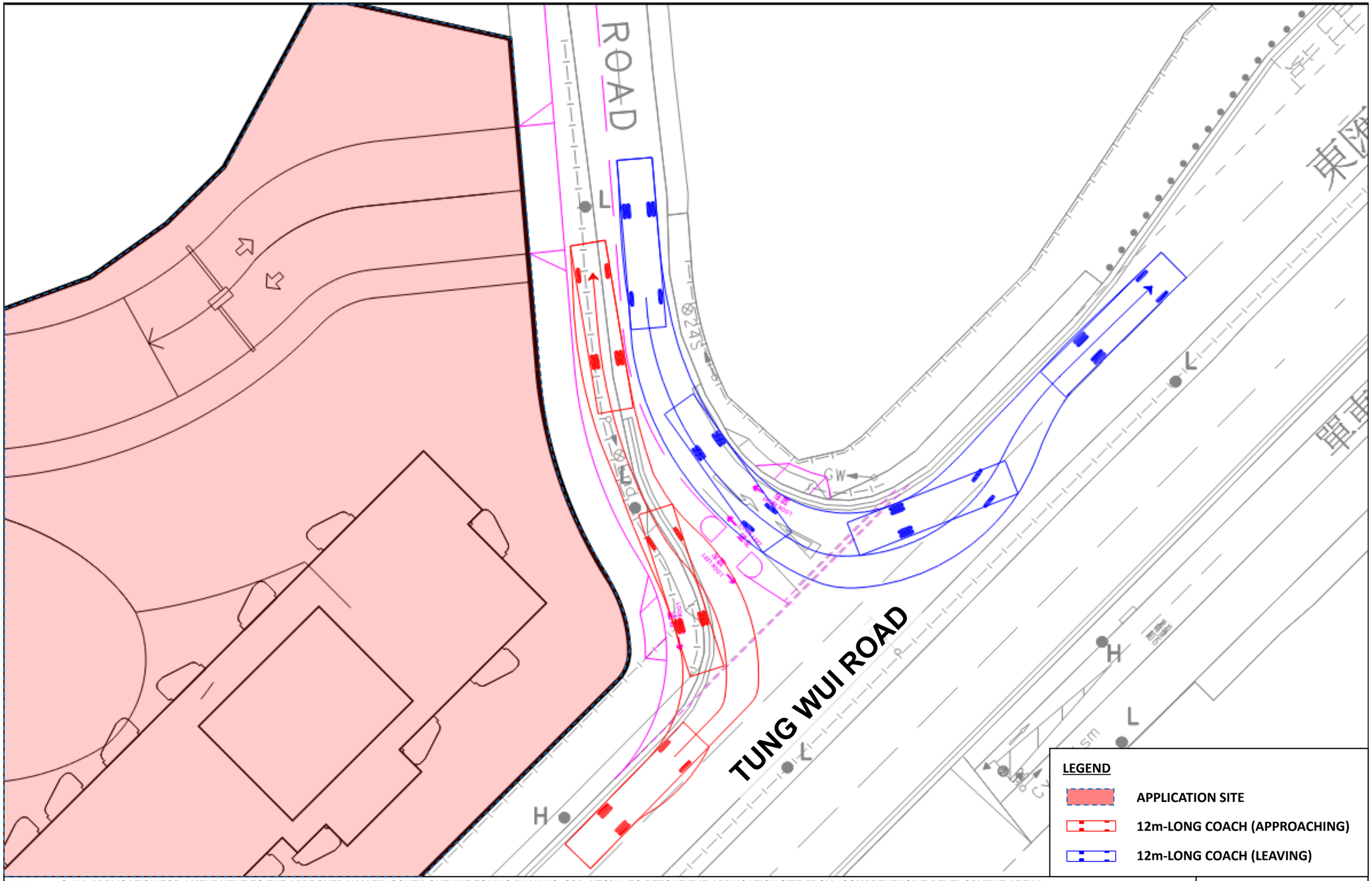
APPLICATION SITE

PROPOSED VEHICULAR ACCESS

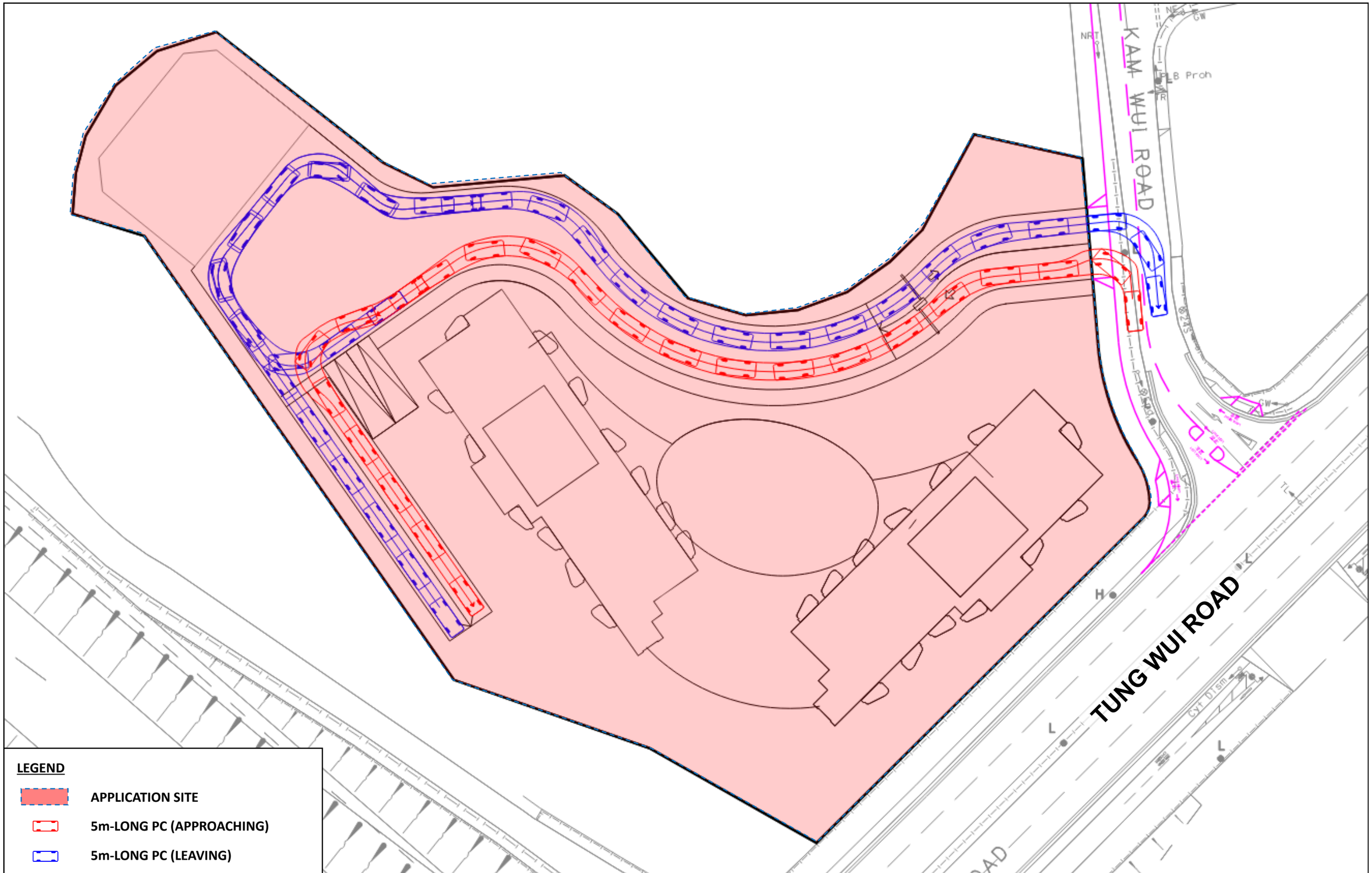
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Date: OCT 26 / Scale: NTS	Drawing Title: PROPOSED VEHICULAR ACCESS OF APPLICATION SITE	ARUP
Drawn / Job No.: 309160-04		



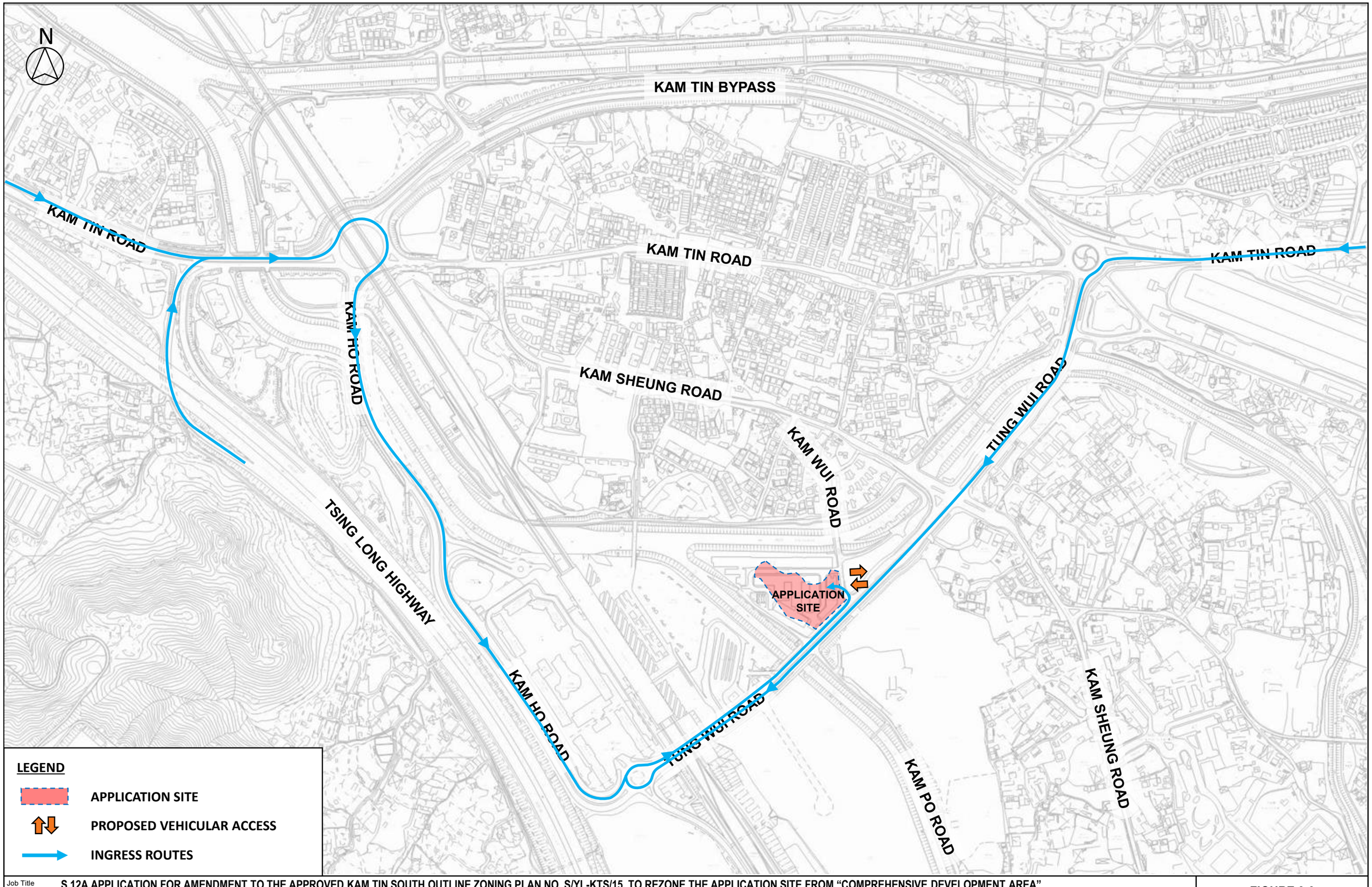
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Date: OCT 26	Scale: NTS	Drawing Title: PROPOSED ROAD WIDENING WORKS AT KAM WUI ROAD
Drawn	Job No.: 309160-04	ARUP



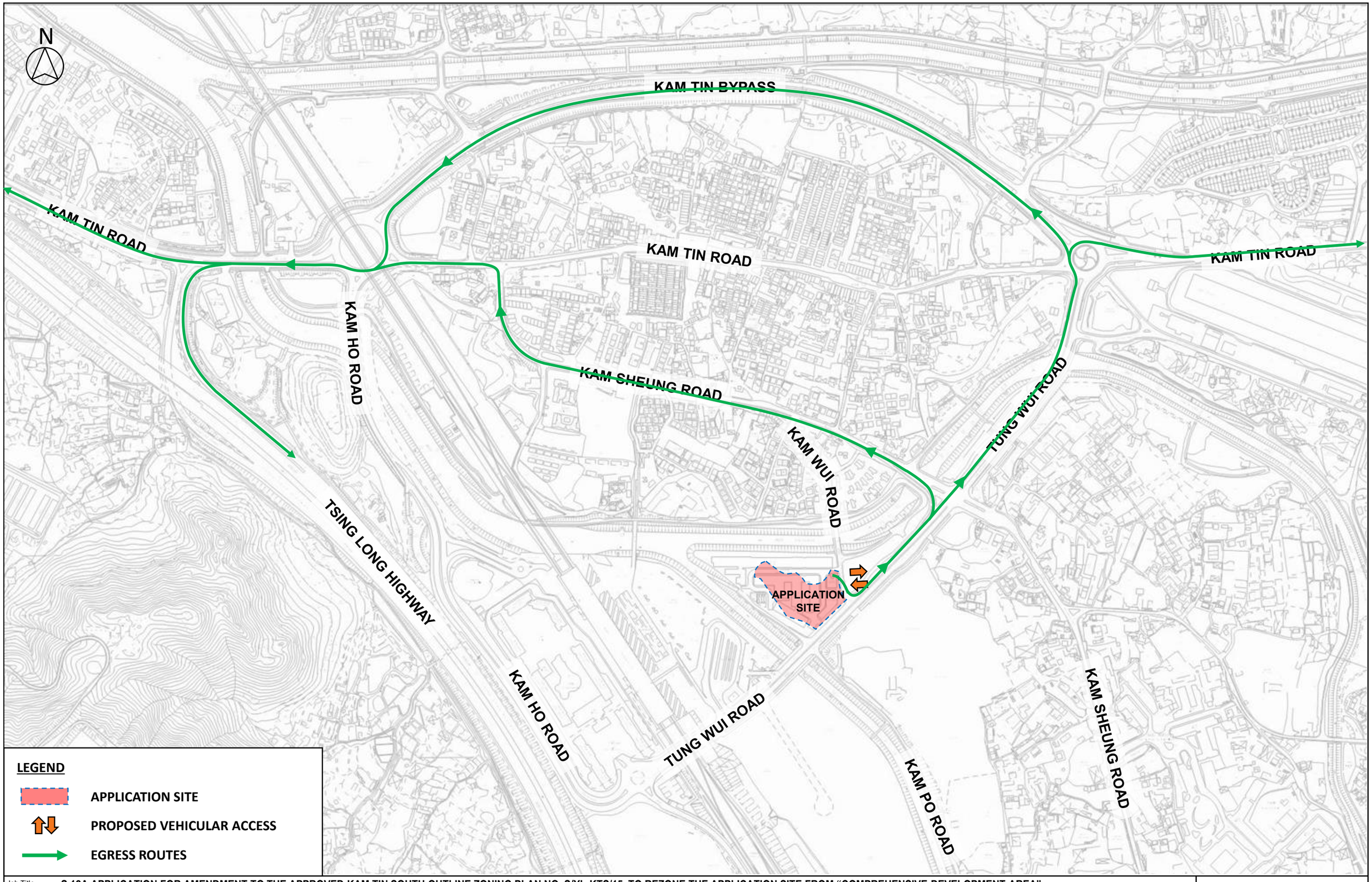
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Date: OCT 26	Scale: NTS	ARUP
Drawn	Job No.: 309160-04	
Drawing Title: SWEPT PATH ANALYSIS UNDER PROPOSED ROAD WIDENING WORKS		



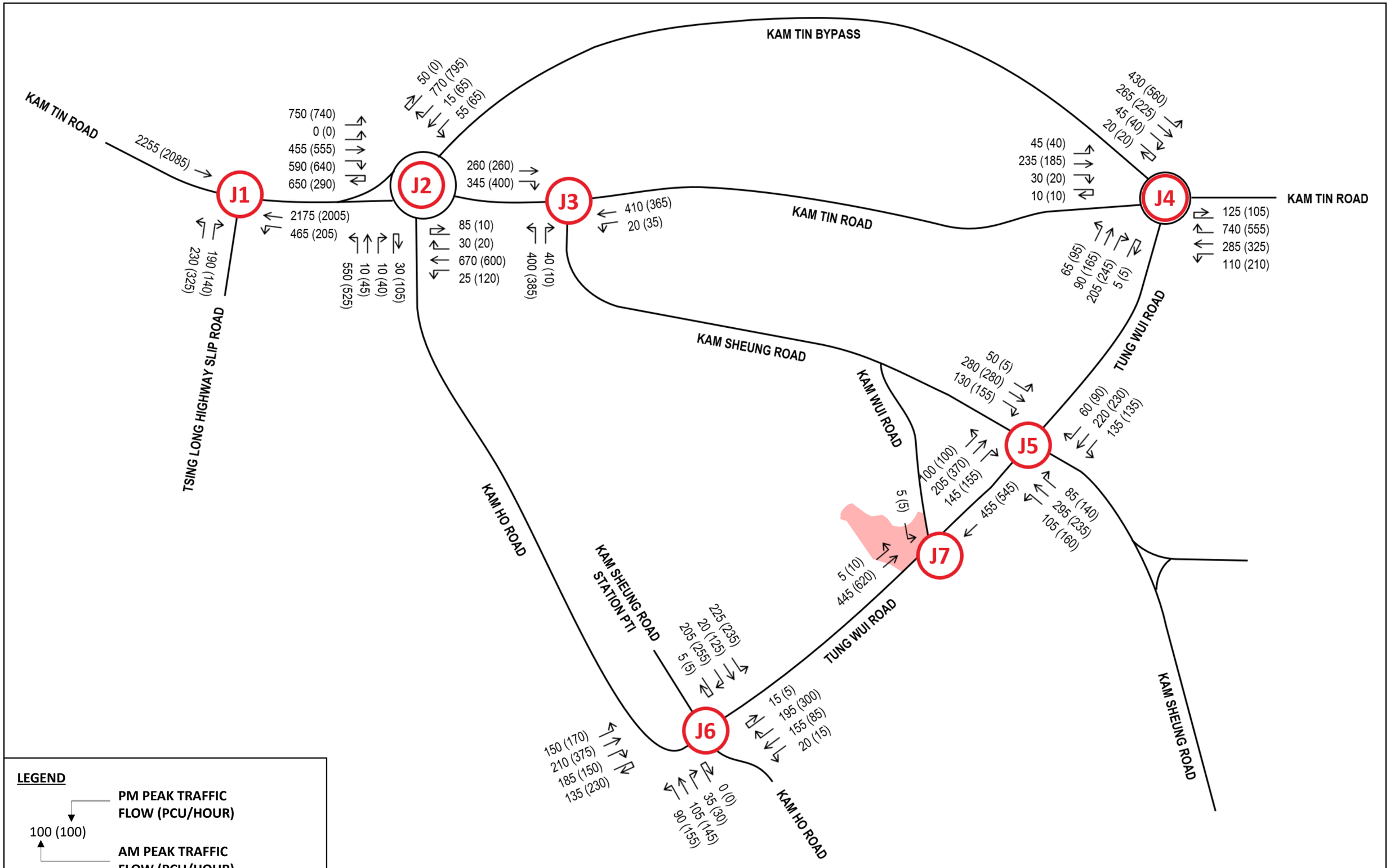
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Date: OCT 26 / Scale: NTS / Drawn / Job No.: 309160-04	Drawing Title: SWEPT PATH ANALYSIS AT VEHICULAR ACCESS OF APPLICATION SITE	ARUP



Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 3.6
Date: OCT 26 / Scale: NTS	Drawing Title: MAJOR INGRESS VEHICULAR ROUTES OF APPLICATION SITE	ARUP
Drawn / Job No.: 309160-04		



Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 3.7
Date: OCT 26 / Scale: NTS	Drawing Title: MAJOR EGRESS VEHICULAR ROUTES OF APPLICATION SITE	ARUP
Drawn / Job No.: 309160-04		



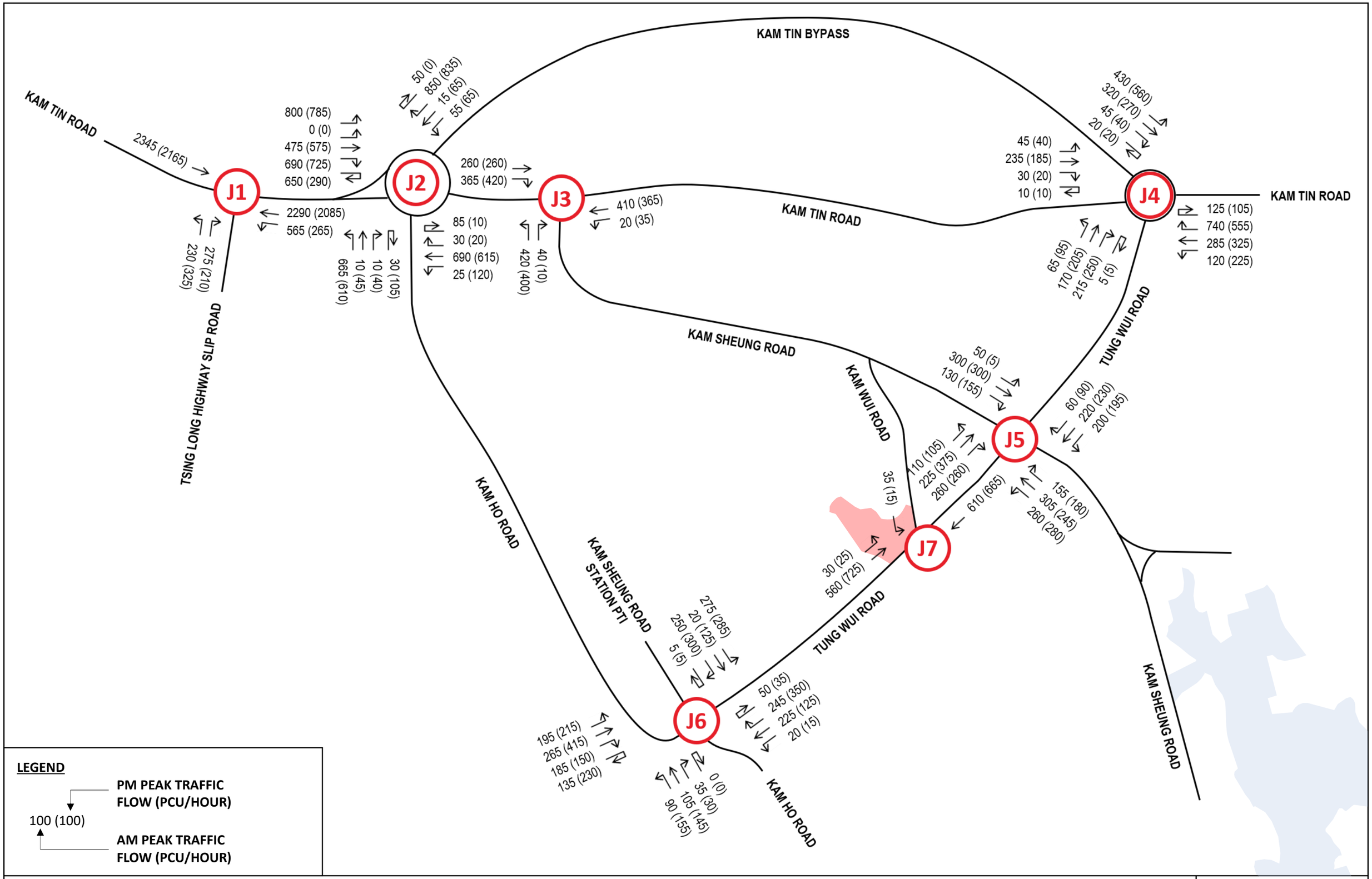
LEGEND

PM PEAK TRAFFIC FLOW (PCU/HOUR)

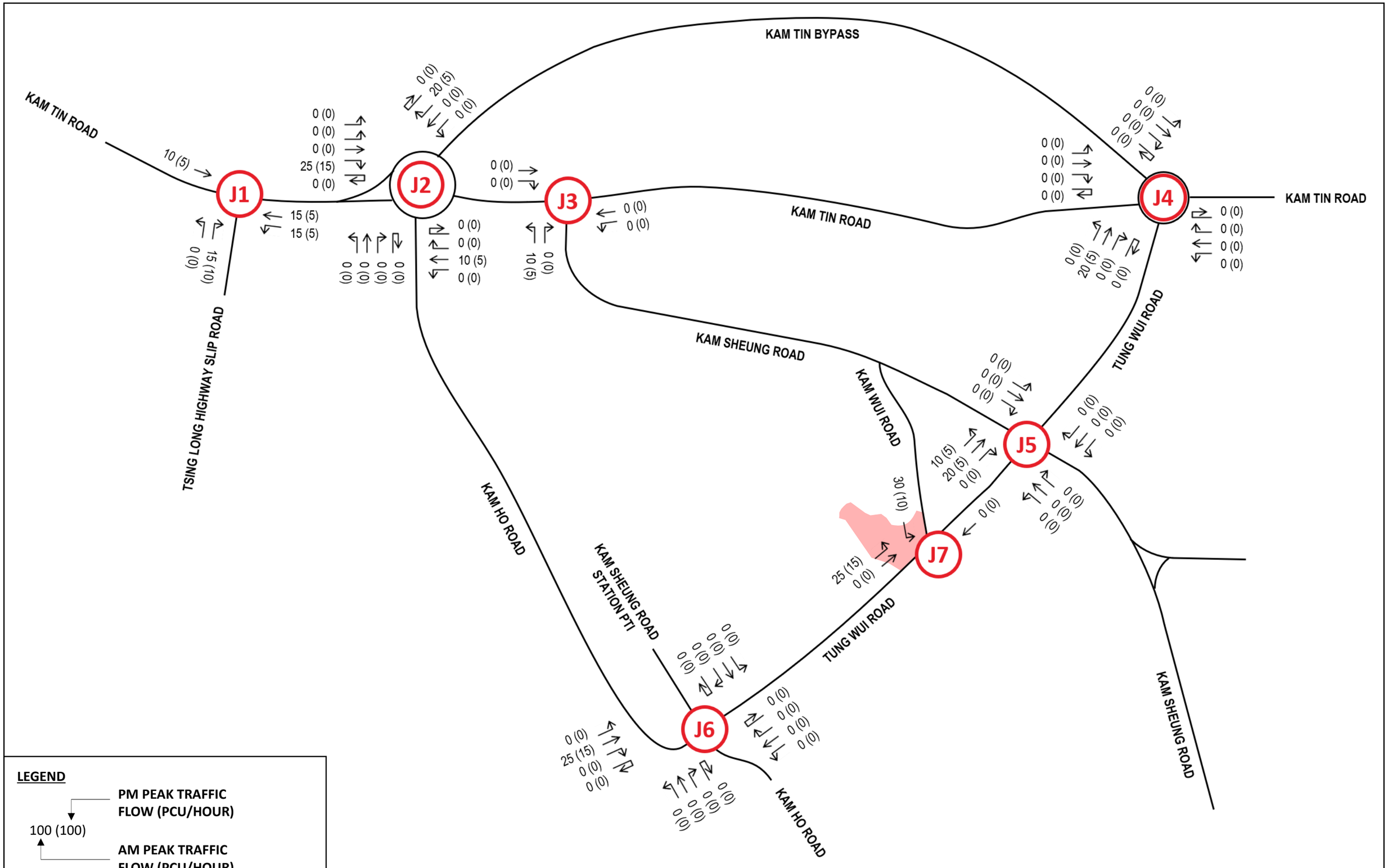
100 (100)

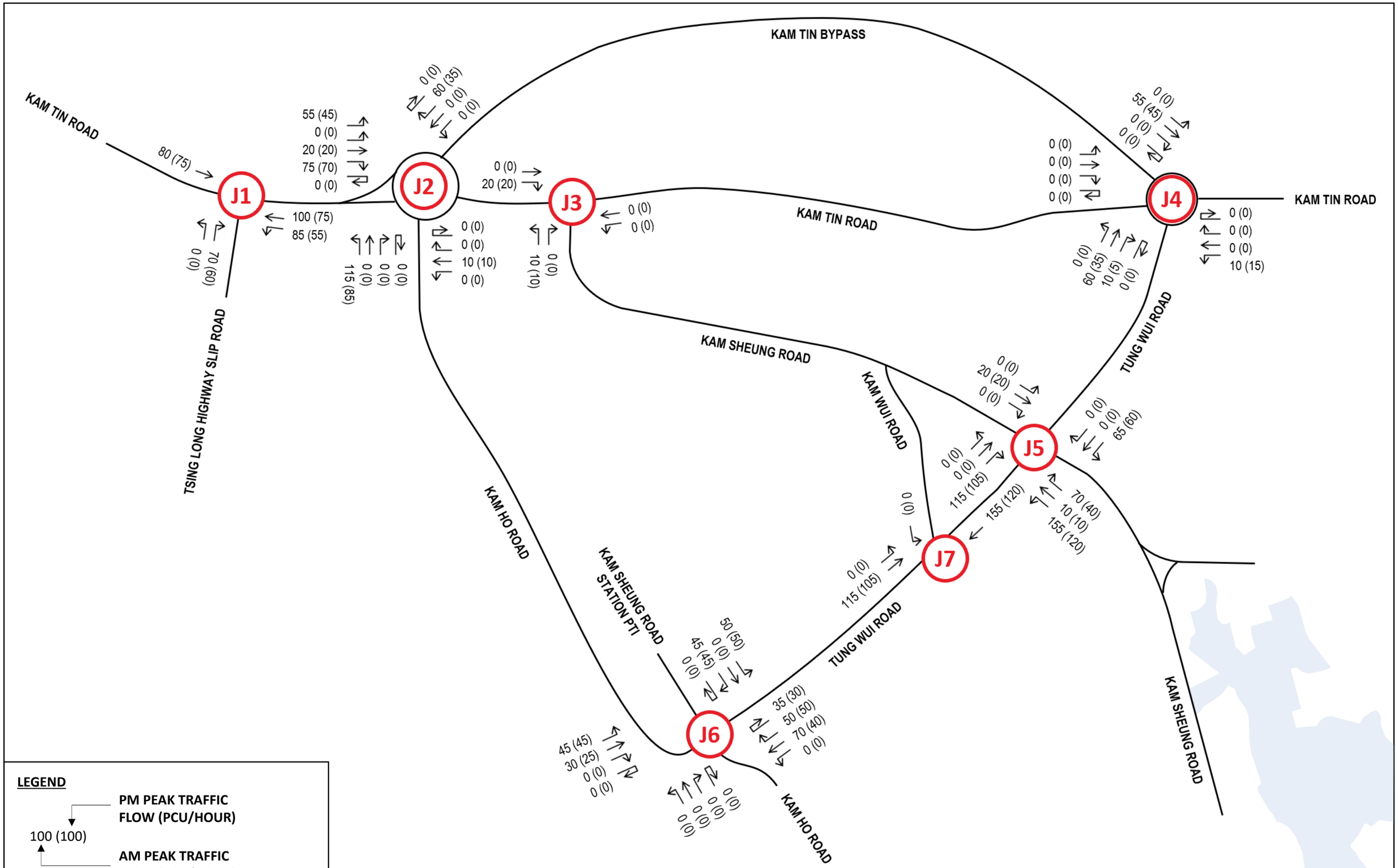
AM PEAK TRAFFIC FLOW (PCU/HOUR)

Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 4.1
Date: OCT 26 / Scale: NTS	Drawing Title: YEAR 2038 REFERENCE TRAFFIC FLOW	ARUP
Drawn / Job No.: 309160-04		

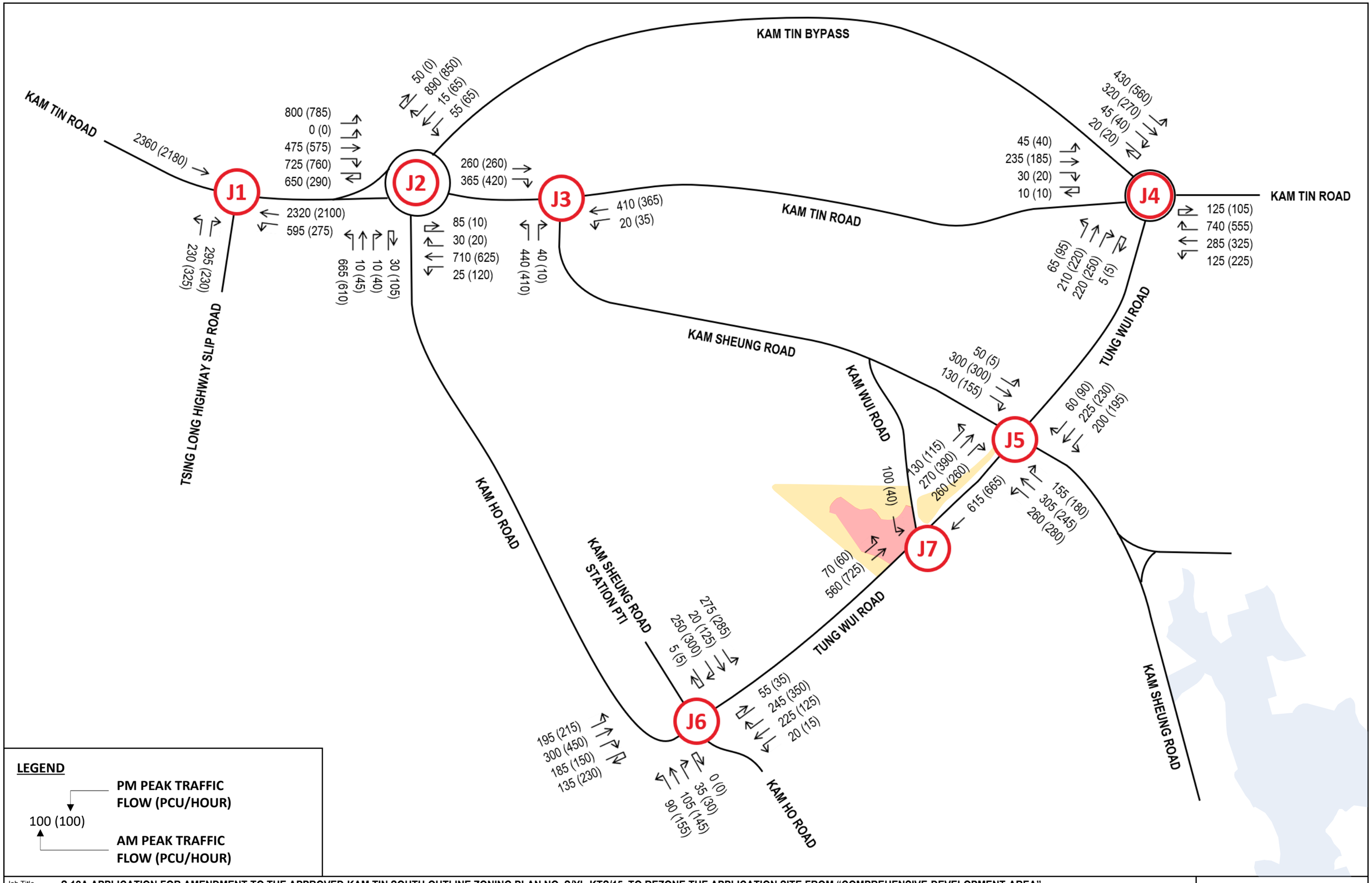


Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 4.2
Date: OCT 26 / Scale: NTS	Drawing Title: YEAR 2038 DESIGN TRAFFIC FLOW	ARUP
Drawn / Job No.: 309160-04		

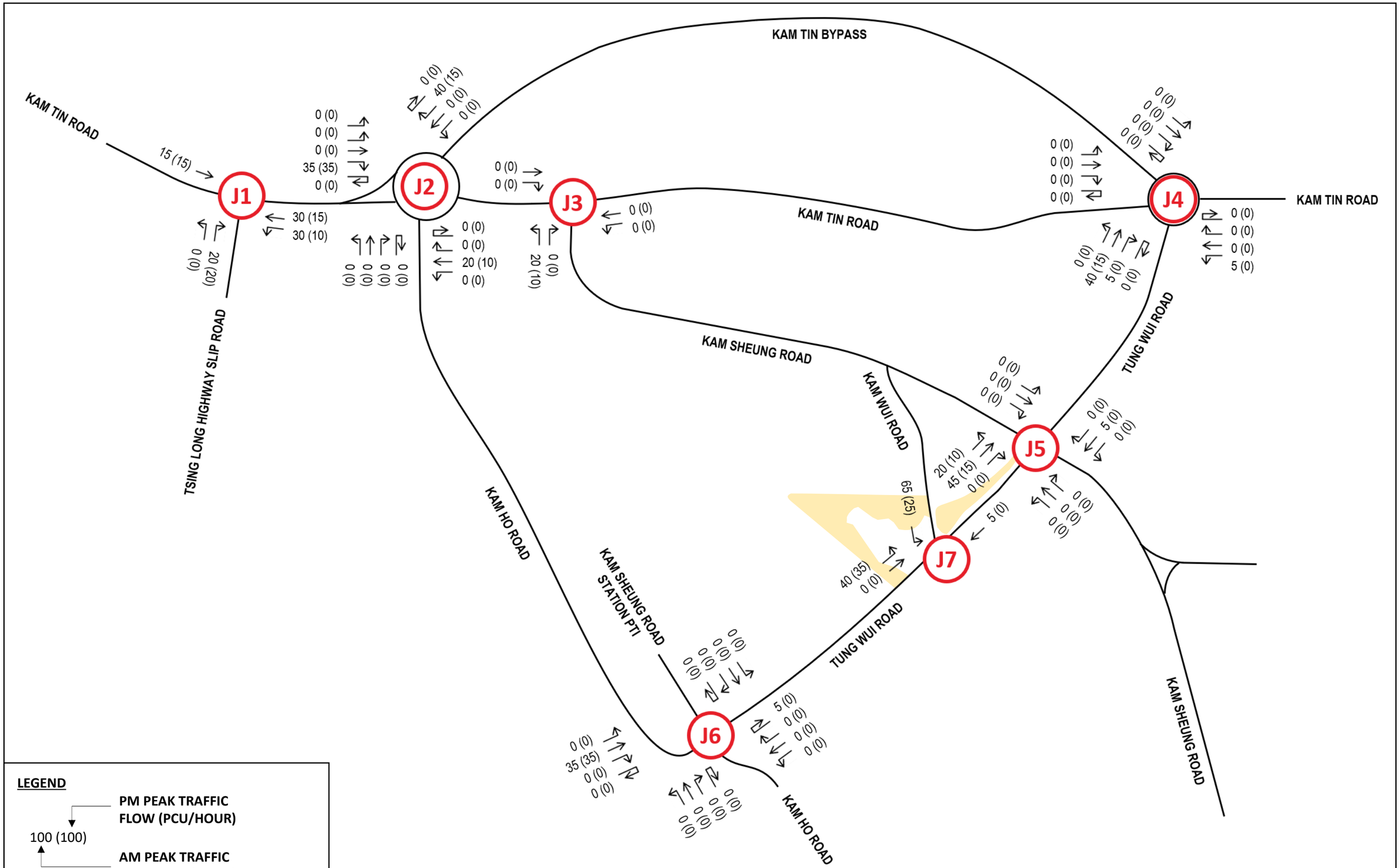

KAM TIN ROAD
KAM TIN BYPASS
KAM TIN ROAD
KAM SHEUNG ROAD
KAM WUI ROAD
TUNG WUI ROAD
TSING LONG HIGHWAY SLIP ROAD
KAM HO ROAD
KAM SHEUNG ROAD STATION PTI
KAM SHEUNG ROAD
KAM HO ROAD
TUNG WUI ROAD
J1
J2
J3
J4
J5
J6
J7
10 (5)
15 (10)
0 (0)
15 (5)
15 (5)
0 (0)
0 (0)
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Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 4.4
Date: OCT 26 / Scale: NTS	Drawing Title: KHW SITE DEVELOPMENT TRAFFIC FLOW	ARUP
Drawn / Job No.: 309160-04		



Job Title	S.12A APPLICATION FOR AMENDMENT TO THE APPROVED KAM TIN SOUTH OUTLINE ZONING PLAN NO. S/YL-KTS/15, TO REZONE THE APPLICATION SITE FROM "COMPREHENSIVE DEVELOPMENT AREA" TO "RESIDENTIAL (GROUP A)" IN LOT 2160 RP (PART) IN D.D. 106, AND ADJOINING GOVERNMENT LAND, KAM SHEUNG ROAD, KAM TIN, YUEN LONG	FIGURE 5.1
Date: OCT 26 / Scale: NTS	Drawing Title: YEAR 2038 SENSITIVTY TRAFFIC FLOW	ARUP
Drawn / Job No.: 309160-04		


KAM TIN BYPASS
KAM TIN ROAD
KAM TIN ROAD
TSING LONG HIGHWAY SLIP ROAD
KAM SHEUNG ROAD
KAM WUI ROAD
TUNG WUI ROAD
KAM HO ROAD
KAM SHEUNG ROAD STATION PTI
KAM SHEUNG ROAD
KAM HO ROAD
TUNG WUI ROAD
KAM SHEUNG ROAD
J1
J2
J3
J4
J5
J6
J7
15 (15)
30 (15)
30 (10)
20 (20)
0 (0)
0 (0)
0 (0)
0 (0)
35 (35)
0 (0)
0 (0)
40 (15)
0 (0)
0 (0)
0 (0)
0 (0)
0 (0)
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0 (0)
0 (0)
20 (10)
0 (0)
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ARUP

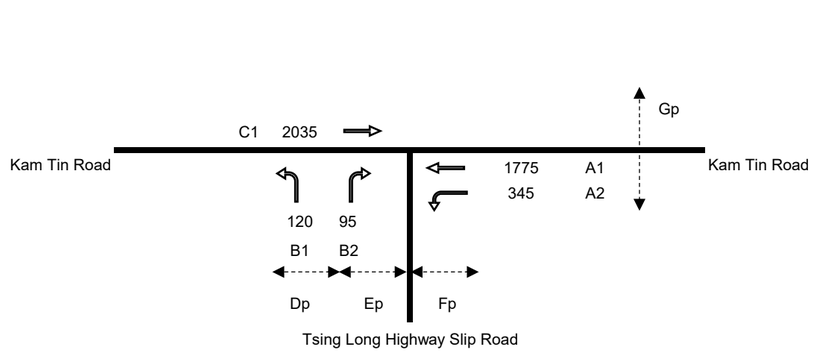
APPENDIX A

Junction Calculation Sheets

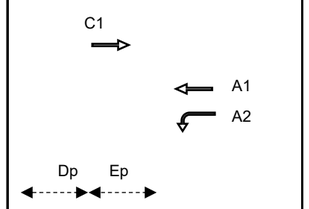
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

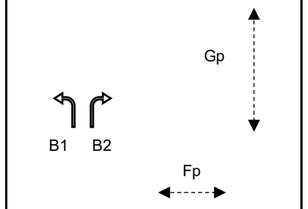
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO: 390160-04
JUNCTION NO.	J1	REFERENCE: J1_OBS_AM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	96 sec
Sum(y)		Y =	0.422
Loss time		L =	33 sec
Total Flow		=	4370 pcu
Co	= (1.5*L+5)/(1-Y)	=	94.2 sec
Cm	= L/(1-Y)	=	57.1 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	54.8 %
Cp	= 0.9*L/(0.9-Y)	=	62.1 sec
Ymax	= 1-L/C	=	0.656
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	40 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	57	2	9	OK
Ep	11	5	5	9	54	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

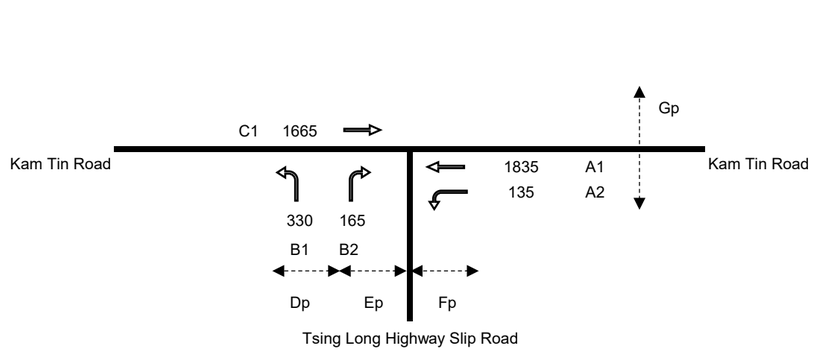
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		1775		1775	0.00	4210			4210	0.422	0.422		63	63	0.642	49
A2	1	3.65	A	1	50		N	1980	345			345	1.00	1922			1922	0.179			27	63	0.273	19
C1	1	3.65	C	3			N	6220		2035		2035	0.00	6220			6220	0.327			49	63	0.499	37
B1	2	4.00	B	1	20		N	2015	120			120	1.00	1874			1874	0.064			10	10	0.642	17
B2	2	3.38	B	2	35			4186			95	95	1.00	4014			4014	0.024			4	10	0.238	7
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

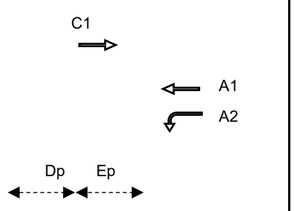
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

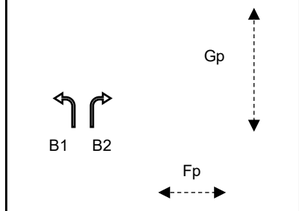
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_OBS_PM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	96 sec
Sum(y)		Y =	0.612
Loss time		L =	15 sec
Total Flow		=	4130 pcu
Co	= (1.5*L+5)/(1-Y)	=	70.9 sec
Cm	= L/(1-Y)	=	38.7 sec
Yult		=	0.788
R.C.ult	= (Yult-Y)/Y*100%	=	28.7 %
Cp	= 0.9*L/(0.9-Y)	=	46.9 sec
Ymax	= 1-L/C	=	0.844
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	24 %



STAGE 1 INT= 10



STAGE 2 INT= 7

STAGE 3 INT=

STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	11	5	2	9	56	2	9	OK
Ep	11	5	5	9	53	5	9	OK
Fp	8	5	5	7	17	5	7	OK
Gp	14.5	12	5	11	13	5	11	OK

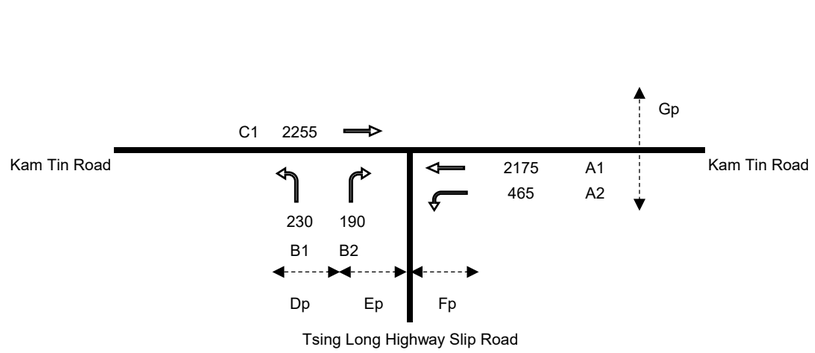
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				15				
A1	1	3.5	A	2				4210		1835		1835	0.00	4210			4210	0.436	0.436		58	58	0.725	59
A2	1	3.65	A	1	50		N	1980	135			135	1.00	1922			1922	0.070			9	58	0.117	9
C1	1	3.65	C	3			N	6220		1665		1665	0.00	6220			6220	0.268			35	58	0.445	35
B1	2	4.00	B	1	20		N	2015	330			330	1.00	1874			1874	0.176	0.176		23	23	0.725	40
B2	2	3.38	B	2	35			4186			165	165	1.00	4014			4014	0.041			5	23	0.169	10

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

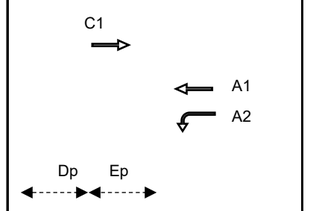
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

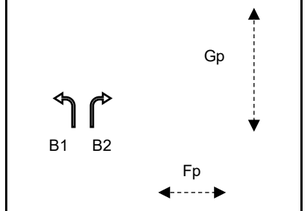
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_REF_AM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.517
Loss time		L =	33 sec
Total Flow		=	5315 pcu
Co	= (1.5*L+5)/(1-Y)	=	112.7 sec
Cm	= L/(1-Y)	=	68.3 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	26.3 %
Cp	= 0.9*L/(0.9-Y)	=	77.5 sec
Ymax	= 1-L/C	=	0.725
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	26 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	81	2	9	OK
Ep	11	5	5	9	78	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

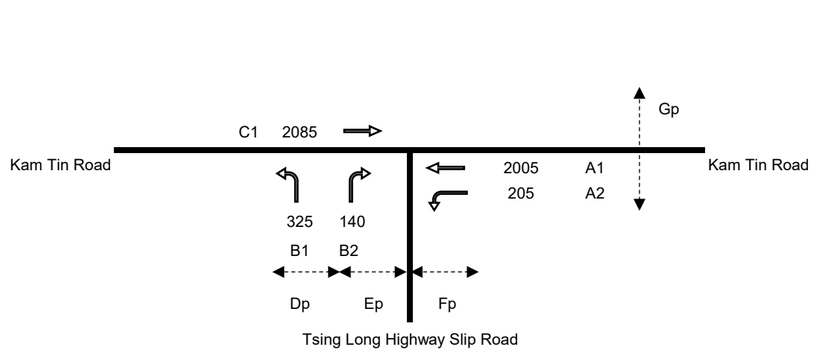
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		2175		2175	0.00	4210			4210	0.517	0.517		87	87	0.713	60
A2	1	3.65	A	1	50		N	1980	465			465	1.00	1922			1922	0.242			41	87	0.334	26
C1	1	3.65	C	3			N	6220		2255		2255	0.00	6220			6220	0.363			61	87	0.500	41
B1	2	4.00	B	2	20		N	4170	230			230	1.00	3879			3879	0.059			10	10	0.713	21
B2	2	3.38	B	2	35			4186			190	190	1.00	4014			4014	0.047			8	10	0.569	17
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

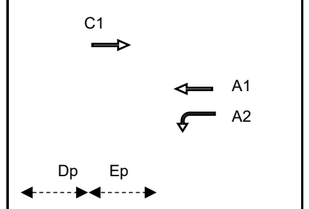
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

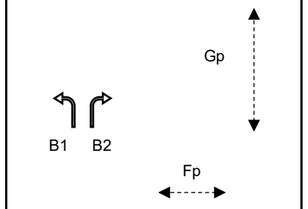
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_REF_PM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	96 sec
Sum(y)		Y =	0.476
Loss time		L =	33 sec
Total Flow		=	4760 pcu
Co	= (1.5*L+5)/(1-Y)	=	104.1 sec
Cm	= L/(1-Y)	=	63.0 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	37.0 %
Cp	= 0.9*L/(0.9-Y)	=	70.1 sec
Ymax	= 1-L/C	=	0.656
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	24 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	57	2	9	OK
Ep	11	5	5	9	54	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

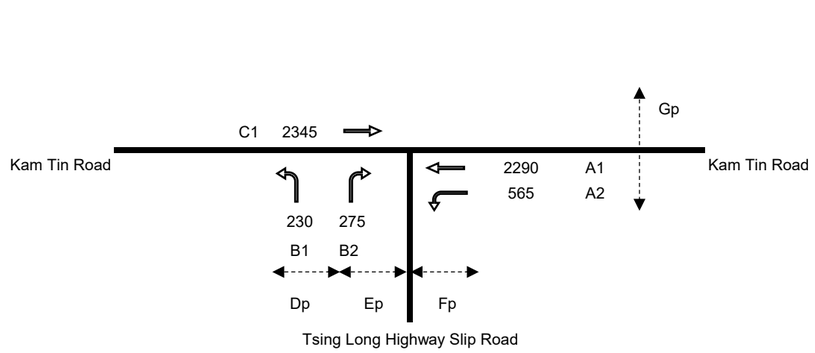
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		2005		2005	0.00	4210			4210	0.476	0.476		63	63	0.726	55
A2	1	3.65	A	1	50		N	1980	205			205	1.00	1922			1922	0.107			14	63	0.163	11
C1	1	3.65	C	3			N	6220		2085		2085	0.00	6220			6220	0.335			44	63	0.511	38
B1	2	4.00	B	2	20		N	4170	325			325	1.00	3879			3879	0.084			11	11	0.726	23
B2	2	3.38	B	2	35			4186			140	140	1.00	4014			4014	0.035			5	11	0.302	10
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

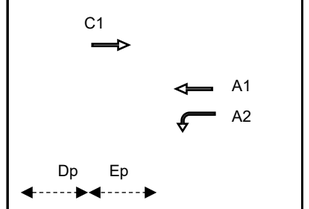
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

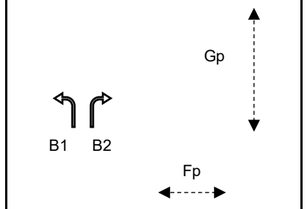
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Design Flows	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_DES_AM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.544
Loss time		L =	33 sec
Total Flow		=	5705 pcu
Co	= (1.5*L+5)/(1-Y)	=	119.5 sec
Cm	= L/(1-Y)	=	72.4 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	20.0 %
Cp	= 0.9*L/(0.9-Y)	=	83.4 sec
Ymax	= 1-L/C	=	0.725
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	20 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	81	2	9	OK
Ep	11	5	5	9	78	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

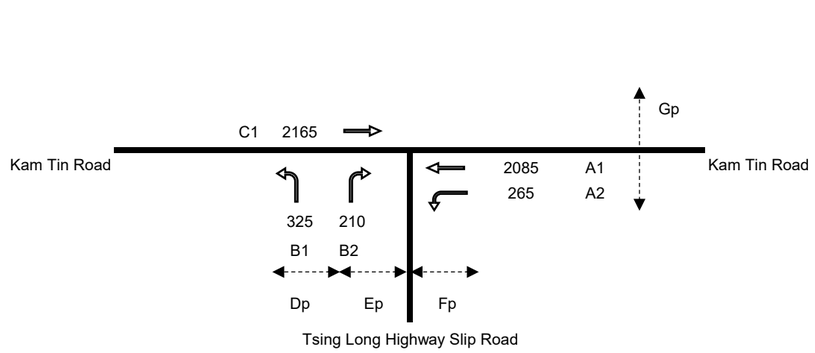
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		2290		2290	0.00	4210			4210	0.544	0.544		87	87	0.750	63
A2	1	3.65	A	1	50		N	1980	565			565	1.00	1922			1922	0.294			47	87	0.405	31
C1	1	3.65	C	3			N	6220		2345		2345	0.00	6220			6220	0.377			60	87	0.520	43
B1	2	4.00	B	2	20		N	4170	230			230	1.00	3879			3879	0.059			9	11	0.649	21
B2	2	3.38	B	2	35			4186			275	275	1.00	4014			4014	0.069			11	11	0.750	25
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

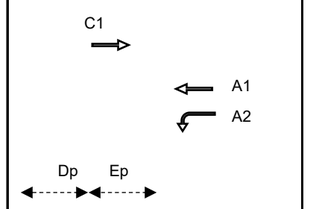
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

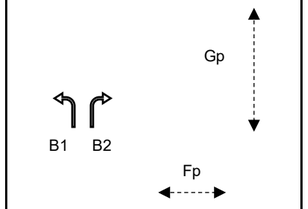
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Design Flows	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_DES_PM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	96 sec
Sum(y)		Y =	0.495
Loss time		L =	33 sec
Total Flow		=	5050 pcu
Co	= (1.5*L+5)/(1-Y)	=	108.0 sec
Cm	= L/(1-Y)	=	65.4 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	31.8 %
Cp	= 0.9*L/(0.9-Y)	=	73.4 sec
Ymax	= 1-L/C	=	0.656
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	19 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

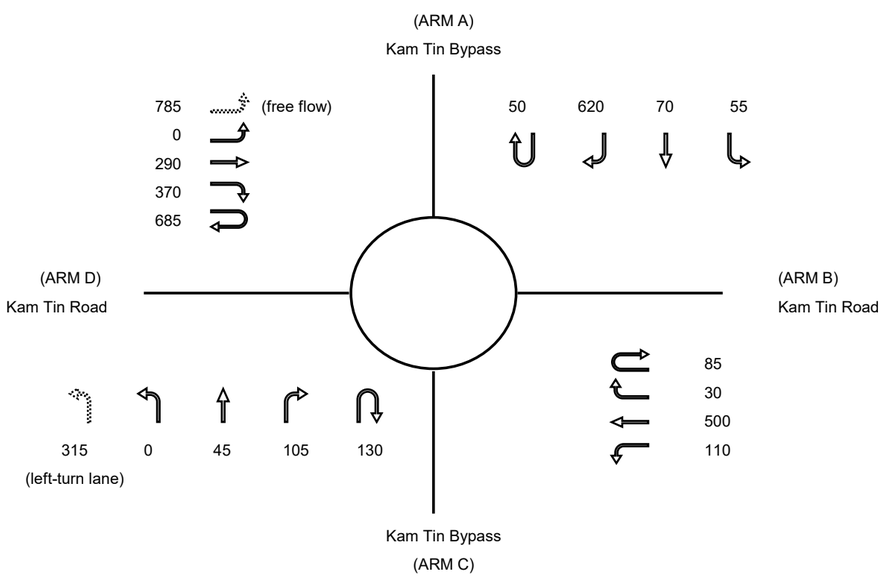
STAGE 4 INT=

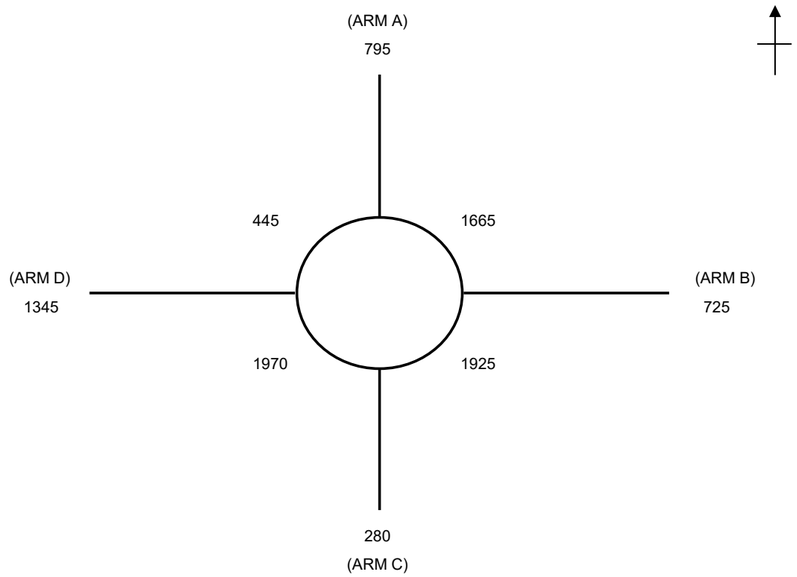
Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	57	2	9	OK
Ep	11	5	5	9	54	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		2085		2085	0.00	4210			4210	0.495	0.495		63	63	0.755	57
A2	1	3.65	A	1	50		N	1980	265			265	1.00	1922			1922	0.138			18	63	0.210	15
C1	1	3.65	C	3			N	6220		2165		2165	0.00	6220			6220	0.348			44	63	0.530	40
B1	2	4.00	B	2	20		N	4170	325			325	1.00	3879			3879	0.084			11	11	0.755	23
B2	2	3.38	B	2	35			4186			210	210	1.00	4014			4014	0.052			7	11	0.471	15
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

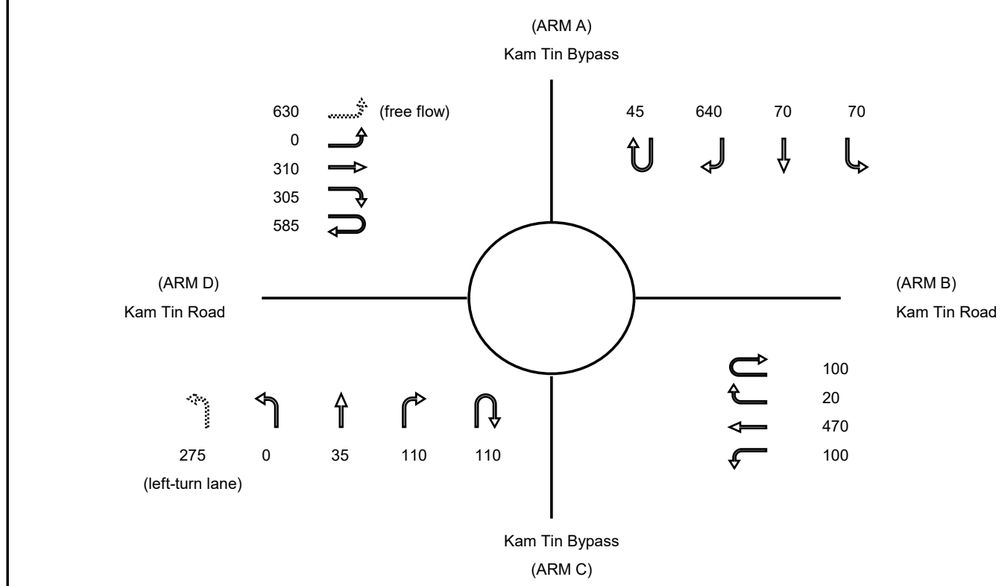
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J2	REFERENCE:	J2_OBS_AM	JUNCTION NAME:	J2 - Kam Tin Road / Kam Tin Bypass / Kam Ho Road	DATE:	12-Oct-2026

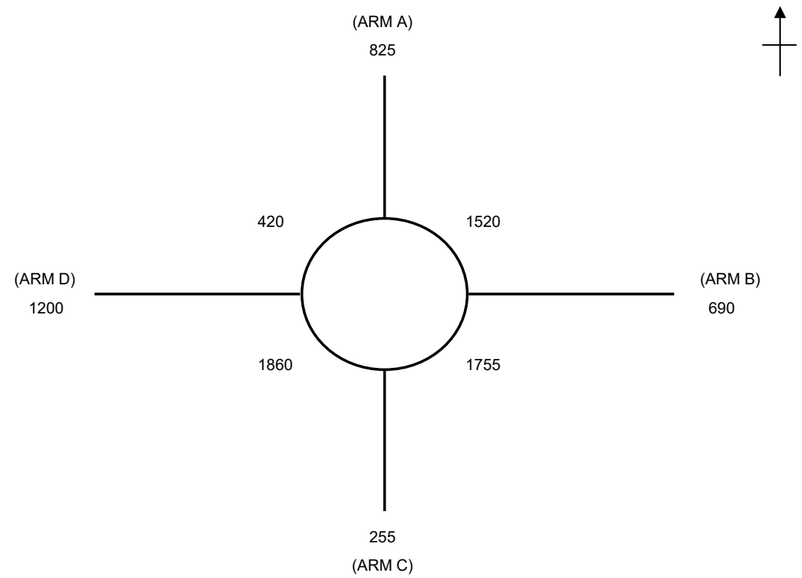




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6.5	7.3	9	7.3	
E	=	Entry width / m (4.0 - 15.0)	11	10	10	10.5	
L	=	Effective length of flare / m (1.0 - 100.0)	15	12	1	20	
R	=	Entry radius / m (6.0 - 100.0)	42.5	70	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	88	88	88	88	
A	=	Entry angle / degree (10-60)	39	30	37.5	29	
Q	=	Entry flow (pcu/h)	795	725	280	1345	
Qc	=	Circulating flow across entry (pcu/h)	1665	1925	1970	445	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.36	1.60	0.26	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.99	1.03	0.97	1.03	
X2	=	V + ((E-V)/(1+2S))	8.80	8.87	9.24	9.42	
M	=	EXP((D-60)/10)	16.44	16.44	16.44	16.44	
F	=	303*X2	2665	2688	2799	2853	
Td	=	1+(0.5/(1+M))	1.03	1.03	1.03	1.03	
Fc	=	0.21*Td(1+0.2*X2)	0.60	0.60	0.62	0.62	
Qe	=	K(F-Fc*Qc)	1664	1588	1546	2652	**Total in Sum = 3145 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.48	0.46	0.18	0.51	**DFC of Critical Approach = 0.51**

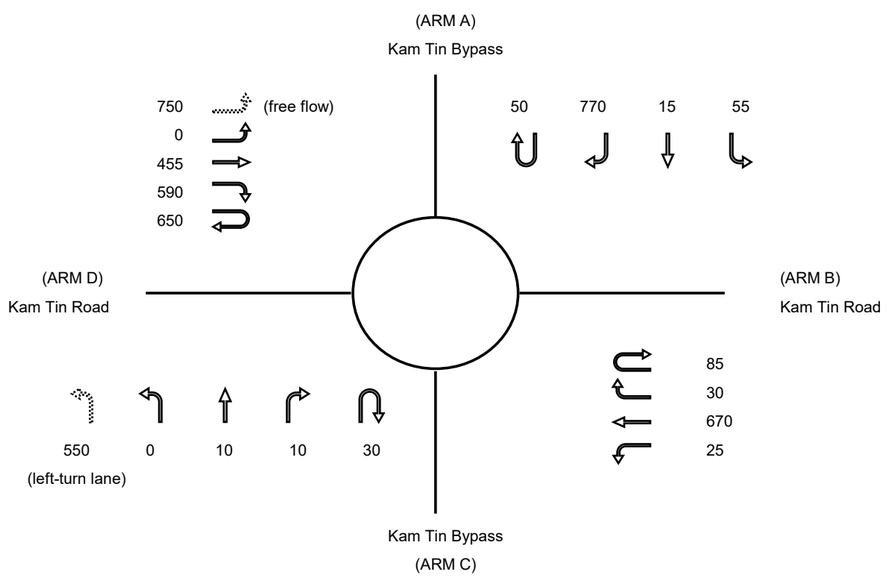
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J2	REFERENCE:	J2_OBS_PM	JUNCTION NAME:	J2 - Kam Tin Road / Kam Tin Bypass / Kam Ho Road	DATE:	12-Oct-2026

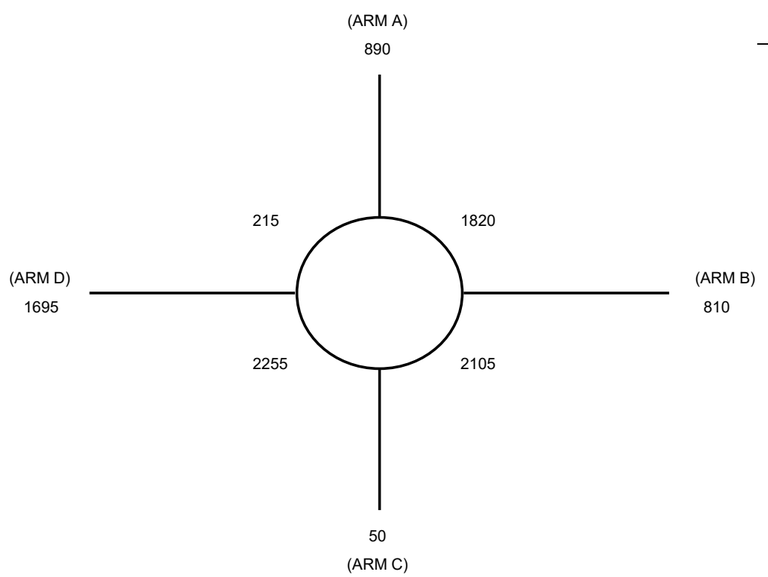




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6.5	7.3	9	7.3	
E	=	Entry width / m (4.0 - 15.0)	11	10	10	10.5	
L	=	Effective length of flare / m (1.0 - 100.0)	15	12	1	20	
R	=	Entry radius / m (6.0 - 100.0)	42.5	70	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	88	88	88	88	
A	=	Entry angle / degree (10-60)	39	30	37.5	29	
Q	=	Entry flow (pcu/h)	825	690	255	1200	
Qc	=	Circulating flow across entry (pcu/h)	1520	1755	1860	420	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.36	1.60	0.26	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.99	1.03	0.97	1.03	
X2	=	V + ((E-V)/(1+2S))	8.80	8.87	9.24	9.42	
M	=	EXP((D-60)/10)	16.44	16.44	16.44	16.44	
F	=	303*X2	2665	2688	2799	2853	
Td	=	1+(0.5/(1+M))	1.03	1.03	1.03	1.03	
Fc	=	0.21*Td(1+0.2*X2)	0.60	0.60	0.62	0.62	
Qe	=	K(F-Fc*Qc)	1750	1693	1612	2668	**Total in Sum = 2970 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.47	0.41	0.16	0.45	**DFC of Critical Approach = 0.47**

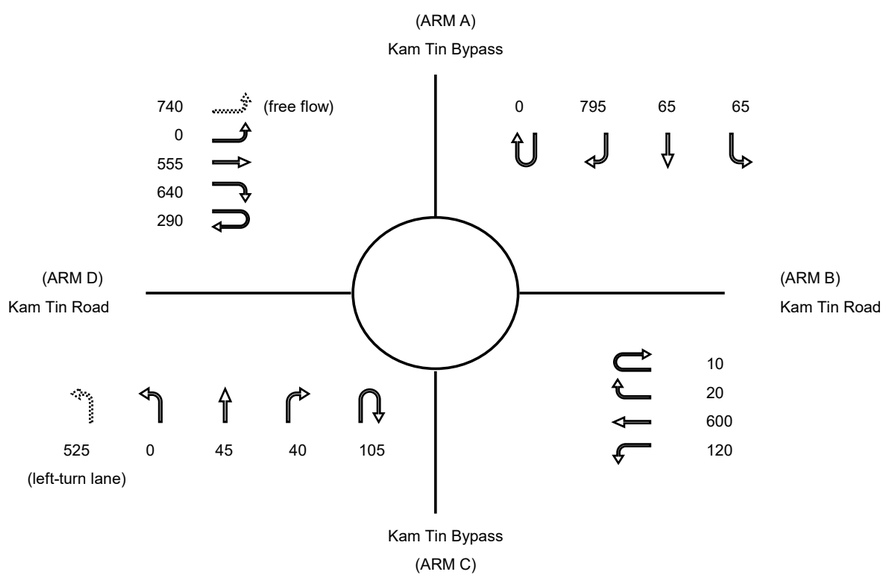
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J2	REFERENCE:	J2_REF_AM	JUNCTION NAME:	J2 - Kam Tin Road / Kam Tin Bypass / Kam Ho Road	DATE:	12-Oct-2026

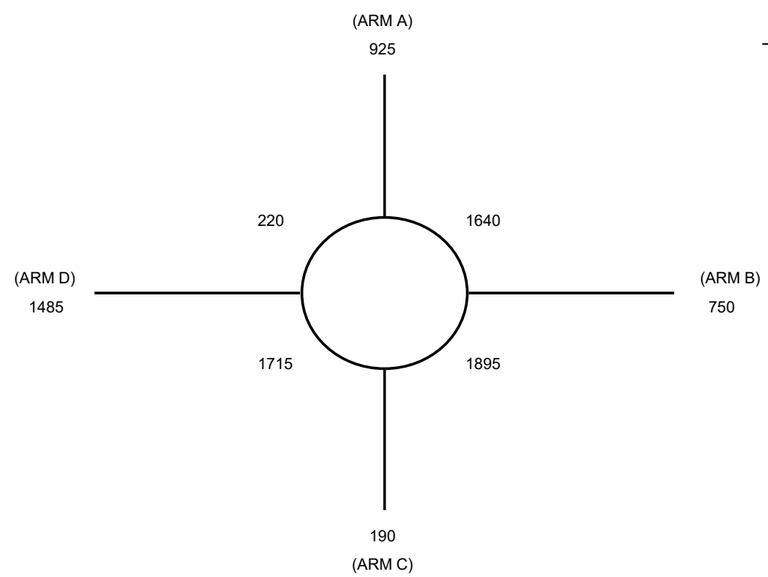




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6.5	7.3	9	7.3	
E	=	Entry width / m (4.0 - 15.0)	11	10	10	10.5	
L	=	Effective length of flare / m (1.0 - 100.0)	15	12	1	20	
R	=	Entry radius / m (6.0 - 100.0)	42.5	70	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	88	88	88	88	
A	=	Entry angle / degree (10-60)	39	30	37.5	29	
Q	=	Entry flow (pcu/h)	890	810	50	1695	
Qc	=	Circulating flow across entry (pcu/h)	1820	2105	2255	215	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.36	1.60	0.26	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.99	1.03	0.97	1.03	
X2	=	V + ((E-V)/(1+2S))	8.80	8.87	9.24	9.42	
M	=	EXP((D-60)/10)	16.44	16.44	16.44	16.44	
F	=	303*X2	2665	2688	2799	2853	
Td	=	1+(0.5/(1+M))	1.03	1.03	1.03	1.03	
Fc	=	0.21*Td(1+0.2*X2)	0.60	0.60	0.62	0.62	
Qe	=	K(F-Fc*Qc)	1572	1476	1375	2799	**Total in Sum = 3445 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.57	0.55	0.04	0.61	**DFC of Critical Approach = 0.61**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J2	REFERENCE:	J2_REF_PM	JUNCTION NAME:	J2 - Kam Tin Road / Kam Tin Bypass / Kam Ho Road	DATE:	12-Oct-2026



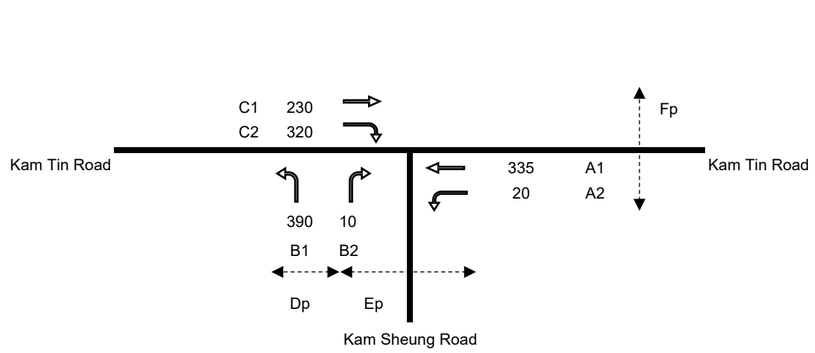


ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6.5	7.3	9	7.3	
E	=	Entry width / m (4.0 - 15.0)	11	10	10	10.5	
L	=	Effective length of flare / m (1.0 - 100.0)	15	12	1	20	
R	=	Entry radius / m (6.0 - 100.0)	42.5	70	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	88	88	88	88	
A	=	Entry angle / degree (10-60)	39	30	37.5	29	
Q	=	Entry flow (pcu/h)	925	750	190	1485	
Qc	=	Circulating flow across entry (pcu/h)	1640	1895	1715	220	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.36	1.60	0.26	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.99	1.03	0.97	1.03	
X2	=	V + ((E-V)/(1+2S))	8.80	8.87	9.24	9.42	
M	=	EXP((D-60)/10)	16.44	16.44	16.44	16.44	
F	=	303*X2	2665	2688	2799	2853	
Td	=	1+(0.5/(1+M))	1.03	1.03	1.03	1.03	
Fc	=	0.21*Td(1+0.2*X2)	0.60	0.60	0.62	0.62	
Qe	=	K(F-Fc*Qc)	1679	1606	1699	2796	**Total in Sum = 3350 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.55	0.47	0.11	0.53	**DFC of Critical Approach = 0.55**

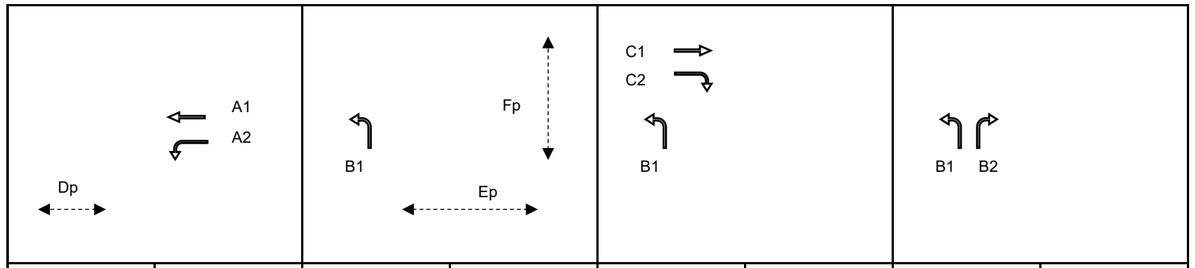
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_OBS_AM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.356
Loss time		L =	40 sec
Total Flow		=	1305 pcu
Co	= (1.5*L+5)/(1-Y)	=	100.9 sec
Cm	= L/(1-Y)	=	62.1 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	68.6 %
Cp	= 0.9*L/(0.9-Y)	=	66.2 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	69 %



Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	8.5	5	3	7	35	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

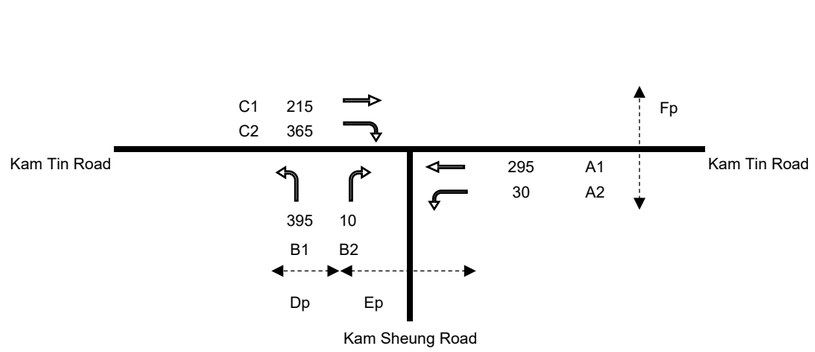
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1, A2	1	3.50	A	1	20		N	1965	20	335		355	0.06	1957			1957	0.181	0.181		41	41	0.534	47
B1	2,3,4	3.50	B1	1	25		N	1965		390		390	0.00	1965			1965	0.198			45	45	0.534	49
C1	3	3.00	C	1			N	1915		230		230	0.00	1915			1915	0.120			27	39	0.368	31
C2	3	3.00	C	1	12.5			2055			320	320	1.00	1835			1835	0.174	0.174		39	39	0.534	43
B2	4	3.50	B2	1	12.5			2105			10	10	1.00	1879			1879	0.005			1	6	0.106	2
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

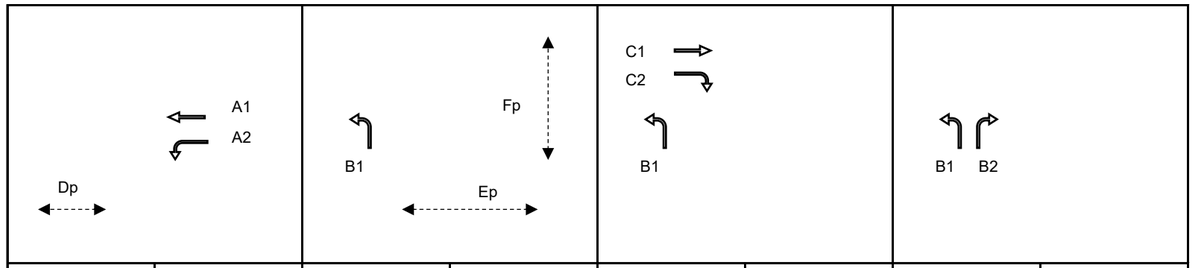
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_OBS_PM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.365
Loss time		L =	40 sec
Total Flow		=	1310 pcu
Co	= (1.5*L+5)/(1-Y)	=	102.4 sec
Cm	= L/(1-Y)	=	63.0 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	64.2 %
Cp	= 0.9*L/(0.9-Y)	=	67.3 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	64 %



STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	8.5	5	3	7	30	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

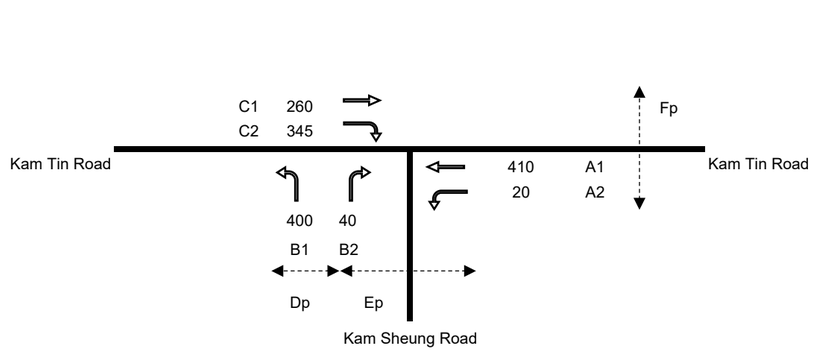
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									8				
A1, A2	1	3.50	A	1	20		N	1965	30	295		325	0.09	1951			1951	0.167	0.167		36	36	0.548	45
B1	2,3,4	3.50	B1	1	25		N	1965		395		395	0.00	1965			1965	0.201			44	44	0.548	50
C1	3	3.00	C	1			N	1915		215		215	0.00	1915			1915	0.112			25	44	0.309	27
C2	3	3.00	C	1	12.5			2055			365	365	1.00	1835			1835	0.199	0.199		44	44	0.548	47
B2	4	3.50	B2	1	12.5			2105			10	10	1.00	1879			1879	0.005			1	6	0.106	2
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

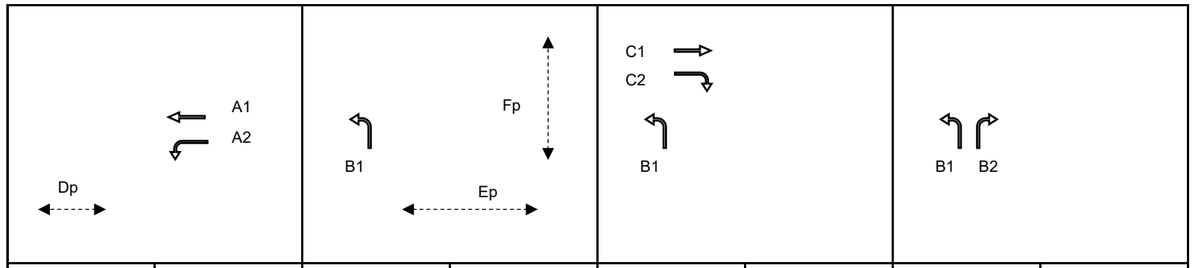
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_REF_AM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.408
Loss time		L =	40 sec
Total Flow		=	1475 pcu
Co	= (1.5*L+5)/(1-Y)	=	109.7 sec
Cm	= L/(1-Y)	=	67.5 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	47.2 %
Cp	= 0.9*L/(0.9-Y)	=	73.1 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	47 %



STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	8.5	5	3	7	37	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

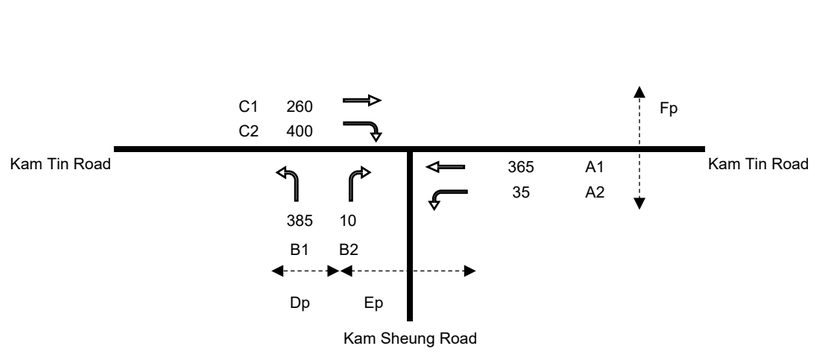
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									8				
A1, A2	1	3.50	A	1	20		N	1965	20	410		430	0.05	1958			1958	0.220	0.220		43	43	0.611	55
B1	2,3,4	3.50	B1	1	25		N	1965		400		400	0.00	1965			1965	0.204			40	40	0.611	53
C1	3	3.00	C	1			N	1915		260		260	0.00	1915			1915	0.136			27	37	0.441	36
C2	3	3.00	C	1	12.5			2055			345	345	1.00	1835			1835	0.188	0.188		37	37	0.611	48
B2	4	3.50	B2	1	12.5			2105			40	40	1.00	1879			1879	0.021			4	6	0.426	8
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

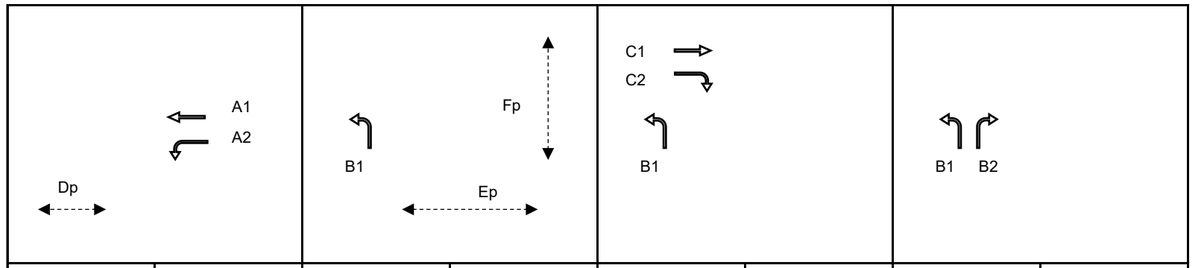
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_REF_PM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.423
Loss time		L =	40 sec
Total Flow		=	1455 pcu
Co	= (1.5*L+5)/(1-Y)	=	112.6 sec
Cm	= L/(1-Y)	=	69.3 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	41.9 %
Cp	= 0.9*L/(0.9-Y)	=	75.5 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	42 %



Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	8.5	5	3	7	33	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

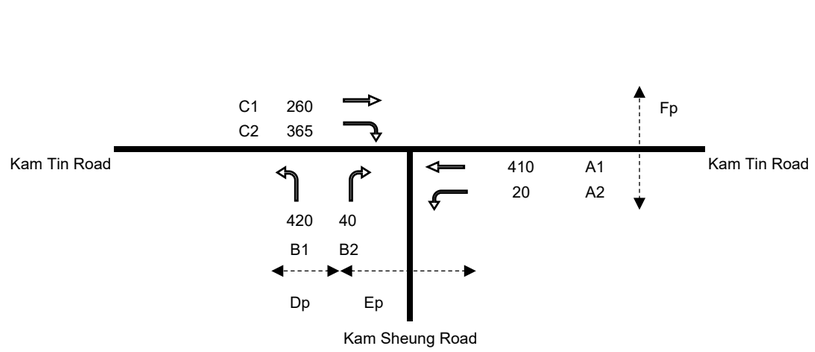
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
A1, A2	1	3.50	A	1	20		N	1965	35	365		400	0.09	1952			1952	0.205	0.205		39	39	0.634	54
B1	2,3,4	3.50	B1	1	25		N	1965		385		385	0.00	1965			1965	0.196			37	37	0.634	53
C1	3	3.00	C	1			N	1915		260		260	0.00	1915			1915	0.136			26	41	0.395	34
C2	3	3.00	C	1	12.5			2055			400	400	1.00	1835			1835	0.218	0.218		41	41	0.634	53
B2	4	3.50	B2	1	12.5			2105			10	10	1.00	1879			1879	0.005			1	6	0.106	2
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

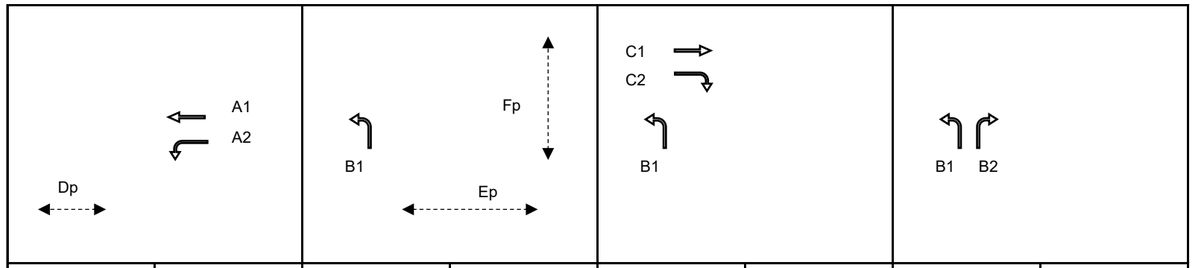
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Design Flows	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_DES_AM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.419
Loss time		L =	40 sec
Total Flow		=	1515 pcu
Co	= (1.5*L+5)/(1-Y)	=	111.8 sec
Cm	= L/(1-Y)	=	68.8 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	43.4 %
Cp	= 0.9*L/(0.9-Y)	=	74.8 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	43 %



STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	8.5	5	3	7	36	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

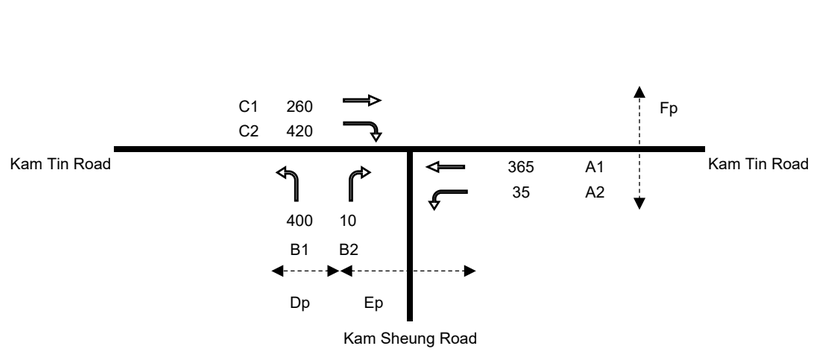
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									8				
A1, A2	1	3.50	A	1	20		N	1965	20	410		430	0.05	1958			1958	0.220	0.220		42	42	0.628	56
B1	2,3,4	3.50	B1	1	25		N	1965		420		420	0.00	1965			1965	0.214			41	41	0.628	55
C1	3	3.00	C	1			N	1915		260		260	0.00	1915			1915	0.136			26	38	0.428	36
C2	3	3.00	C	1	12.5			2055			365	365	1.00	1835			1835	0.199	0.199		38	38	0.628	50
B2	4	3.50	B2	1	12.5			2105			40	40	1.00	1879			1879	0.021			4	6	0.426	8
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

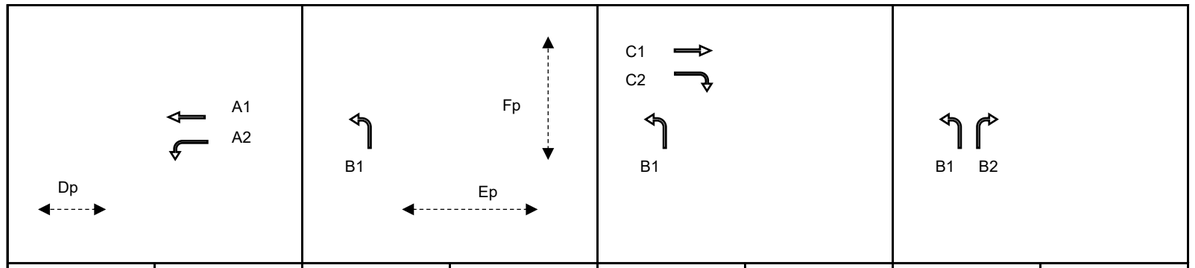
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Design Flows	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_DES_PM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.434
Loss time		L =	40 sec
Total Flow		=	1490 pcu
Co	= (1.5*L+5)/(1-Y)	=	114.8 sec
Cm	= L/(1-Y)	=	70.6 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	38.3 %
Cp	= 0.9*L/(0.9-Y)	=	77.2 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	38 %



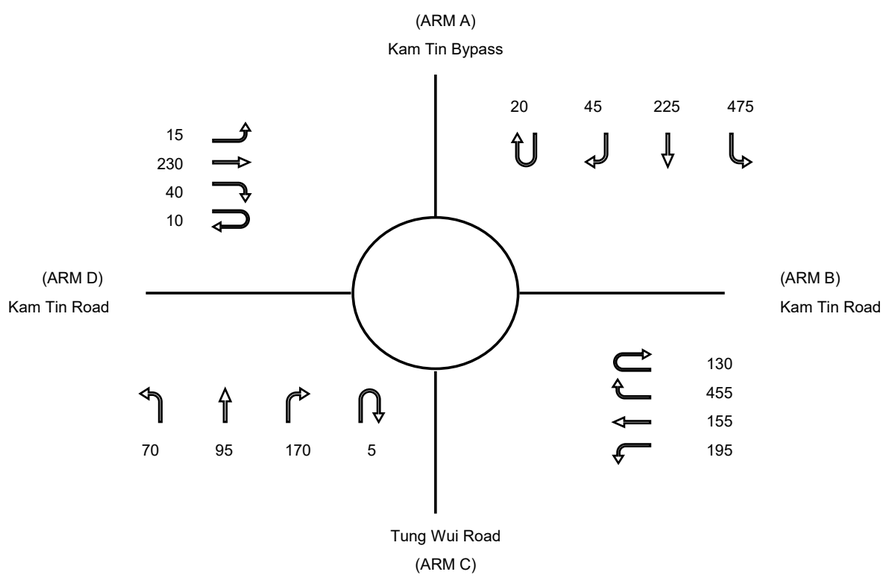
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 5	STAGE 4	INT=

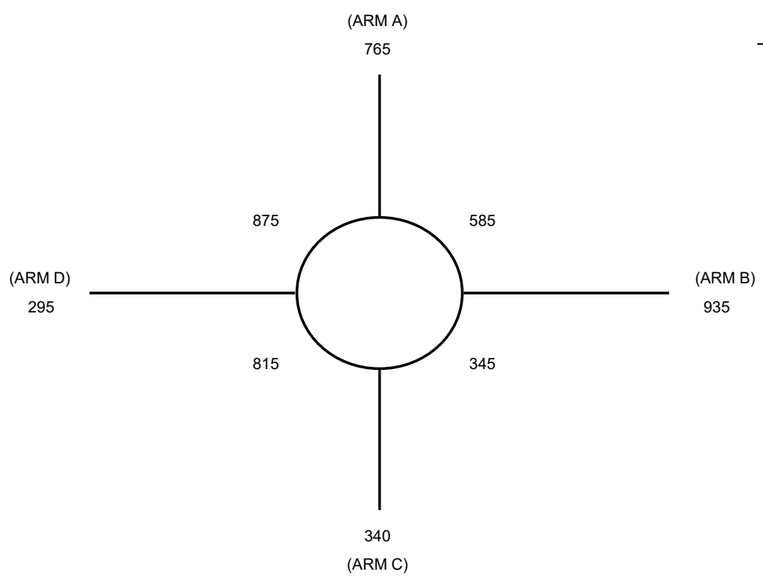
Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	8.5	5	3	7	32	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									8				
A1, A2	1	3.50	A	1	20		N	1965	35	365		400	0.09	1952			1952	0.205	0.205		38	38	0.651	55
B1	2,3,4	3.50	B1	1	25		N	1965		400		400	0.00	1965			1965	0.204			38	38	0.651	55
C1	3	3.00	C	1			N	1915		260		260	0.00	1915			1915	0.136			25	42	0.386	34
C2	3	3.00	C	1	12.5			2055			420	420	1.00	1835			1835	0.229	0.229		42	42	0.651	54
B2	4	3.50	B2	1	12.5			2105			10	10	1.00	1879			1879	0.005			1	6	0.106	2
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

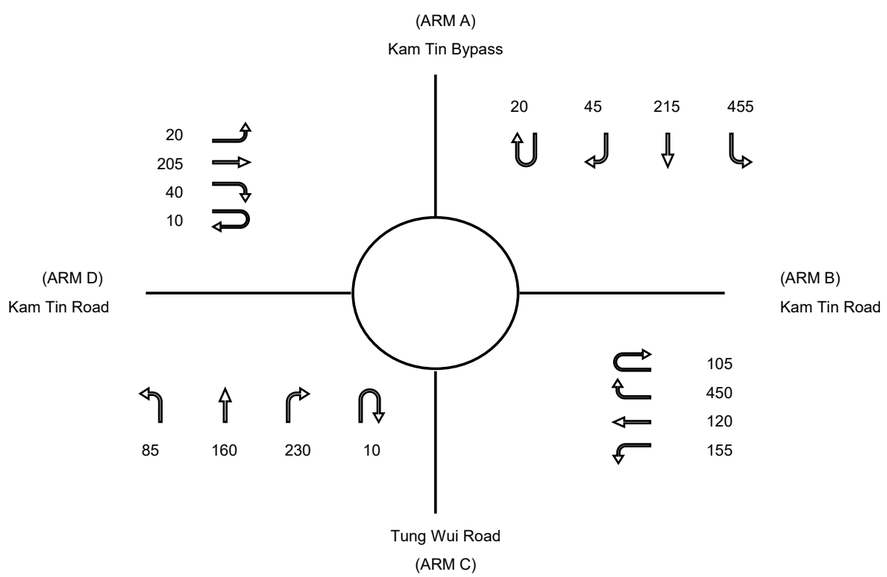
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_OBS_AM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026

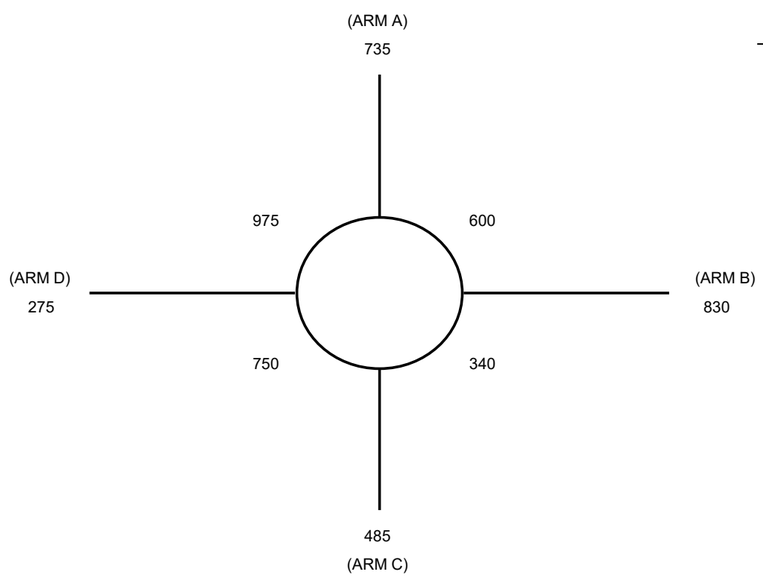




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5	
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5	
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4	
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62	
A	=	Entry angle / degree (10-60)	44	63	44	42	
Q	=	Entry flow (pcu/h)	765	935	340	295	
Qc	=	Circulating flow across entry (pcu/h)	585	345	815	875	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98	
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45	
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22	
F	=	303*X2	2495	2813	2212	1349	
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23	
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49	
Qe	=	K(F-Fc*Qc)	2039	2191	1614	909	**Total in Sum = 2335 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.38	0.43	0.21	0.32	**DFC of Critical Approach = 0.43**

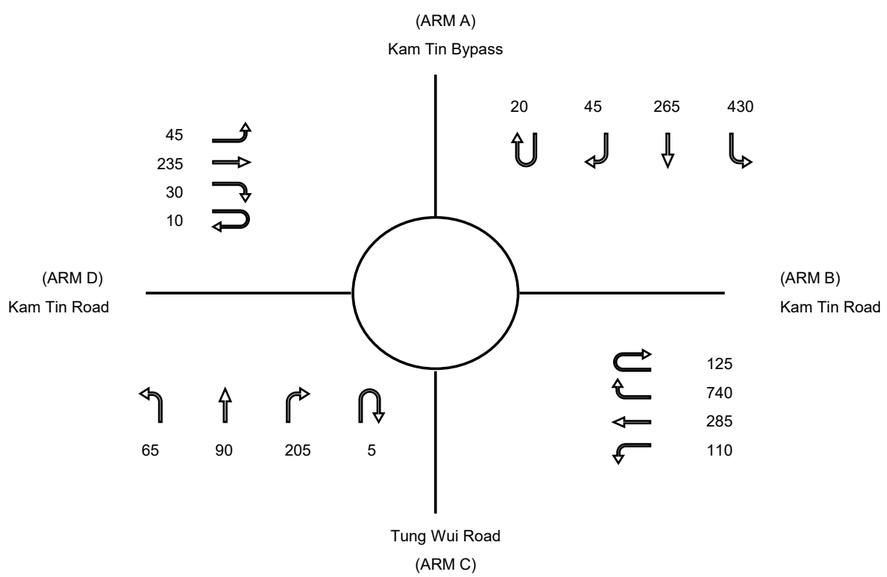
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_OBS_PM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026

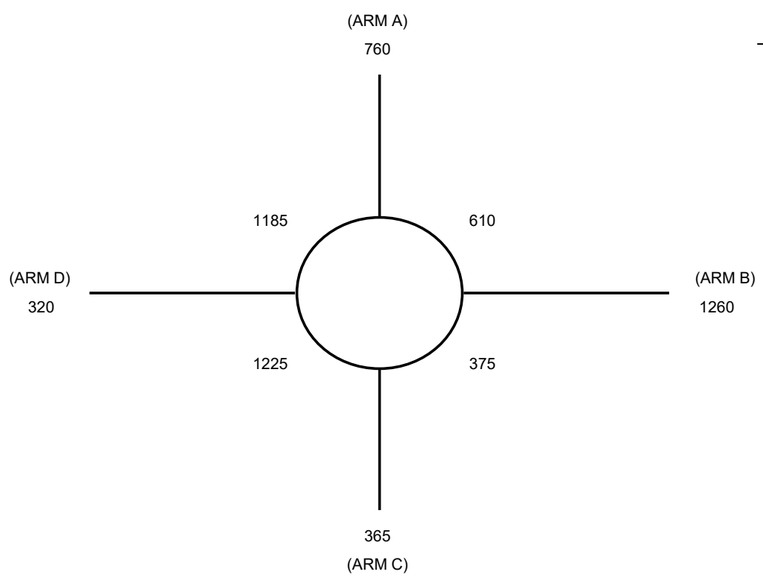




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5	
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5	
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4	
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62	
A	=	Entry angle / degree (10-60)	44	63	44	42	
Q	=	Entry flow (pcu/h)	735	830	485	275	
Qc	=	Circulating flow across entry (pcu/h)	600	340	750	975	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98	
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45	
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22	
F	=	303*X2	2495	2813	2212	1349	
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23	
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49	
Qe	=	K(F-Fc*Qc)	2029	2194	1653	861	**Total in Sum = 2325 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.36	0.38	0.29	0.32	**DFC of Critical Approach = 0.38**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_REF_AM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026



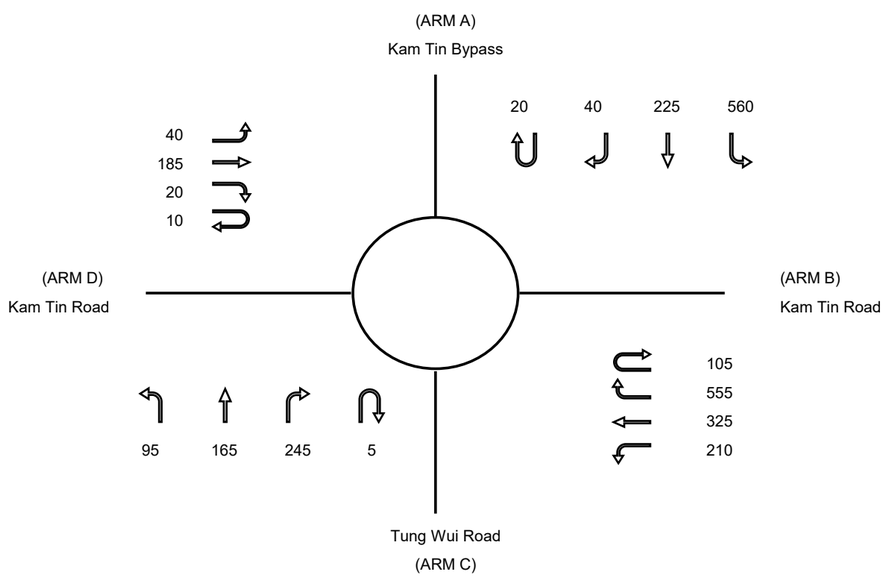


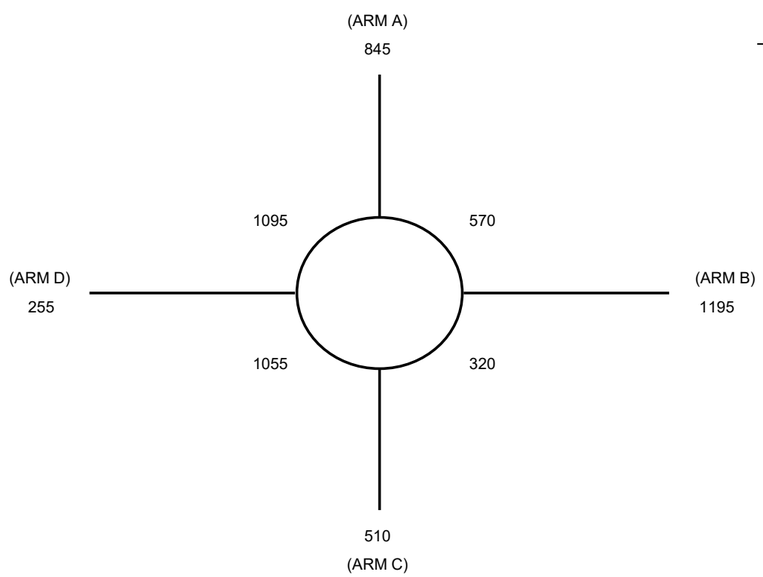
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62
A	=	Entry angle / degree (10-60)	44	63	44	42
Q	=	Entry flow (pcu/h)	760	1260	365	320
Qc	=	Circulating flow across entry (pcu/h)	610	375	1225	1185
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22
F	=	303*X2	2495	2813	2212	1349
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49
Qe	=	K(F-Fc*Qc)	2022	2172	1367	761
DFC	=	Design flow/Capacity = Q/Qe	0.38	0.58	0.27	0.42

Total in Sum = 2705 pcu/h

DFC of Critical Approach = 0.58

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_REF_PM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026



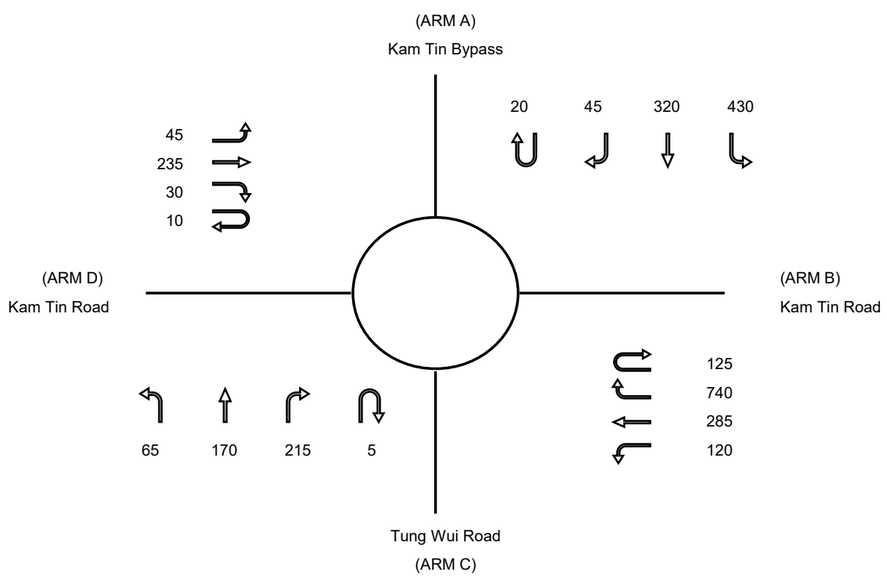


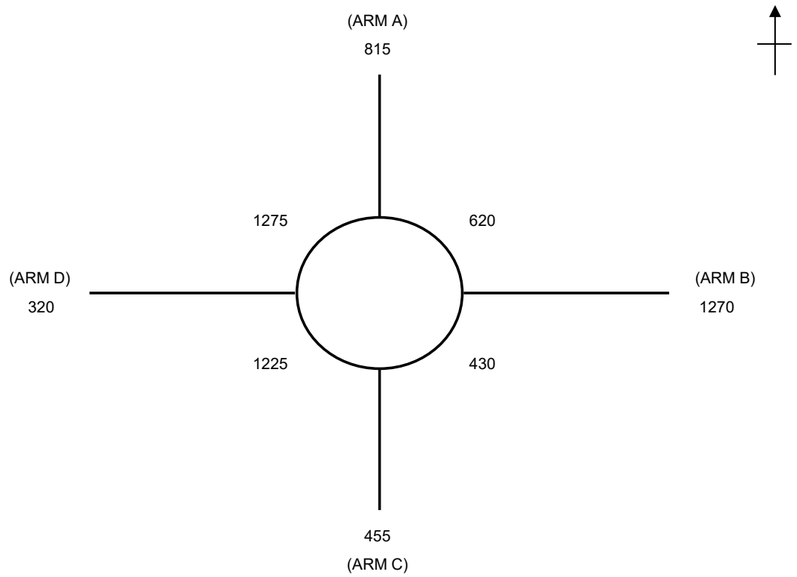
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62
A	=	Entry angle / degree (10-60)	44	63	44	42
Q	=	Entry flow (pcu/h)	845	1195	510	255
Qc	=	Circulating flow across entry (pcu/h)	570	320	1055	1095
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22
F	=	303*X2	2495	2813	2212	1349
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49
Qe	=	K(F-Fc*Qc)	2049	2207	1469	804
DFC	=	Design flow/Capacity = Q/Qe	0.41	0.54	0.35	0.32

Total in Sum = 2805 pcu/h

DFC of Critical Approach = 0.54

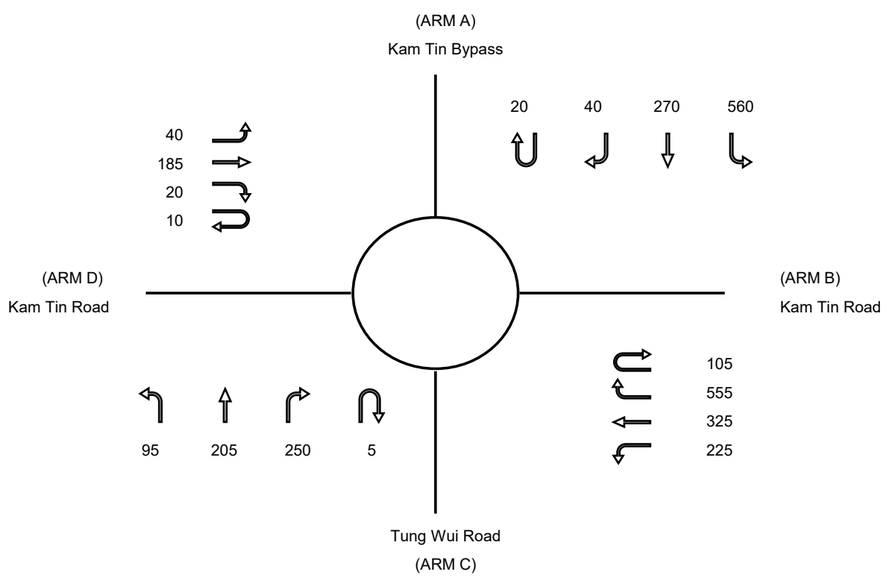
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_DES_AM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026

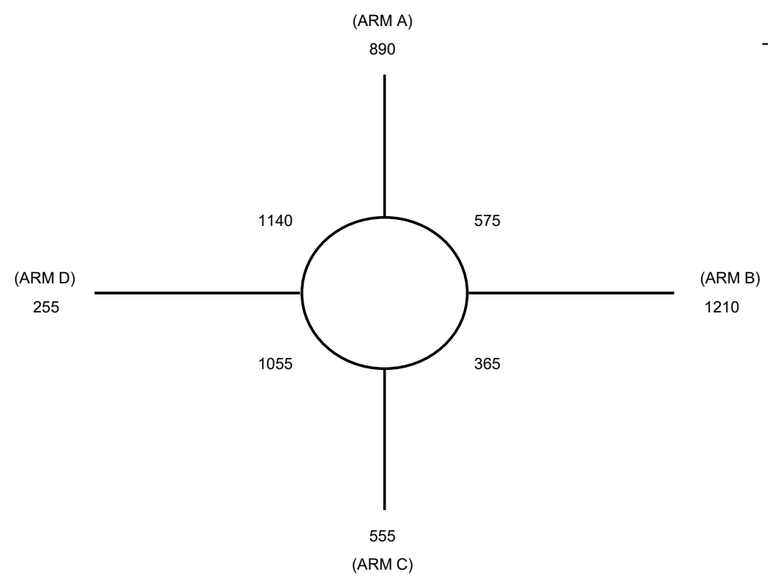




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5	
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5	
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4	
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62	
A	=	Entry angle / degree (10-60)	44	63	44	42	
Q	=	Entry flow (pcu/h)	815	1270	455	320	
Qc	=	Circulating flow across entry (pcu/h)	620	430	1225	1275	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98	
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45	
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22	
F	=	303*X2	2495	2813	2212	1349	
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23	
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49	
Qe	=	K(F-Fc*Qc)	2016	2138	1367	717	**Total in Sum = 2860 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.40	0.59	0.33	0.45	**DFC of Critical Approach = 0.59**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_DES_PM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62
A	=	Entry angle / degree (10-60)	44	63	44	42
Q	=	Entry flow (pcu/h)	890	1210	555	255
Qc	=	Circulating flow across entry (pcu/h)	575	365	1055	1140
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22
F	=	303*X2	2495	2813	2212	1349
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49
Qe	=	K(F-Fc*Qc)	2045	2178	1469	782
DFC	=	Design flow/Capacity = Q/Qe	0.44	0.56	0.38	0.33

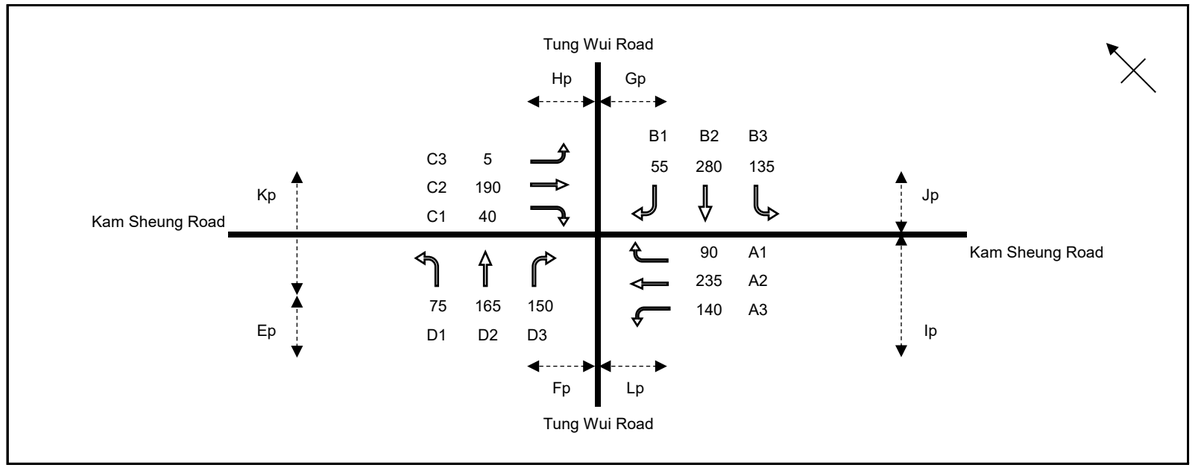
Total in Sum = 2910 pcu/h

DFC of Critical Approach = 0.56

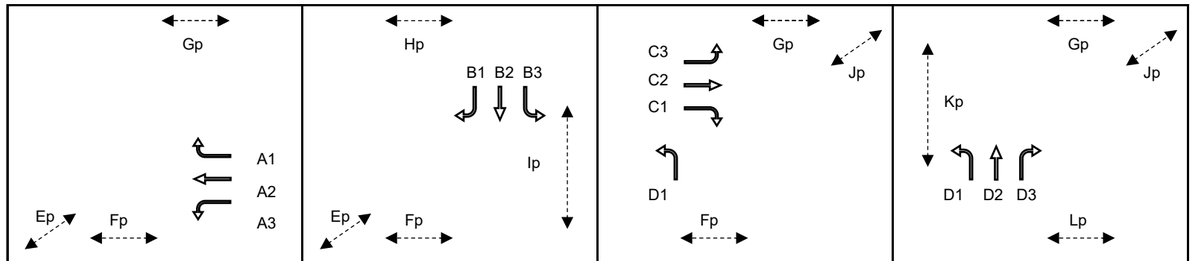
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_OBS_AM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.340
Loss time		L =	19 sec
Total Flow		=	1560 pcu
Co	= (1.5*L+5)/(1-Y)	=	50.7 sec
Cm	= L/(1-Y)	=	28.8 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	122.9 %
Cp	= 0.9*L/(0.9-Y)	=	30.5 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	123 %



STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Ep	8.5	5	2	7	65	2	7	OK
Fp	13	5	2	11	80	2	11	OK
Gp	9	5	6	8	32	6	8	OK
Hp	10	5	6	8	28	6	8	OK
Ip	9.5	8	2	7	33	2	7	OK
Jp	9	5	6	8	32	6	8	OK
Kp	11	9	2	8	17	2	8	OK
Lp	9.5	5	2	8	17	2	8	OK

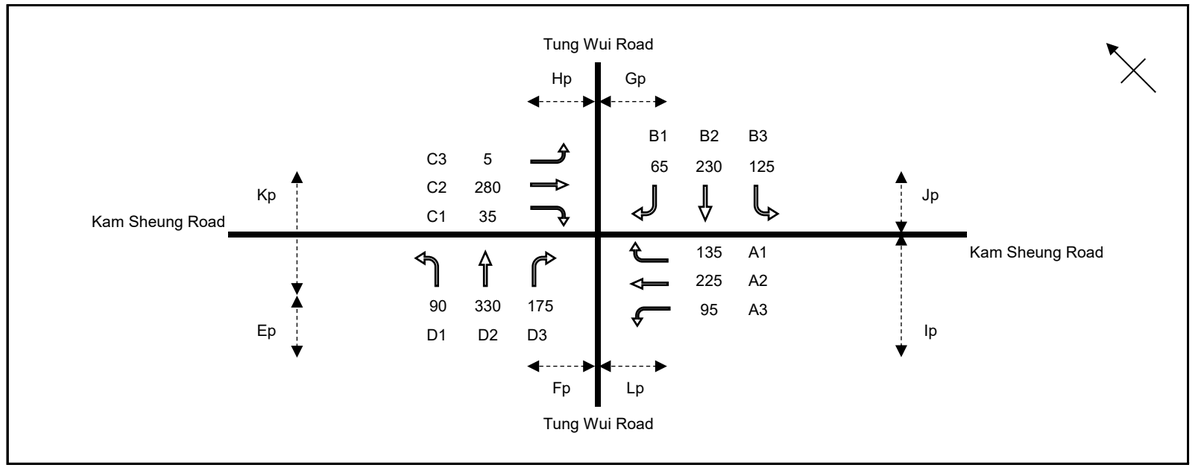
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				19				
A1	1	3.40	A	1	20			2095			90	90	1.00	1949			1949	0.046			14	29	0.194	14
A2	1	3.40	A	1				2095		201		201	0.00	2095			2095	0.096			29	29	0.403	31
A2,A3	1	3.40	A	1	15		N	1955	140	34		174	0.80	1809			1809	0.096	0.096		29	29	0.404	27
B1,B2	2	3.30	B	1	25			2085		191	55	246	0.22	2057			2057	0.120	0.120		36	36	0.404	35
B2,B3	2	3.30	B	1	25		N	1945	135	89		224	0.60	1877			1877	0.119			35	36	0.403	32
C1	3	3.30	C	1	17.5			2085			40	40	1.00	1920			1920	0.021			6	14	0.173	7
C2	3	3.30	C	1				2085		101		101	0.00	2085			2085	0.048			14	14	0.403	18
C2,C3	3	3.30	C	1	15		N	1945	5	89		94	0.05	1935			1935	0.049	0.049		14	14	0.404	17
D1,D2	4	3.30	D1	1	30		N	1945	75	39		114	0.66	1883			1883	0.061			18	22	0.324	19
D2	4	3.30	D2	1				2085		126		126	0.00	2085			2085	0.060			18	22	0.323	20
D3	4	3.30	D2	1	30			2085			150	150	1.00	1986			1986	0.076	0.076		22	22	0.404	24

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

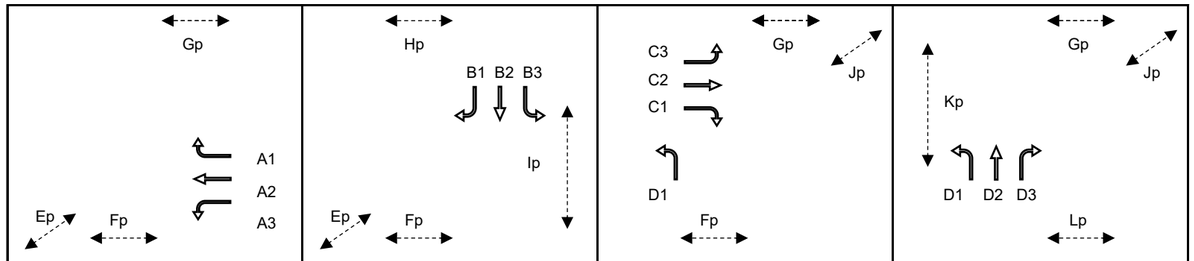
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_OBS_PM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4	
No. of stage using for calculation		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.365	
Loss time		L =	19	sec
Total Flow		=	1790	pcu
Co	= (1.5*L+5)/(1-Y)	=	52.8	sec
Cm	= L/(1-Y)	=	29.9	sec
Yult		=	0.758	
R.C.ult	= (Yult-Y)/Y*100%	=	107.4	%
Cp	= 0.9*L/(0.9-Y)	=	32.0	sec
Ymax	= 1-L/C	=	0.842	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	107	%



STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Ep	8.5	5	2	7	53	2	7	OK
Fp	13	5	2	11	73	2	11	OK
Gp	9	5	6	8	44	6	8	OK
Hp	10	5	6	8	22	6	8	OK
Ip	9.5	8	2	7	27	2	7	OK
Jp	9	5	6	8	44	6	8	OK
Kp	11	9	2	8	24	2	8	OK
Lp	9.5	5	2	8	24	2	8	OK

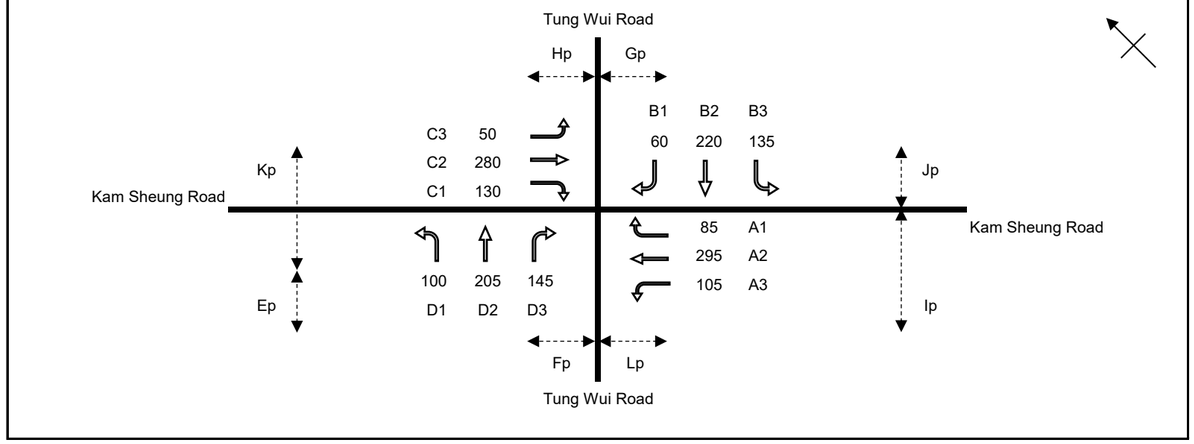
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				19				
A1	1	3.40	A	1	20			2095			135	135	1.00	1949			1949	0.069			19	23	0.368	22
A2	1	3.40	A	1				2095		170		170	0.00	2095			2095	0.081			22	23	0.432	28
A2,A3	1	3.40	A	1	15		N	1955	95	55		150	0.63	1839			1839	0.082	0.082		23	23	0.434	24
B1,B2	2	3.30	B	1	25			2085		154	65	219	0.30	2049			2049	0.107			30	30	0.433	33
B2,B3	2	3.30	B	1	25		N	1945	125	76		201	0.62	1875			1875	0.107	0.107		30	30	0.434	30
C1	3	3.30	C	1	17.5			2085			35	35	1.00	1920			1920	0.018			5	20	0.111	6
C2	3	3.30	C	1				2085		148		148	0.00	2085			2085	0.071	0.071		20	20	0.434	25
C2,C3	3	3.30	C	1	15		N	1945	5	132		137	0.04	1938			1938	0.071			20	20	0.432	23
D1,D2	4	3.30	D1	1	30		N	1945	90	110		200	0.45	1902			1902	0.105			29	29	0.432	30
D2	4	3.30	D2	1				2085		220		220	0.00	2085			2085	0.106	0.106		29	29	0.434	33
D3	4	3.30	D2	1	30			2085			175	175	1.00	1986			1986	0.088			24	29	0.362	26

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

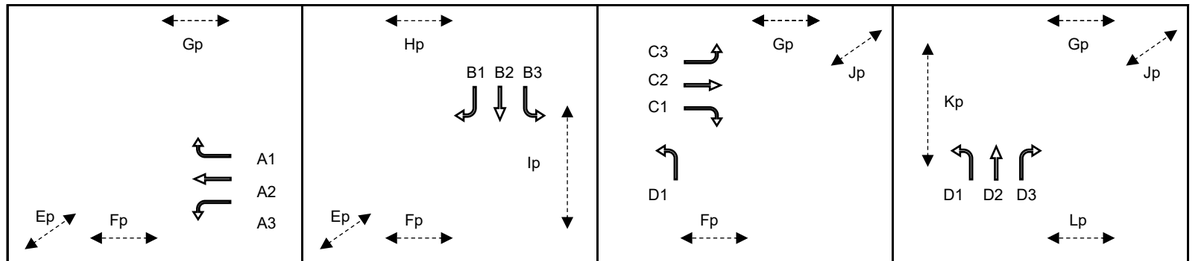
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_REF_AM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.368
Loss time		L =	19 sec
Total Flow		=	1810 pcu
Co	= (1.5*L+5)/(1-Y)	=	53.0 sec
Cm	= L/(1-Y)	=	30.1 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	105.9 %
Cp	= 0.9*L/(0.9-Y)	=	32.1 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	106 %



STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Ep	8.5	5	2	7	58	2	7	OK
Fp	13	5	2	11	81	2	11	OK
Gp	9	5	6	8	39	6	8	OK
Hp	10	5	6	8	21	6	8	OK
Ip	9.5	8	2	7	26	2	7	OK
Jp	9	5	6	8	39	6	8	OK
Kp	11	9	2	8	16	2	8	OK
Lp	9.5	5	2	8	16	2	8	OK

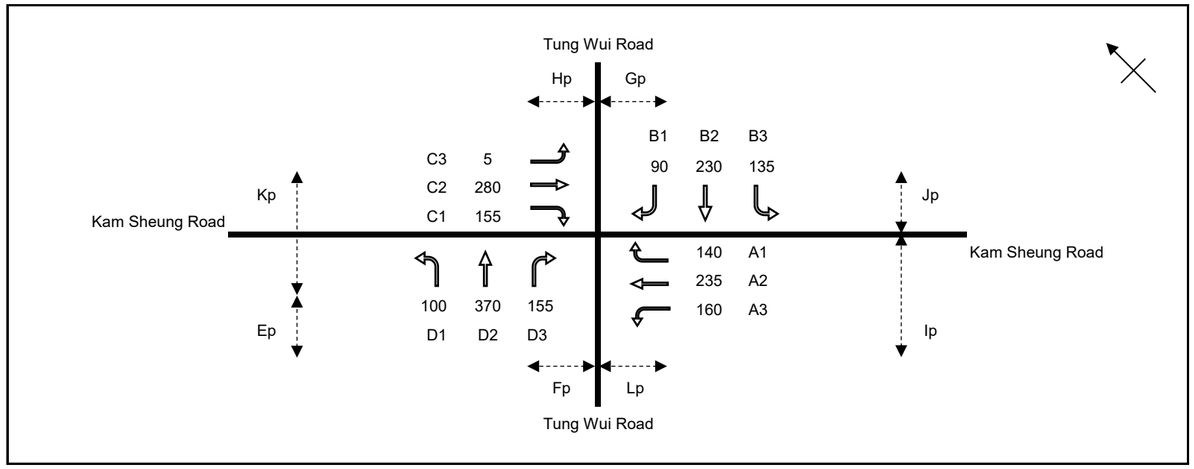
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									19				
A1	1	3.40	A	1	20			2095			85	85	1.00	1949			1949	0.044			12	28	0.188	13
A2	1	3.40	A	1				2095		212		212	0.00	2095			2095	0.101			28	28	0.436	33
A2,A3	1	3.40	A	1	15		N	1955	105	83		188	0.56	1852			1852	0.102	0.102		28	28	0.437	29
B1,B2	2	3.30	B	1	25			2085		157	60	217	0.28	2051			2051	0.106			29	29	0.436	33
B2,B3	2	3.30	B	1	25		N	1945	135	63		198	0.68	1869			1869	0.106	0.106		29	29	0.437	30
C1	3	3.30	C	1	17.5			2085			130	130	1.00	1920			1920	0.068			19	23	0.355	21
C2	3	3.30	C	1				2085		173		173	0.00	2085			2085	0.083			23	23	0.435	28
C2,C3	3	3.30	C	1	15		N	1945	50	107		157	0.32	1885			1885	0.083	0.083		23	23	0.437	25
D1,D2	4	3.30	D1	1	30		N	1945	100	45		145	0.69	1880			1880	0.077	0.077		21	21	0.437	24
D2	4	3.30	D2	1				2085		160		160	0.00	2085			2085	0.077			21	21	0.435	26
D3	4	3.30	D2	1	30			2085			145	145	1.00	1986			1986	0.073			20	21	0.414	24

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

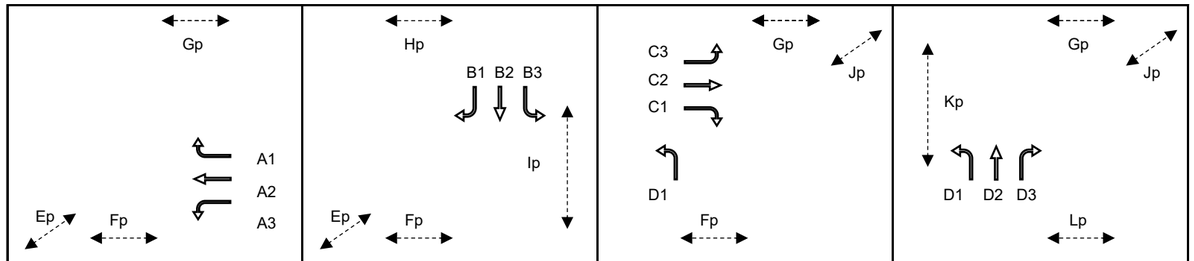
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_REF_PM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.417
Loss time		L =	19 sec
Total Flow		=	2055 pcu
Co	= (1.5*L+5)/(1-Y)	=	57.4 sec
Cm	= L/(1-Y)	=	32.6 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	81.8 %
Cp	= 0.9*L/(0.9-Y)	=	35.4 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	82 %



STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Ep	8.5	5	2	7	54	2	7	OK
Fp	13	5	2	11	73	2	11	OK
Gp	9	5	6	8	43	6	8	OK
Hp	10	5	6	8	20	6	8	OK
Ip	9.5	8	2	7	25	2	7	OK
Jp	9	5	6	8	43	6	8	OK
Kp	11	9	2	8	24	2	8	OK
Lp	9.5	5	2	8	24	2	8	OK

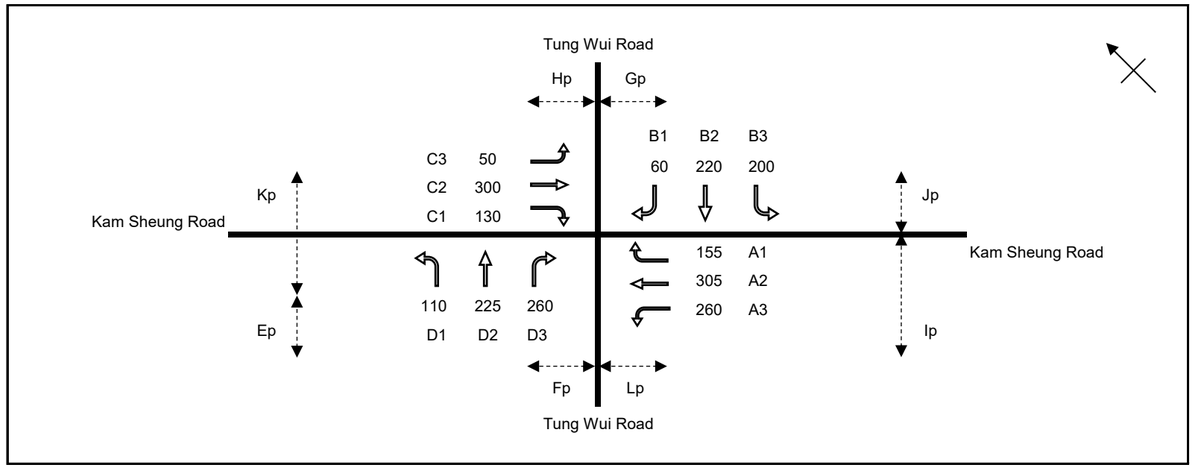
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				19				
A1	1	3.40	A	1	20			2095			140	140	1.00	1949			1949	0.072			17	25	0.350	22
A2	1	3.40	A	1				2095		213		213	0.00	2095			2095	0.102	0.102		25	25	0.495	34
A2,A3	1	3.40	A	1	15		N	1955	160	22		182	0.88	1797			1797	0.101			25	25	0.493	29
B1,B2	2	3.30	B	1	25			2085		147	90	237	0.38	2039			2039	0.116	0.116		28	28	0.495	36
B2,B3	2	3.30	B	1	25		N	1945	135	83		218	0.62	1875			1875	0.116			28	28	0.495	33
C1	3	3.30	C	1	17.5			2085			155	155	1.00	1920			1920	0.081	0.081		20	20	0.495	26
C2	3	3.30	C	1				2085		148		148	0.00	2085			2085	0.071			17	20	0.435	25
C2,C3	3	3.30	C	1	15		N	1945	5	132		137	0.04	1938			1938	0.071			17	20	0.434	23
D1,D2	4	3.30	D1	1	30		N	1945	100	124		224	0.45	1903			1903	0.118			29	29	0.494	34
D2	4	3.30	D2	1				2085		246		246	0.00	2085			2085	0.118	0.118		29	29	0.495	37
D3	4	3.30	D2	1	30			2085			155	155	1.00	1986			1986	0.078			19	29	0.327	24

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

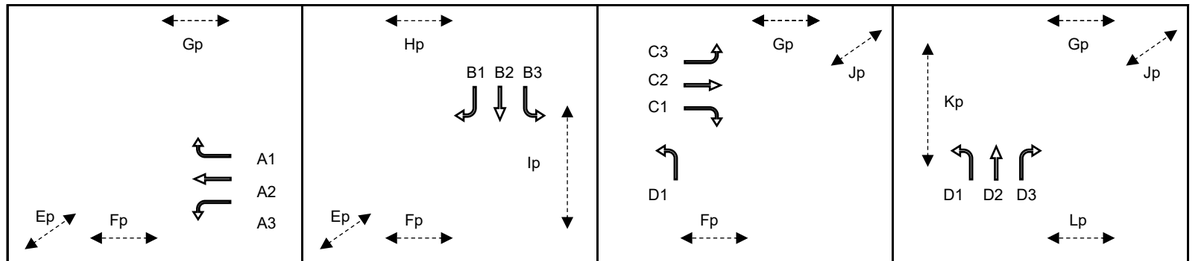
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Design Flows	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_DES_AM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.489
Loss time		L =	19 sec
Total Flow		=	2275 pcu
Co	= (1.5*L+5)/(1-Y)	=	65.5 sec
Cm	= L/(1-Y)	=	37.2 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	54.9 %
Cp	= 0.9*L/(0.9-Y)	=	41.6 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55 %



STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Ep	8.5	5	2	7	57	2	7	OK
Fp	13	5	2	11	75	2	11	OK
Gp	9	5	6	8	40	6	8	OK
Hp	10	5	6	8	17	6	8	OK
Ip	9.5	8	2	7	22	2	7	OK
Jp	9	5	6	8	40	6	8	OK
Kp	11	9	2	8	22	2	8	OK
Lp	9.5	5	2	8	22	2	8	OK

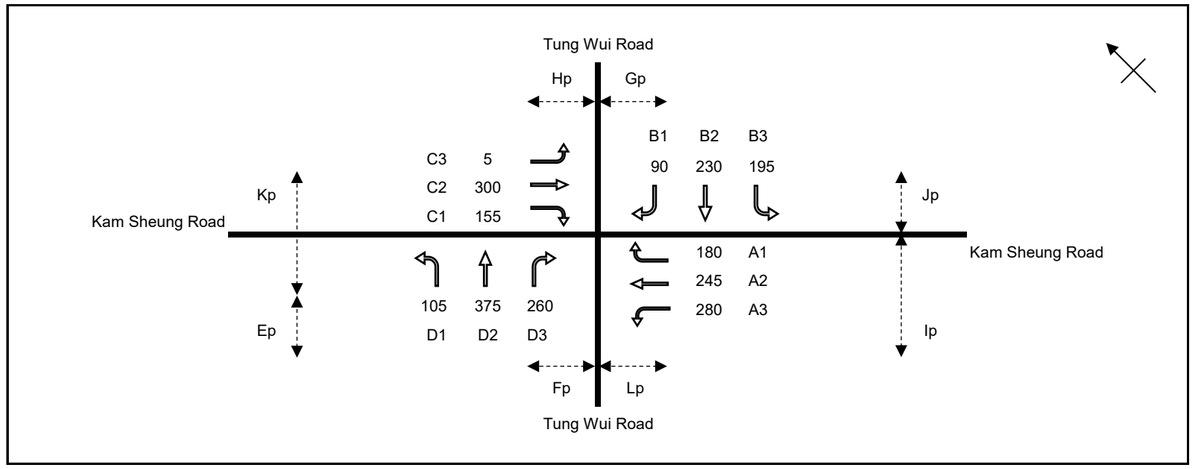
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				19				
A1	1	3.40	A	1	20			2095			155	155	1.00	1949			1949	0.080			16	30	0.316	23
A2	1	3.40	A	1				2095		305		305	0.00	2095			2095	0.146			30	30	0.578	46
A2,A3	1	3.40	A	1	15		N	1955	260	0		260	1.00	1777			1777	0.146	0.146		30	30	0.581	39
B1,B2	2	3.30	B	1	25			2085		192	60	252	0.24	2056			2056	0.123			25	25	0.577	40
B2,B3	2	3.30	B	1	25		N	1945	200	28		228	0.88	1848			1848	0.123	0.123		25	25	0.581	36
C1	3	3.30	C	1	17.5			2085			130	130	1.00	1920			1920	0.068			14	18	0.446	22
C2	3	3.30	C	1				2085		184		184	0.00	2085			2085	0.088	0.088		18	18	0.581	31
C2,C3	3	3.30	C	1	15		N	1945	50	116		166	0.30	1888			1888	0.088			18	18	0.579	28
D1,D2	4	3.30	D1	1	30		N	1945	110	48		158	0.70	1880			1880	0.084			17	27	0.373	24
D2	4	3.30	D2	1				2085		177		177	0.00	2085			2085	0.085			18	27	0.377	27
D3	4	3.30	D2	1	30			2085			260	260	1.00	1986			1986	0.131	0.131		27	27	0.581	40

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

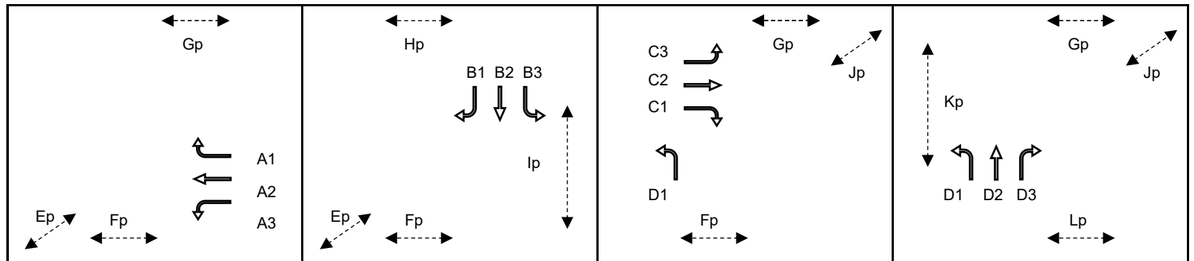
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Design Flows	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_DES_PM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.501
Loss time		L =	19 sec
Total Flow		=	2420 pcu
Co	= (1.5*L+5)/(1-Y)	=	67.2 sec
Cm	= L/(1-Y)	=	38.1 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	51.1 %
Cp	= 0.9*L/(0.9-Y)	=	42.9 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51 %



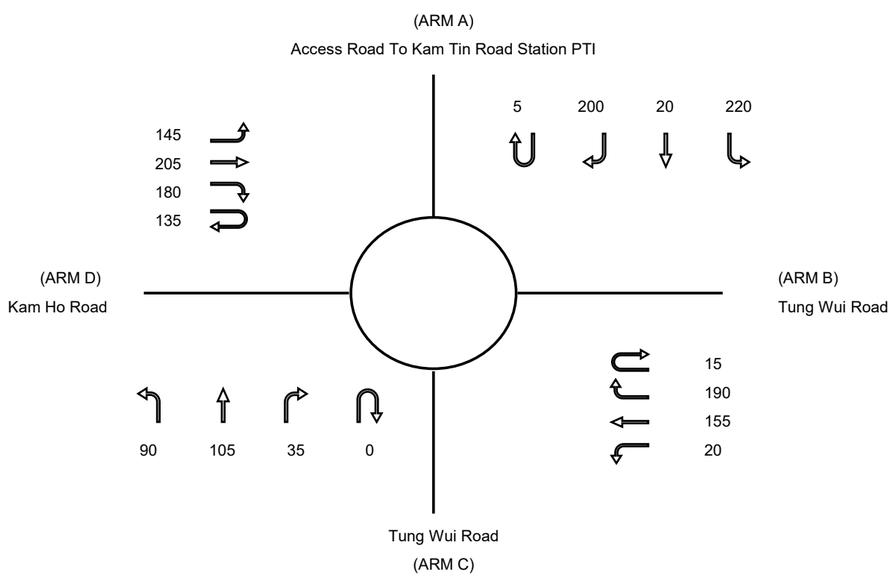
STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

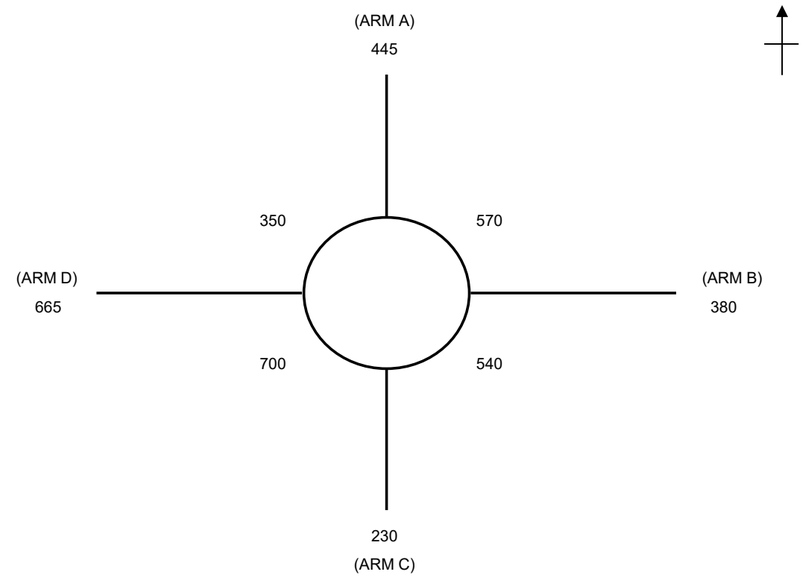
Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Ep	8.5	5	2	7	59	2	7	OK
Fp	13	5	2	11	76	2	11	OK
Gp	9	5	6	8	38	6	8	OK
Hp	10	5	6	8	19	6	8	OK
Ip	9.5	8	2	7	24	2	7	OK
Jp	9	5	6	8	38	6	8	OK
Kp	11	9	2	8	21	2	8	OK
Lp	9.5	5	2	8	21	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				19				
A1	1	3.40	A	1	20			2095			180	180	1.00	1949			1949	0.092			19	32	0.349	26
A2	1	3.40	A	1				2095		245		245	0.00	2095			2095	0.117			24	32	0.442	36
A2,A3	1	3.40	A	1	15		N	1955	280	0		280	1.00	1777			1777	0.158	0.158		32	32	0.596	41
B1,B2	2	3.30	B	1	25			2085		180	90	270	0.33	2044			2044	0.132	0.132		27	27	0.596	42
B2,B3	2	3.30	B	1	25		N	1945	195	50		245	0.80	1856			1856	0.132			27	27	0.595	38
C1	3	3.30	C	1	17.5			2085			155	155	1.00	1920			1920	0.081	0.081		16	16	0.596	27
C2	3	3.30	C	1				2085		158		158	0.00	2085			2085	0.076			15	16	0.559	27
C2,C3	3	3.30	C	1	15		N	1945	5	142		147	0.03	1938			1938	0.076			15	16	0.560	25
D1,D2	4	3.30	D1	1	30		N	1945	105	124		229	0.46	1901			1901	0.120			24	26	0.548	36
D2	4	3.30	D2	1				2085		251		251	0.00	2085			2085	0.120			24	26	0.548	39
D3	4	3.30	D2	1	30			2085			260	260	1.00	1986			1986	0.131	0.131		26	26	0.596	41

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_OBS_AM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026



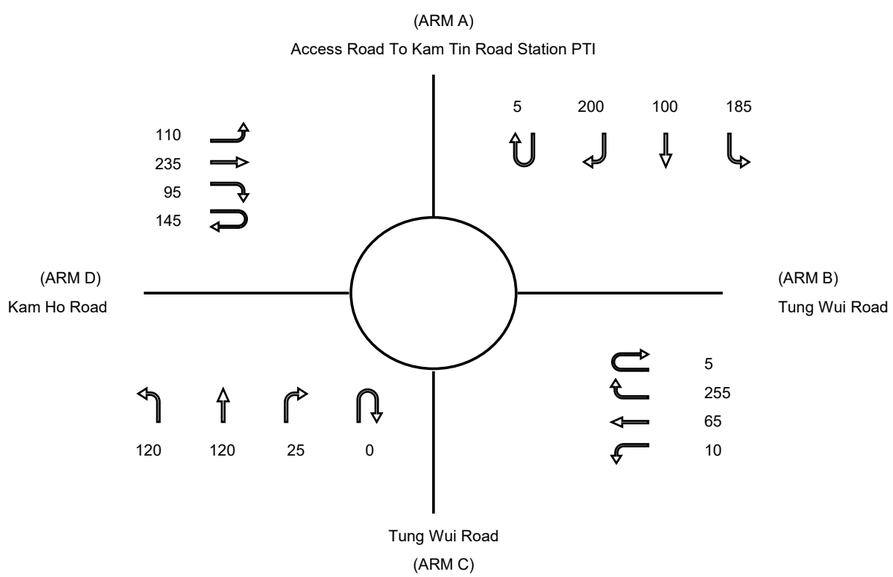


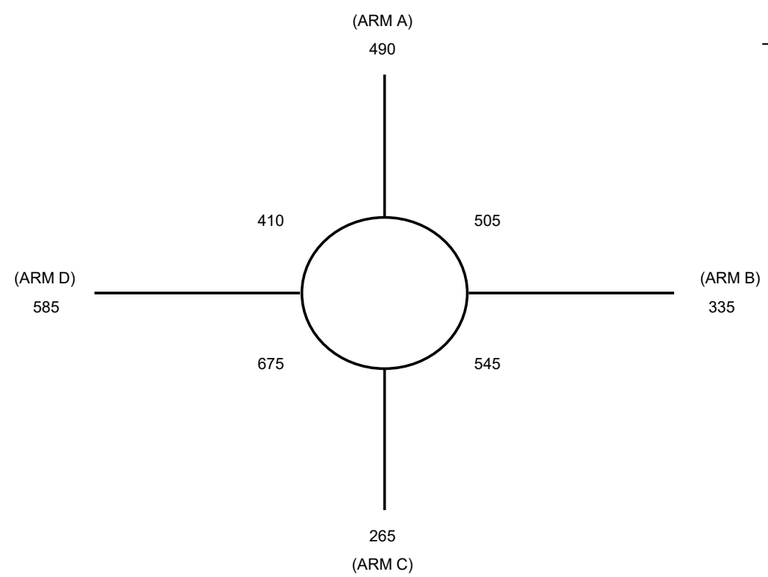
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46
A	=	Entry angle / degree (10-60)	20	15	24	25
Q	=	Entry flow (pcu/h)	445	380	230	665
Qc	=	Circulating flow across entry (pcu/h)	570	540	700	350
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25
F	=	303*X2	2284	2580	1982	2727
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82
Qe	=	K(F-Fc*Qc)	1974	2297	1538	2521
DFC	=	Design flow/Capacity = Q/Qe	0.23	0.17	0.15	0.26

Total in Sum = 1720 pcu/h

DFC of Critical Approach = 0.26

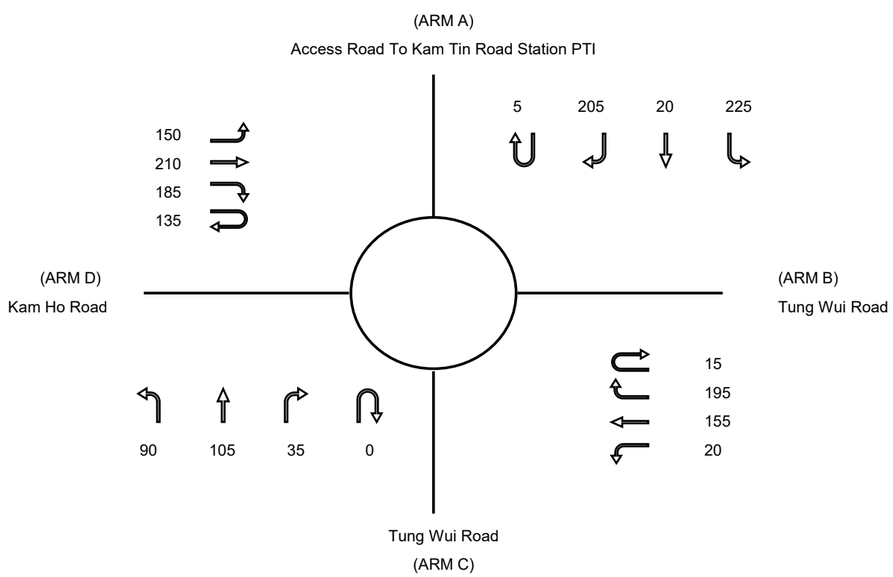
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_OBS_PM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026

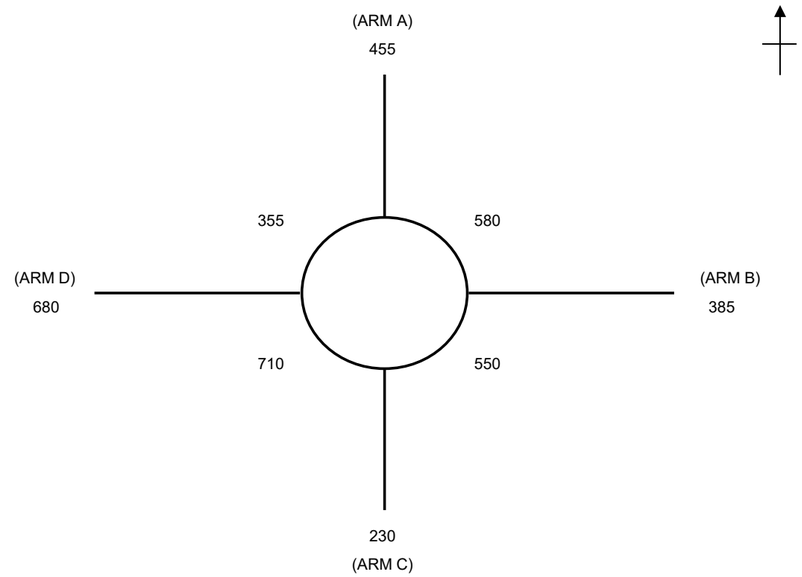




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9	
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9	
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1	
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30	
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46	
A	=	Entry angle / degree (10-60)	20	15	24	25	
Q	=	Entry flow (pcu/h)	490	335	265	585	
Qc	=	Circulating flow across entry (pcu/h)	505	545	675	410	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03	
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00	
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25	
F	=	303*X2	2284	2580	1982	2727	
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40	
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82	
Qe	=	K(F-Fc*Qc)	2025	2293	1555	2470	**Total in Sum = 1675 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.24	0.15	0.17	0.24	**DFC of Critical Approach = 0.24**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_REF_AM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026



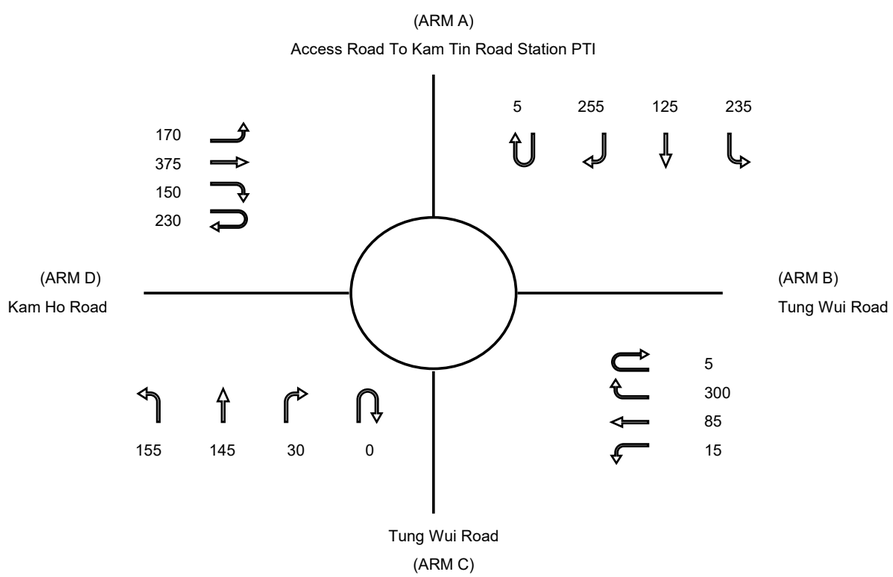


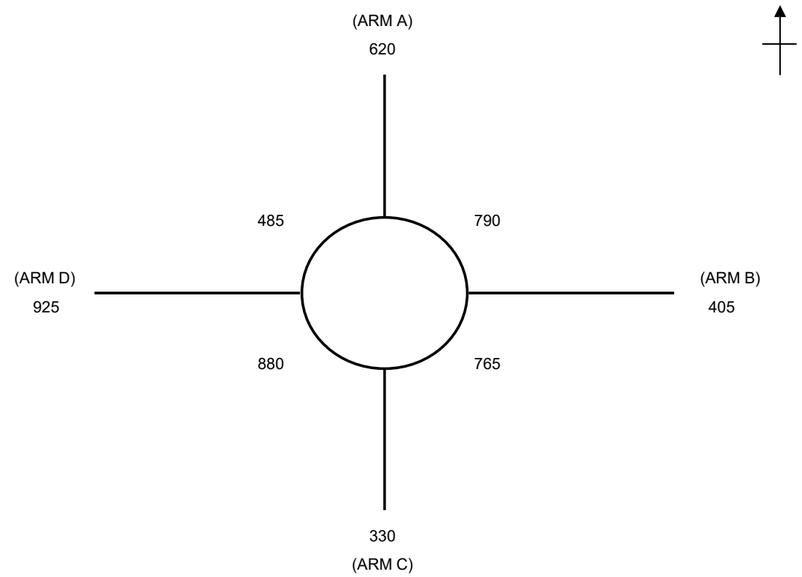
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46
A	=	Entry angle / degree (10-60)	20	15	24	25
Q	=	Entry flow (pcu/h)	455	385	230	680
Qc	=	Circulating flow across entry (pcu/h)	580	550	710	355
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25
F	=	303*X2	2284	2580	1982	2727
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82
Qe	=	K(F-Fc*Qc)	1966	2289	1531	2516
DFC	=	Design flow/Capacity = Q/Qe	0.23	0.17	0.15	0.27

Total in Sum = 1750 pcu/h

DFC of Critical Approach = 0.27

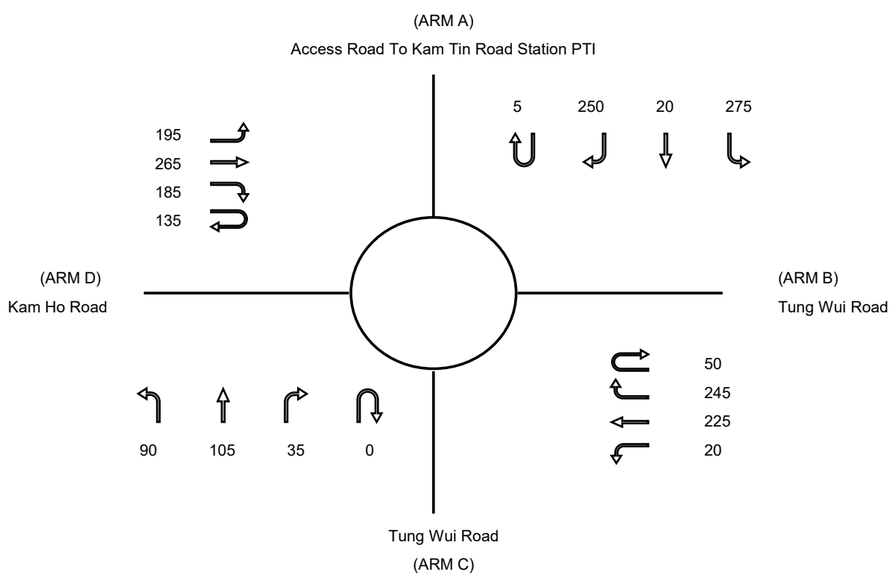
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_REF_PM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026

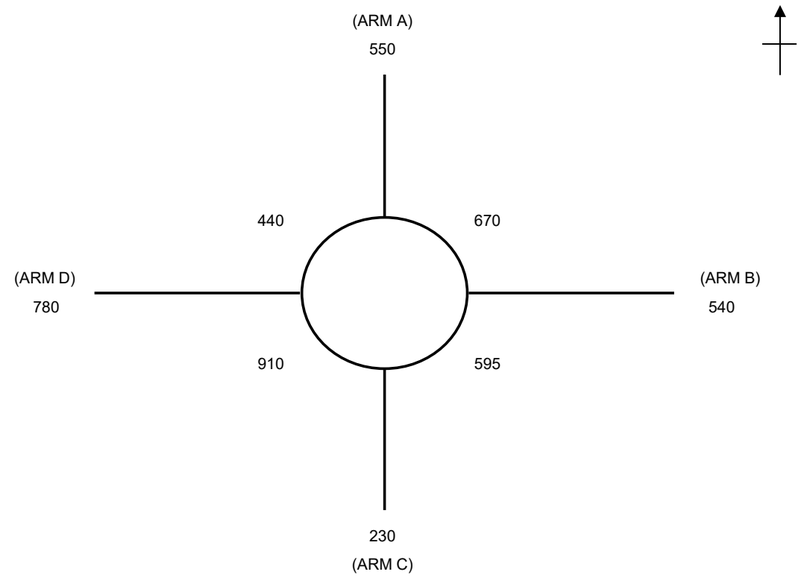




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9	
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9	
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1	
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30	
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46	
A	=	Entry angle / degree (10-60)	20	15	24	25	
Q	=	Entry flow (pcu/h)	620	405	330	925	
Qc	=	Circulating flow across entry (pcu/h)	790	765	880	485	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03	
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00	
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25	
F	=	303*X2	2284	2580	1982	2727	
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40	
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82	
Qe	=	K(F-Fc*Qc)	1802	2106	1413	2406	**Total in Sum = 2280 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.34	0.19	0.23	0.38	**DFC of Critical Approach = 0.38**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_DES_AM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026



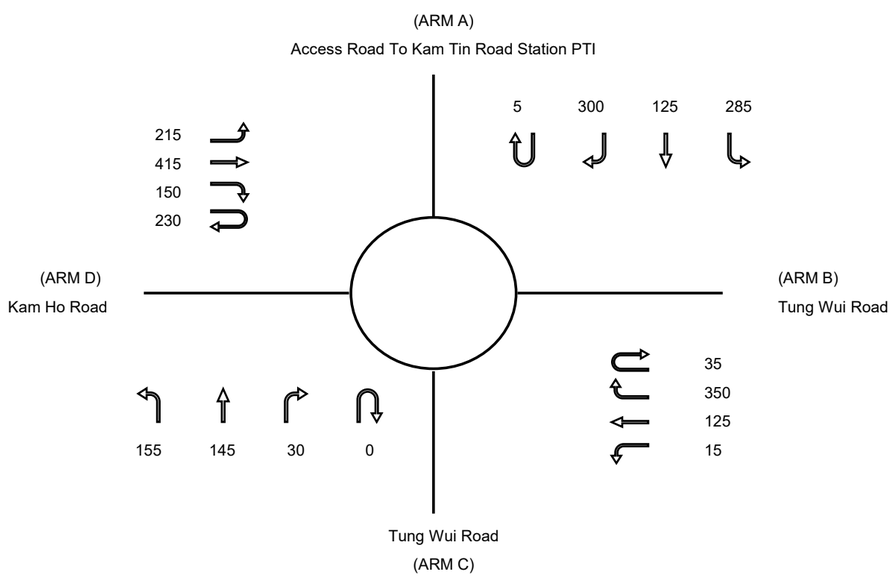


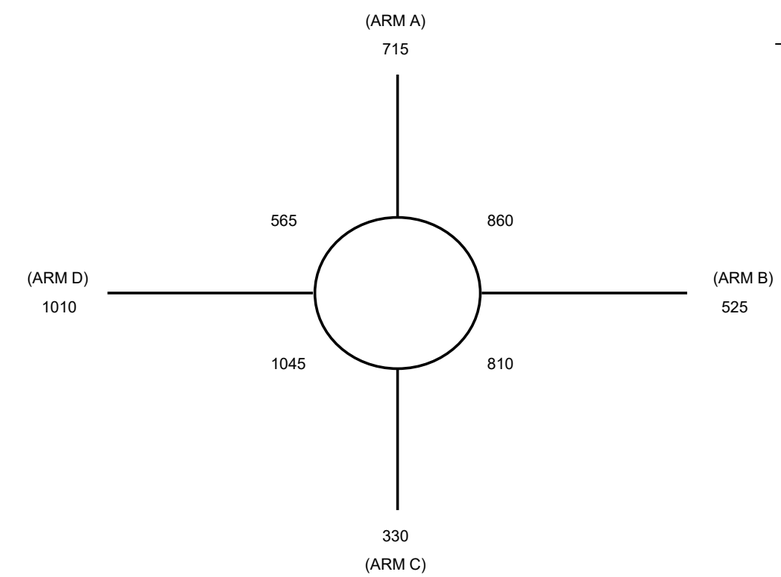
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46
A	=	Entry angle / degree (10-60)	20	15	24	25
Q	=	Entry flow (pcu/h)	550	540	230	780
Qc	=	Circulating flow across entry (pcu/h)	670	595	910	440
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25
F	=	303*X2	2284	2580	1982	2727
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82
Qe	=	K(F-Fc*Qc)	1896	2250	1392	2444
DFC	=	Design flow/Capacity = Q/Qe	0.29	0.24	0.17	0.32

Total in Sum = 2100 pcu/h

DFC of Critical Approach = 0.32

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_DES_PM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026



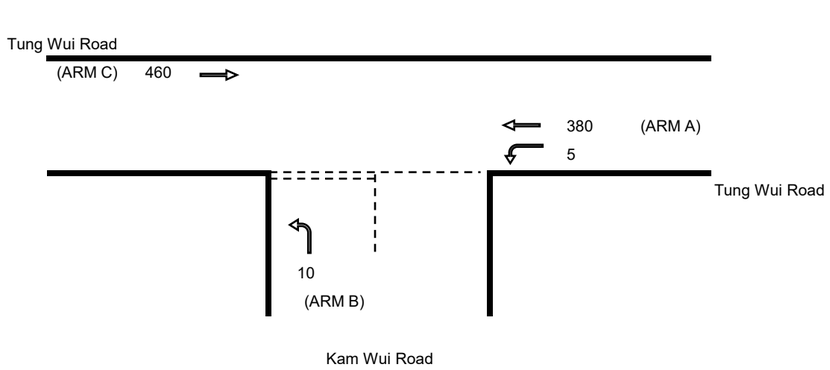


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46
A	=	Entry angle / degree (10-60)	20	15	24	25
Q	=	Entry flow (pcu/h)	715	525	330	1010
Qc	=	Circulating flow across entry (pcu/h)	860	810	1045	565
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25
F	=	303*X2	2284	2580	1982	2727
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82
Qe	=	K(F-Fc*Qc)	1747	2068	1299	2338
DFC	=	Design flow/Capacity = Q/Qe	0.41	0.25	0.25	0.43

Total in Sum = 2580 pcu/h

DFC of Critical Approach = 0.43

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 AM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_OBS_AM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8 (metres)
W cr	=	2 (metres)
q a-b	=	5 (pcu/hr)
q a-c	=	380 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0 (metres)
Vr c-b	=	0 (metres)
q c-a	=	460 (pcu/hr)
q c-b	=	0 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0 (metres)
W b-c	=	5 (metres)
Vl b-a	=	0 (metres)
Vr b-a	=	0 (metres)
Vr b-c	=	150 (metres)
q b-a	=	0 (pcu/hr)
q b-c	=	10 (pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.15733
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

Q b-a	=	254	
Q b-c	=	745	
Q c-b	=	377	
Q b-ac	=	745	
TOTAL FLOW	=	855	(pcu/hr)

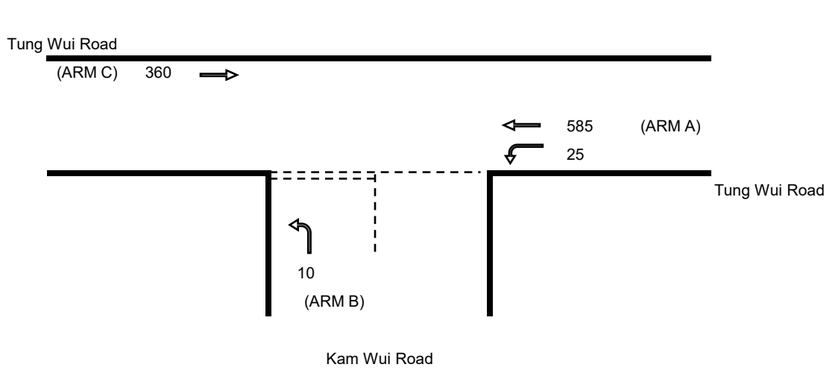
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.00
DFC b-c	=	0.01
DFC c-b	=	0.00
DFC b-ac	=	0.01
CRITICAL DFC	=	**0.01**

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2026 PM Peak Hour Observed Flows	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_OBS_PM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8	(metres)
W cr	=	2	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	585	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0	(metres)
Vr c-b	=	0	(metres)
q c-a	=	360	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0	(metres)
W b-c	=	5	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	10	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.15733
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

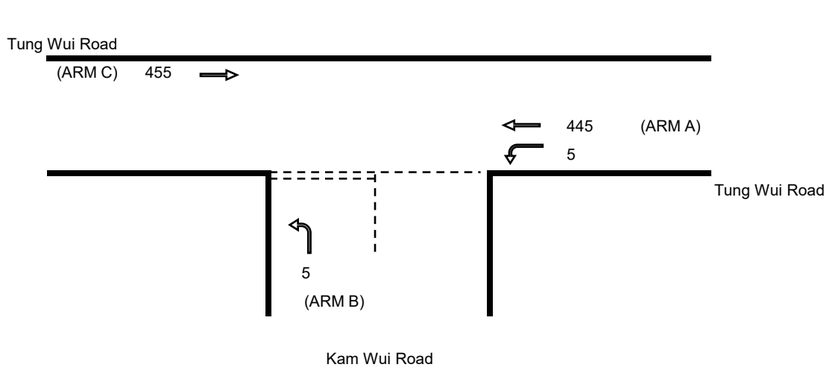
Q b-a	=	233	
Q b-c	=	679	
Q c-b	=	341	
Q b-ac	=	679	
TOTAL FLOW	=	980	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.00
DFC b-c	=	0.01
DFC c-b	=	0.00
DFC b-ac	=	0.01

CRITICAL DFC = 0.01

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_REF_AM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8	(metres)
W cr	=	2	(metres)
q a-b	=	5	(pcu/hr)
q a-c	=	445	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0	(metres)
Vr c-b	=	0	(metres)
q c-a	=	455	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0	(metres)
W b-c	=	6.8	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.32627
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

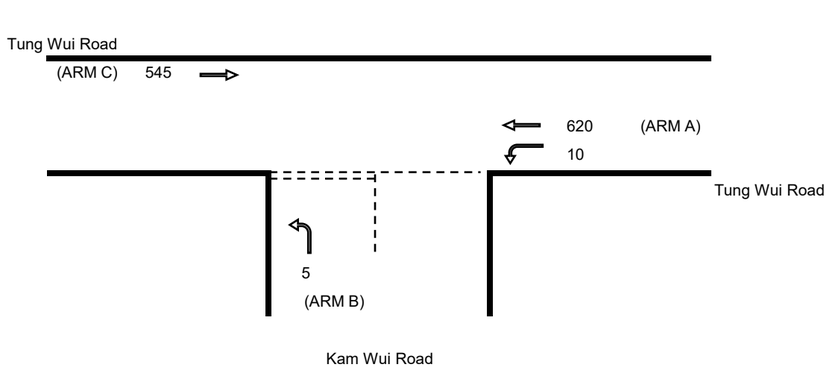
Q b-a	=	245	
Q b-c	=	830	
Q c-b	=	366	
Q b-ac	=	830	
TOTAL FLOW	=	910	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.00
DFC b-c	=	0.01
DFC c-b	=	0.00
DFC b-ac	=	0.01

CRITICAL DFC = 0.01

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Reference Flows	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_REF_PM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8	(metres)
W cr	=	2	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	620	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0	(metres)
Vr c-b	=	0	(metres)
q c-a	=	545	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0	(metres)
W b-c	=	6.8	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.32627
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

Q b-a	=	212	
Q b-c	=	768	
Q c-b	=	338	
Q b-ac	=	768	
TOTAL FLOW	=	1180	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

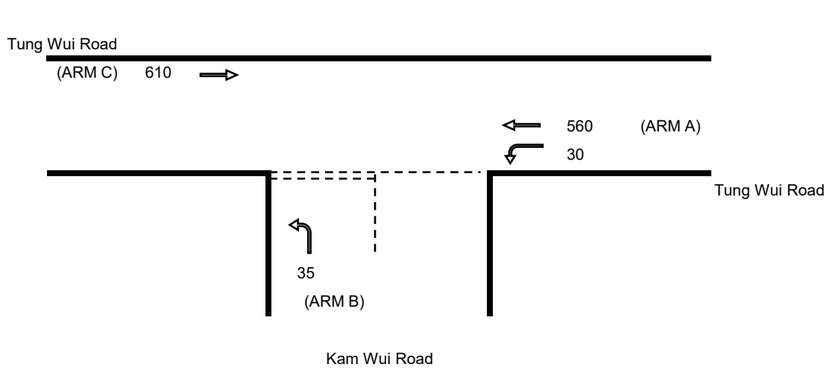
DFC b-a	=	0.00
DFC b-c	=	0.01
DFC c-b	=	0.00
DFC b-ac	=	0.01

CRITICAL DFC = 0.01

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_DES_AM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8	(metres)
W cr	=	2	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	560	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0	(metres)
Vr c-b	=	0	(metres)
q c-a	=	610	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0	(metres)
W b-c	=	6.8	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	35	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.32627
F	=	0.58595
Y	=	0.7309

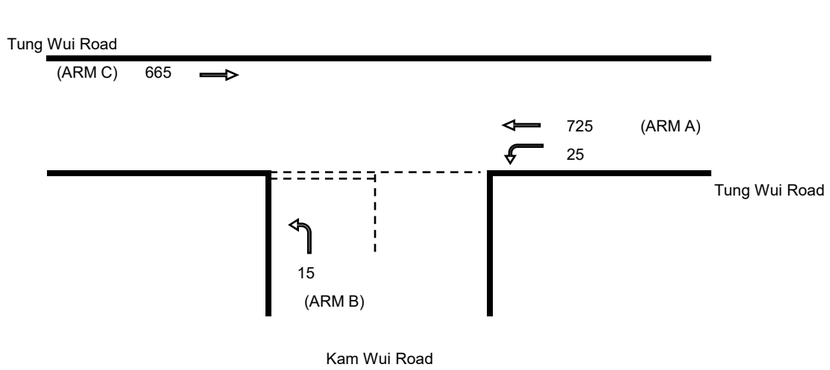
THE CAPACITY OF MOVEMENT :

Q b-a	=	214	
Q b-c	=	786	
Q c-b	=	345	
Q b-ac	=	786	
TOTAL FLOW	=	1235	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.00
DFC b-c	=	0.04
DFC c-b	=	0.00
DFC b-ac	=	0.04
CRITICAL DFC	=	**0.04**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_DES_PM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8 (metres)
W cr	=	2 (metres)
q a-b	=	25 (pcu/hr)
q a-c	=	725 (pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0 (metres)
Vr c-b	=	0 (metres)
q c-a	=	665 (pcu/hr)
q c-b	=	0 (pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0 (metres)
W b-c	=	6.8 (metres)
Vl b-a	=	0 (metres)
Vr b-a	=	0 (metres)
Vr b-c	=	150 (metres)
q b-a	=	0 (pcu/hr)
q b-c	=	15 (pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.32627
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

Q b-a	=	186	
Q b-c	=	729	
Q c-b	=	320	
Q b-ac	=	729	
TOTAL FLOW	=	1430	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.00
DFC b-c	=	0.02
DFC c-b	=	0.00
DFC b-ac	=	0.02
CRITICAL DFC	=	**0.02**

ARUP

APPENDIX B

Discussion Paper / Gazette Plans of Road Improvement Works by Others

擬議重置濕地
PROPOSED RE-PROVISIONED WETLAND

水頭路
SHUI TAU ROAD

治河路
CHI HO ROAD

錦田
KAM TIN

錦田繞道
KAM TIN BYPASS

錦泰路
KAM TAI ROAD

高埔村
KO PO TSUEN

錦田污水泵房
KAM TIN SEWAGE PUMPING STATION

錦泰路
KAM TAI ROAD

錦河路
KAM HO ROAD

擬議橫跨錦田河的橋樑
PROPOSED BRIDGE ACROSS KAM TIN RIVER

錦田公路
KAM TIN ROAD

錦上路
KAM SHEUNG ROAD

東灣路
TUNG WUI ROAD

錦上路站
KAM SHEUNG ROAD STATION

錦田路
KAM PO ROAD

臨時污水儲存設施
ON-SITE MAKESHIFT SEWAGE STORAGE FACILITY

錦河路 KAM HO ROAD

青朗公路 TSING LONG HIGHWAY

擬議巴士停車灣
PROPOSED BUS LAYBY

八鄉車廠
PAT HEUNG MAINTENANCE CENTRE

八鄉路
PAT HEUNG ROAD

八鄉
PAT HEUNG

0 100 200 300 400 500 m

圖例 LEGEND:

- 工地界線 SITE BOUNDARY
- 擬議道路工程 PROPOSED ROAD WORKS
- 擬議污水收集系統工程 PROPOSED SEWERAGE WORKS
- 擬議橋樑 PROPOSED BRIDGE
- 擬議重置濕地 PROPOSED RE-PROVISIONED WETLAND
- 後移現有隔音屏障 SET BACK OF EXISTING NOISE BARRIERS
- 擬議隔音屏障 PROPOSED NOISE BARRIERS
- 公營房屋發展計劃 PUBLIC HOUSING DEVELOPMENT
- 私營房屋發展計劃 PRIVATE HOUSING DEVELOPMENT

工務計劃項目第7804CL號
元朗錦田南發展計劃工地平整和基礎建設工程 - 前期工程
PWP ITEM NO. 7804CL
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT KAM TIN SOUTH, YUEN LONG - ADVANCE WORKS

位置圖
LOCATION PLAN

R:\Drawing-NTWST-Z\NTWST-Z0270\NTWST-Z0270.dgn

21/11/2017

A3 297MM X 420MM

擬議重置濕地
PROPOSED RE-PROVISIONED WETLAND

水頭路
SHUI TAU ROAD

治河路
CHI HO ROAD

錦泰路
KAM TAI ROAD

錦田繞道
KAM TIN BYPASS

KAM TIN

插圖 "E" INSET 'E'

高埔村
KO PO TSUEN

擬議交界處改善工程
PROPOSED JUNCTION IMPROVEMENT WORKS

錦田公路
KAM TIN ROAD

錦田
KAM TIN

錦田污水泵房
KAM TIN SEWAGE PUMPING STATION

錦泰路
KAM TAI ROAD

現有橋樑
EXISTING BRIDGE

擬議橫跨錦田河的橋樑
PROPOSED BRIDGE ACROSS KAM TIN RIVER

錦上路
KAM SHEUNG ROAD

錦河路
KAM HO ROAD

青朗公路
TSING LONG HIGHWAY

港鐵(西鐵線)
MTR (WEST RAIL LINE)

擬議交界處改善工程
PROPOSED JUNCTION IMPROVEMENT WORKS

錦上路站
KAM SHEUNG ROAD STATION

東匯路
TUNG WUI ROAD

錦青路
KAM PO ROAD

臨時污水儲存設施
ON-SITE MAKESHIFT SEWAGE STORAGE FACILITY

插圖 "A"
INSET 'A'

八鄉路
PAT HEUNG ROAD

擬議交界處改善工程
PROPOSED JUNCTION IMPROVEMENT WORKS

831250 N

824750 E

插圖 "B"
INSET 'B'

擬議巴士停車灣
PROPOSED BUS LAYBY

831750 N

825150 E

插圖 "C"
INSET 'C'

832450 N

825400 E

插圖 "D"
INSET 'D'

831900 N

825700 E

插圖 "E"
INSET 'E'

錦田公路 KAM TIN ROAD

833400 N

824100 E

824300 E

剖面圖 SECTION A-A

2.5m	2m	7.3m	2.5m	7.3m	2m	4m
路旁帶						
行人路 FOOT PATH		行車道 CARRIAGEWAY	中央分隔帶 CENTRAL DIVIDER	行車道 CARRIAGEWAY	路旁帶 PLANTER	行人路 FOOTPATH
	PLANTER					

索引圖 KEY PLAN

圖例 LEGEND:

- 工地界線 SITE BOUNDARY
- 擬議道路工程 PROPOSED ROAD WORKS
- 擬議污水收集系統工程 PROPOSED SEWERAGE WORKS
- 擬議橋樑 PROPOSED BRIDGE
- 擬議重置濕地 PROPOSED RE-PROVISIONED WETLAND
- 後移現有隔音屏障 SET BACK OF EXISTING NOISE BARRIERS
- 擬議隔音屏障 PROPOSED NOISE BARRIERS
- 公營房屋發展計劃 PUBLIC HOUSING DEVELOPMENT
- 私營房屋發展計劃 PRIVATE HOUSING DEVELOPMENT

工務計劃項目第7804CL號
元朗錦田南發展計劃工地平整和基礎建設工程 - 前期工程
PWP ITEM NO. 7804CL
SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT AT KAM TIN SOUTH, YUEN LONG - ADVANCE WORKS

工程平面圖
LAYOUT PLAN

R:\Drawing-NTWST-Z\NTWST-Z0267\NTWST-Z0267.dgn

21/11/2017

A3 420MM X 297MM

ARUP

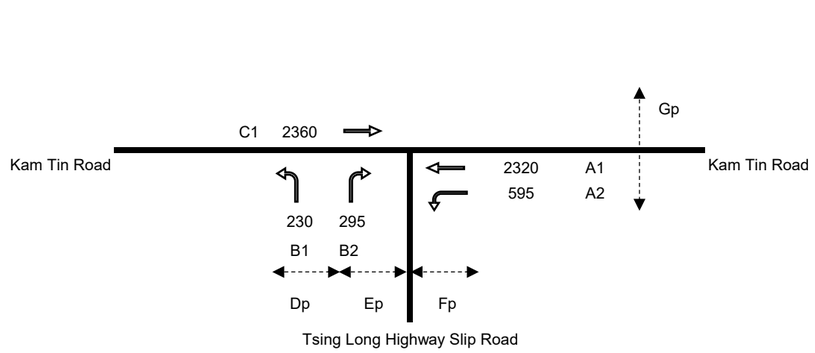
APPENDIX C

Junction Calculation Sheets for Sensitivity Assessment (Reference Only)

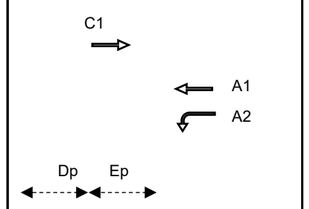
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

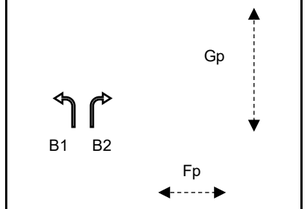
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_SEN_AM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.551
Loss time		L =	33 sec
Total Flow		=	5800 pcu
Co	= (1.5*L+5)/(1-Y)	=	121.4 sec
Cm	= L/(1-Y)	=	73.5 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	18.4 %
Cp	= 0.9*L/(0.9-Y)	=	85.1 sec
Ymax	= 1-L/C	=	0.725
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

STAGE 4 INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	81	2	9	OK
Ep	11	5	5	9	78	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

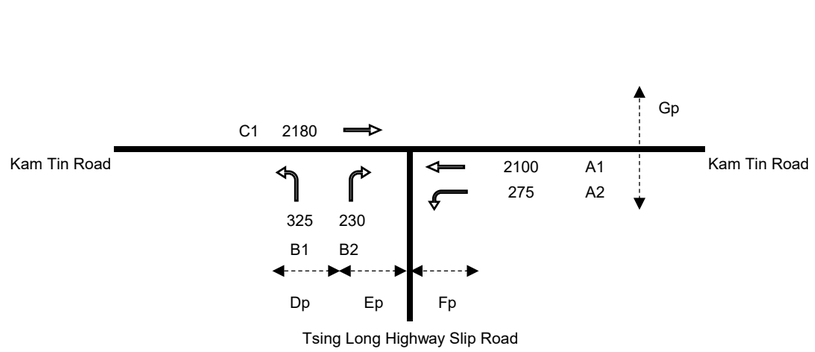
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		2320		2320	0.00	4210			4210	0.551	0.551		87	87	0.760	64
A2	1	3.65	A	1	50		N	1980	595			595	1.00	1922			1922	0.310			49	87	0.427	33
C1	1	3.65	C	3			N	6220		2360		2360	0.00	6220			6220	0.379			60	87	0.523	43
B1	2	4.00	B	2	20		N	4170	230			230	1.00	3879			3879	0.059			9	12	0.613	21
B2	2	3.38	B	2	35			4186			295	295	1.00	4014			4014	0.073			12	12	0.760	27
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

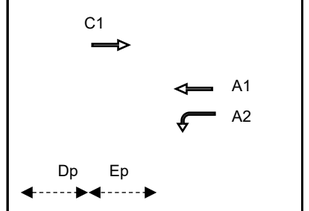
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

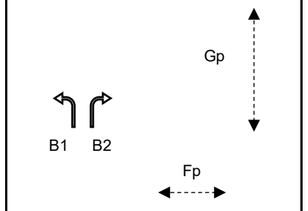
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO: 90160-04
JUNCTION NO.	J1	REFERENCE: J1_SEN_PM	JUNCTION NAME:	J1 - Kam Tin Road / Tsing Long Highway Slip Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	96 sec
Sum(y)		Y =	0.499
Loss time		L =	33 sec
Total Flow		=	5110 pcu
Co	= (1.5*L+5)/(1-Y)	=	108.7 sec
Cm	= L/(1-Y)	=	65.8 sec
Yult		=	0.653
R.C.ult	= (Yult-Y)/Y*100%	=	30.8 %
Cp	= 0.9*L/(0.9-Y)	=	74.0 sec
Ymax	= 1-L/C	=	0.656
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	18 %



STAGE 1 INT= 6



STAGE 2 INT=

STAGE 3 INT=

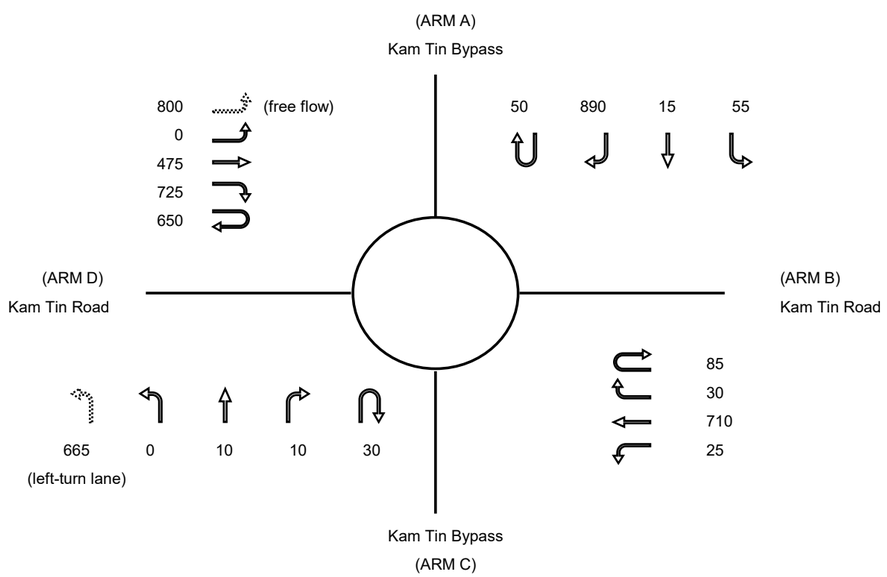
STAGE 4 INT=

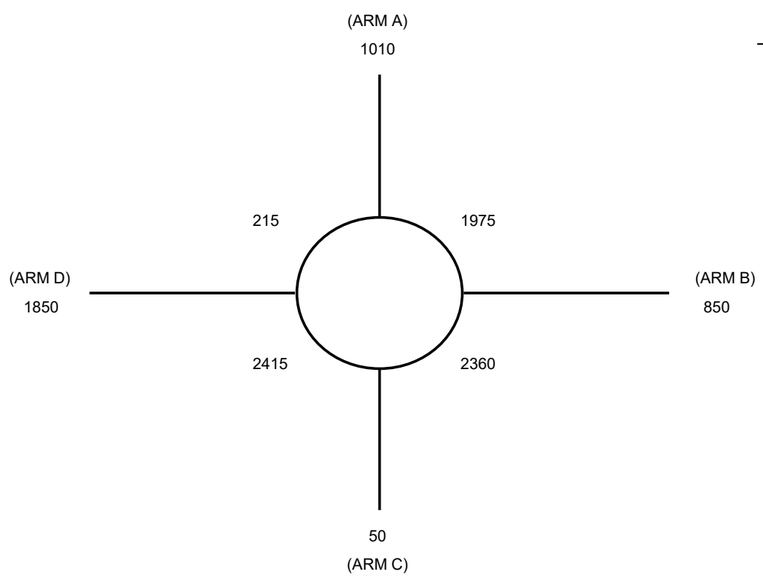
Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
Dp	11	5	2	9	57	2	9	OK
Ep	11	5	5	9	54	5	9	OK
Fp	8	5	5	7	16	5	7	OK
Gp	14.5	12	5	11	12	5	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h) Left	Straight	Right	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				5				
A1	1	3.5	A	2				4210		2100		2100	0.00	4210			4210	0.499	0.499		63	63	0.760	58
A2	1	3.65	A	1	50		N	1980	275			275	1.00	1922			1922	0.143			18	63	0.218	15
C1	1	3.65	C	3			N	6220		2180		2180	0.00	6220			6220	0.350			44	63	0.534	40
B1	2	4.00	B	2	20		N	4170	325			325	1.00	3879			3879	0.084			11	11	0.760	23
B2	2	3.38	B	2	35			4186			230	230	1.00	4014			4014	0.057			7	11	0.520	16
ped	2		Gp																	28				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

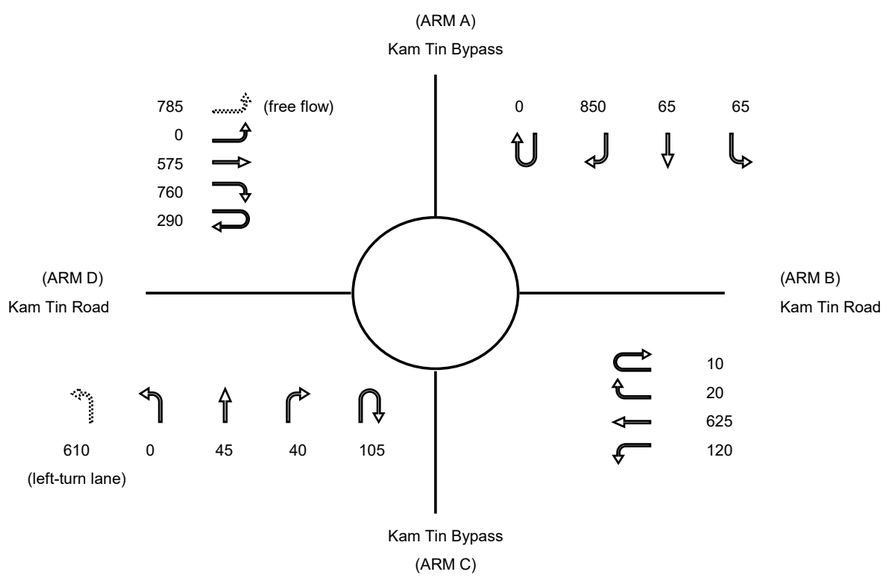
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J2	REFERENCE:	J2_SEN_AM	JUNCTION NAME:	J2 - Kam Tin Road / Kam Tin Bypass / Kam Ho Road	DATE:	12-Oct-2026

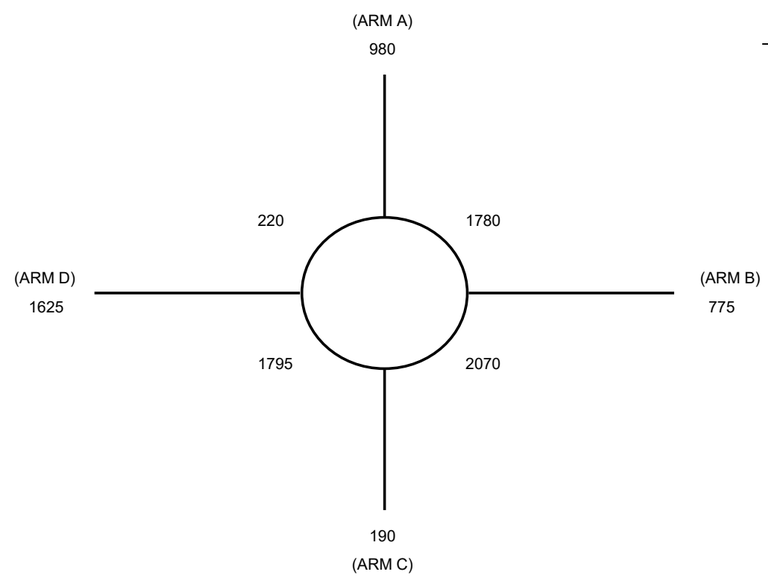




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6.5	7.3	9	7.3	
E	=	Entry width / m (4.0 - 15.0)	11	10	10	10.5	
L	=	Effective length of flare / m (1.0 - 100.0)	15	12	1	20	
R	=	Entry radius / m (6.0 - 100.0)	42.5	70	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	88	88	88	88	
A	=	Entry angle / degree (10-60)	39	30	37.5	29	
Q	=	Entry flow (pcu/h)	1010	850	50	1850	
Qc	=	Circulating flow across entry (pcu/h)	1975	2360	2415	215	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.36	1.60	0.26	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.99	1.03	0.97	1.03	
X2	=	V + ((E-V)/(1+2S))	8.80	8.87	9.24	9.42	
M	=	EXP((D-60)/10)	16.44	16.44	16.44	16.44	
F	=	303*X2	2665	2688	2799	2853	
Td	=	1+(0.5/(1+M))	1.03	1.03	1.03	1.03	
Fc	=	0.21*Td(1+0.2*X2)	0.60	0.60	0.62	0.62	
Qe	=	K(F-Fc*Qc)	1480	1318	1279	2799	**Total in Sum = 3760 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.68	0.64	0.04	0.66	**DFC of Critical Approach = 0.68**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J2	REFERENCE:	J2_SEN_PM	JUNCTION NAME:	J2 - Kam Tin Road / Kam Tin Bypass / Kam Ho Road	DATE:	12-Oct-2026



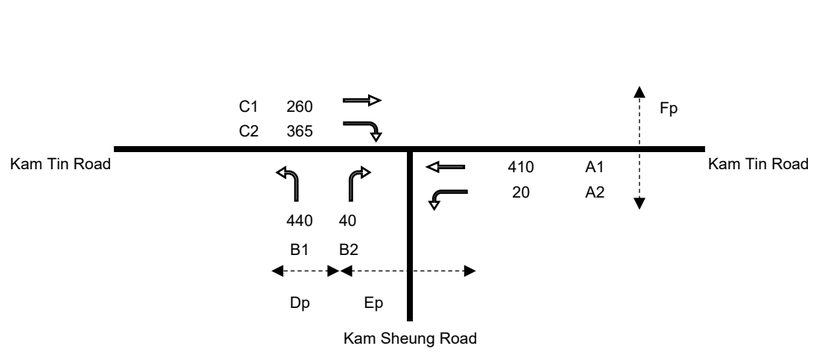


ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	6.5	7.3	9	7.3	
E	=	Entry width / m (4.0 - 15.0)	11	10	10	10.5	
L	=	Effective length of flare / m (1.0 - 100.0)	15	12	1	20	
R	=	Entry radius / m (6.0 - 100.0)	42.5	70	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	88	88	88	88	
A	=	Entry angle / degree (10-60)	39	30	37.5	29	
Q	=	Entry flow (pcu/h)	980	775	190	1625	
Qc	=	Circulating flow across entry (pcu/h)	1780	2070	1795	220	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	0.48	0.36	1.60	0.26	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.99	1.03	0.97	1.03	
X2	=	V + ((E-V)/(1+2S))	8.80	8.87	9.24	9.42	
M	=	EXP((D-60)/10)	16.44	16.44	16.44	16.44	
F	=	303*X2	2665	2688	2799	2853	
Td	=	1+(0.5/(1+M))	1.03	1.03	1.03	1.03	
Fc	=	0.21*Td(1+0.2*X2)	0.60	0.60	0.62	0.62	
Qe	=	K(F-Fc*Qc)	1596	1498	1651	2796	**Total in Sum = 3570 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.61	0.52	0.12	0.58	**DFC of Critical Approach = 0.61**

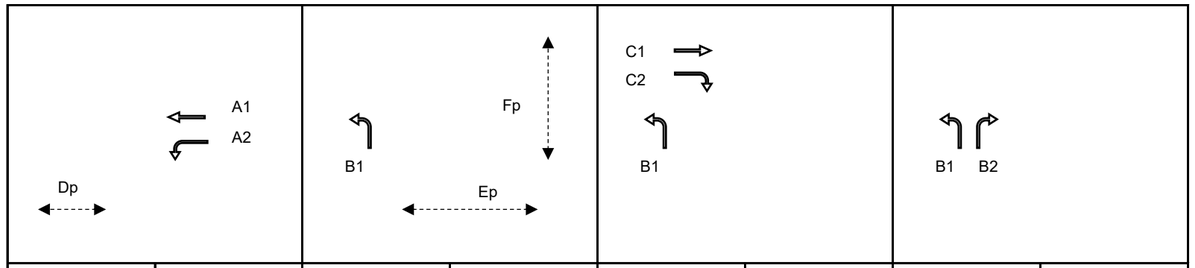
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_SEN_AM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.419
Loss time		L =	40 sec
Total Flow		=	1535 pcu
Co	= (1.5*L+5)/(1-Y)	=	111.8 sec
Cm	= L/(1-Y)	=	68.8 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	43.4 %
Cp	= 0.9*L/(0.9-Y)	=	74.8 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	43 %



STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 5	STAGE 4	INT=

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	8.5	5	3	7	36	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

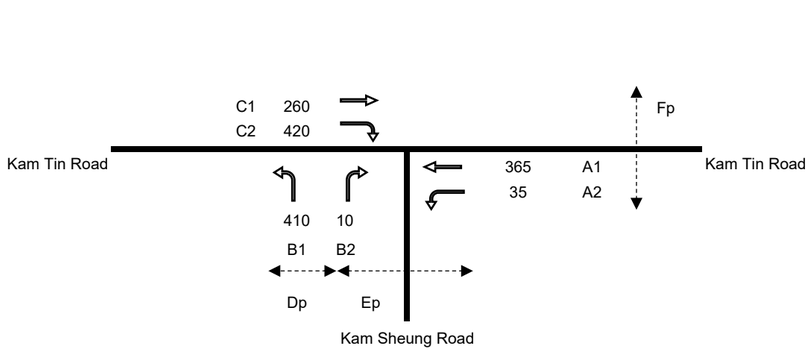
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									8				
A1, A2	1	3.50	A	1	20		N	1965	20	410		430	0.05	1958			1958	0.220	0.220		42	42	0.628	56
B1	2,3,4	3.50	B1	1	25		N	1965		440		440	0.00	1965			1965	0.224			43	43	0.628	57
C1	3	3.00	C	1			N	1915		260		260	0.00	1915			1915	0.136			26	38	0.428	36
C2	3	3.00	C	1	12.5			2055			365	365	1.00	1835			1835	0.199	0.199		38	38	0.628	50
B2	4	3.50	B2	1	12.5			2105			40	40	1.00	1879			1879	0.021			4	6	0.426	8
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

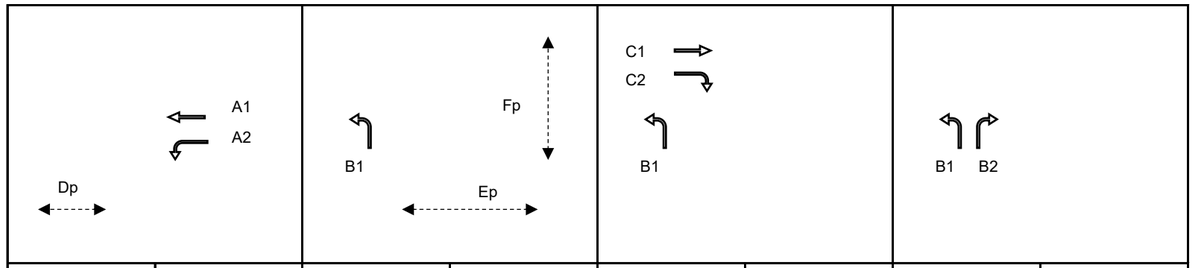
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO: 90160-04
JUNCTION NO.	J3	REFERENCE: J3_SEN_PM	JUNCTION NAME:	J3 - Kam Tin Road / Kam Sheung Road (Western Junction)	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.434
Loss time		L =	40 sec
Total Flow		=	1500 pcu
Co	= (1.5*L+5)/(1-Y)	=	114.8 sec
Cm	= L/(1-Y)	=	70.6 sec
Yult		=	0.600
R.C.ult	= (Yult-Y)/Y*100%	=	38.3 %
Cp	= 0.9*L/(0.9-Y)	=	77.2 sec
Ymax	= 1-L/C	=	0.667
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	38 %



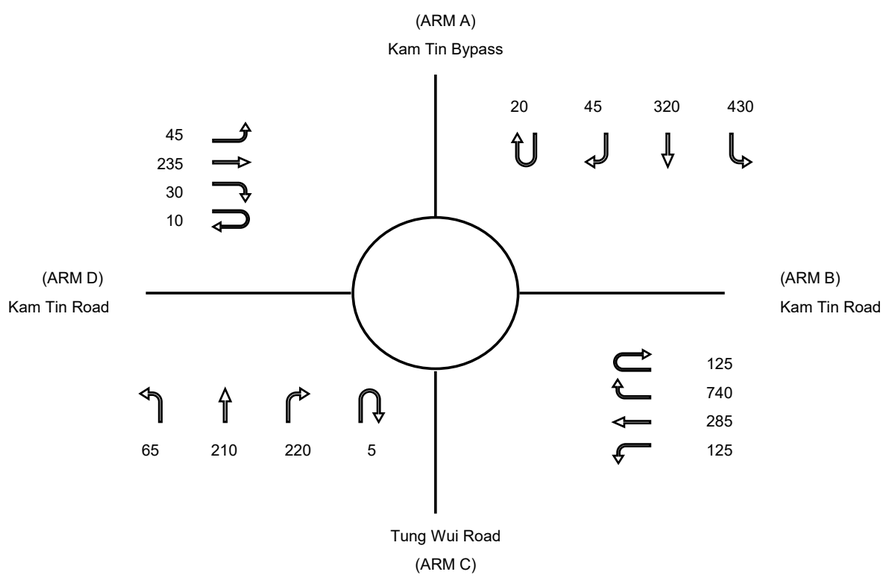
STAGE 1	INT= 5	STAGE 2	INT=	STAGE 3	INT= 5	STAGE 4	INT=

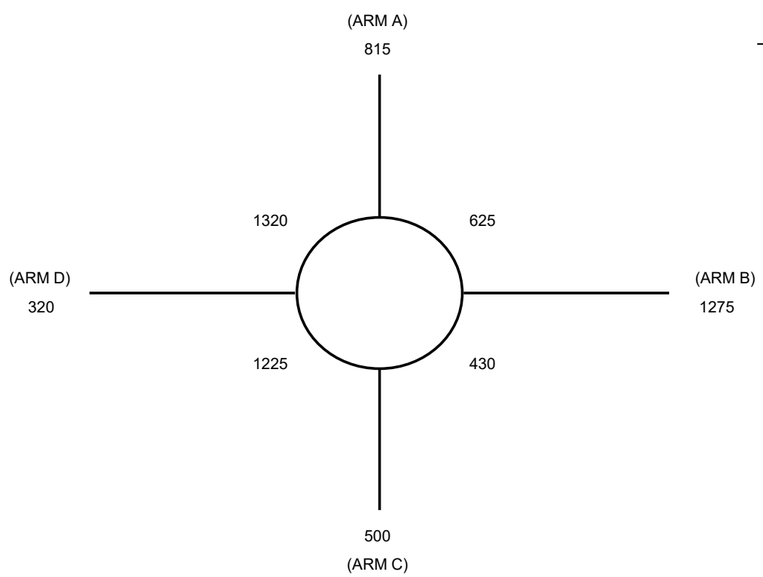
Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Dp	8.5	5	3	7	32	3	7	OK
Ep	12.5	10	3	9	10	3	9	OK
Fp	7.5	6	3	5	14	3	5	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									8				
A1, A2	1	3.50	A	1	20		N	1965	35	365		400	0.09	1952			1952	0.205	0.205		38	38	0.651	55
B1	2,3,4	3.50	B1	1	25		N	1965		410		410	0.00	1965			1965	0.209			38	38	0.651	56
C1	3	3.00	C	1			N	1915		260		260	0.00	1915			1915	0.136			25	42	0.386	34
C2	3	3.00	C	1	12.5			2055			420	420	1.00	1835			1835	0.229	0.229		42	42	0.651	54
B2	4	3.50	B2	1	12.5			2105			10	10	1.00	1879			1879	0.005			1	6	0.106	2
ped	2		Ep																	22				
	4		B2																	10				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

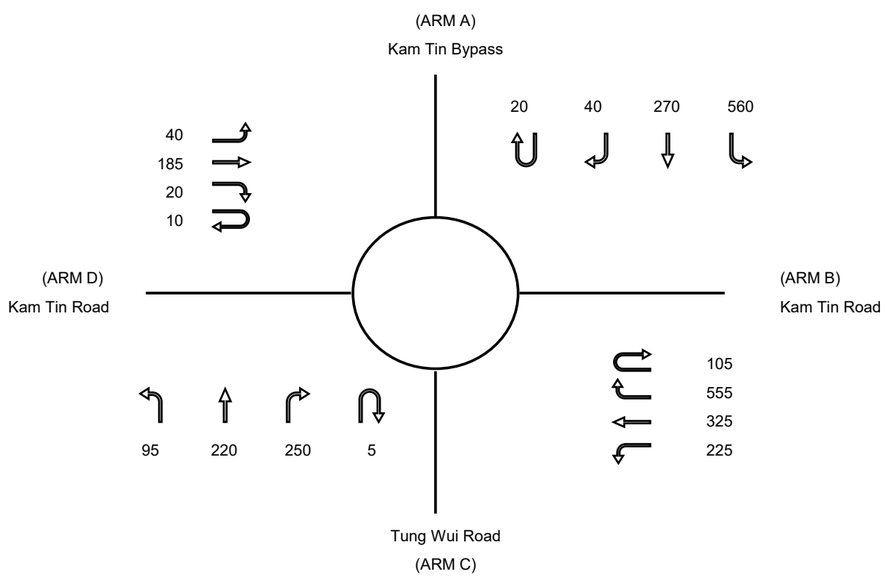
OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_SEN_AM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026

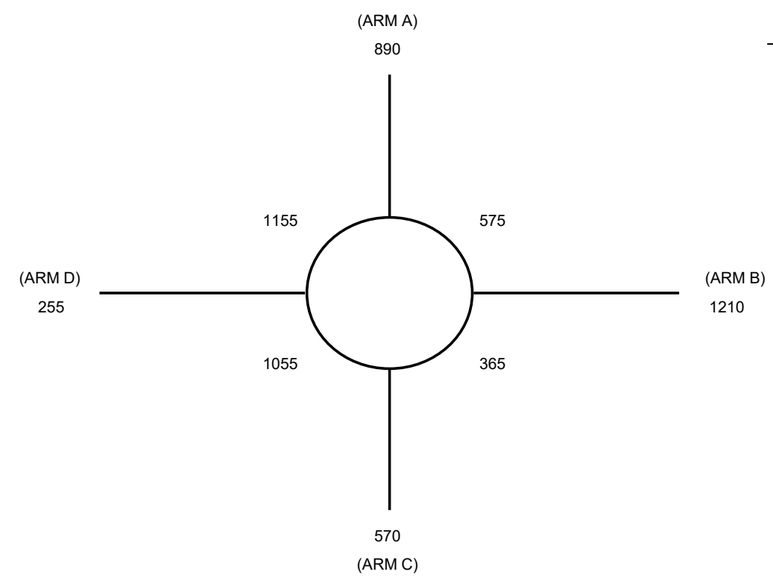




ARM			A	B	C	D	
INPUT PARAMETERS:							
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5	
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5	
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4	
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5	
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62	
A	=	Entry angle / degree (10-60)	44	63	44	42	
Q	=	Entry flow (pcu/h)	815	1275	500	320	
Qc	=	Circulating flow across entry (pcu/h)	625	430	1225	1320	
OUTPUT PARAMETERS:							
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60	
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98	
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45	
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22	
F	=	303*X2	2495	2813	2212	1349	
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23	
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49	
Qe	=	K(F-Fc*Qc)	2012	2138	1367	696	**Total in Sum = 2910 pcu/h**
DFC	=	Design flow/Capacity = Q/Qe	0.41	0.60	0.37	0.46	**DFC of Critical Approach = 0.60**

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J4	REFERENCE:	J4_SEN_PM	JUNCTION NAME:	J4 - Kam Tin Road / Kam Tin Bypass / Tung Wui Road	DATE:	12-Oct-2026





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	7.3	9	7.3	3.5
E	=	Entry width / m (4.0 - 15.0)	11	12	7.3	7.5
L	=	Effective length of flare / m (1.0 - 100.0)	4	1	1	4
R	=	Entry radius / m (6.0 - 100.0)	35	12.5	20	42.5
D	=	Inscribed circle diameter / m (15-100)	62	62	62	62
A	=	Entry angle / degree (10-60)	44	63	44	42
Q	=	Entry flow (pcu/h)	890	1210	570	255
Qc	=	Circulating flow across entry (pcu/h)	575	365	1055	1155
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	1.48	4.80	0.00	1.60
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	0.97	0.86	0.95	0.98
X2	=	V + ((E-V)/(1+2S))	8.23	9.28	7.30	4.45
M	=	EXP((D-60)/10)	1.22	1.22	1.22	1.22
F	=	303*X2	2495	2813	2212	1349
Td	=	1+(0.5/(1+M))	1.23	1.23	1.23	1.23
Fc	=	0.21*Td(1+0.2*X2)	0.68	0.73	0.63	0.49
Qe	=	K(F-Fc*Qc)	2045	2178	1469	775
DFC	=	Design flow/Capacity = Q/Qe	0.44	0.56	0.39	0.33

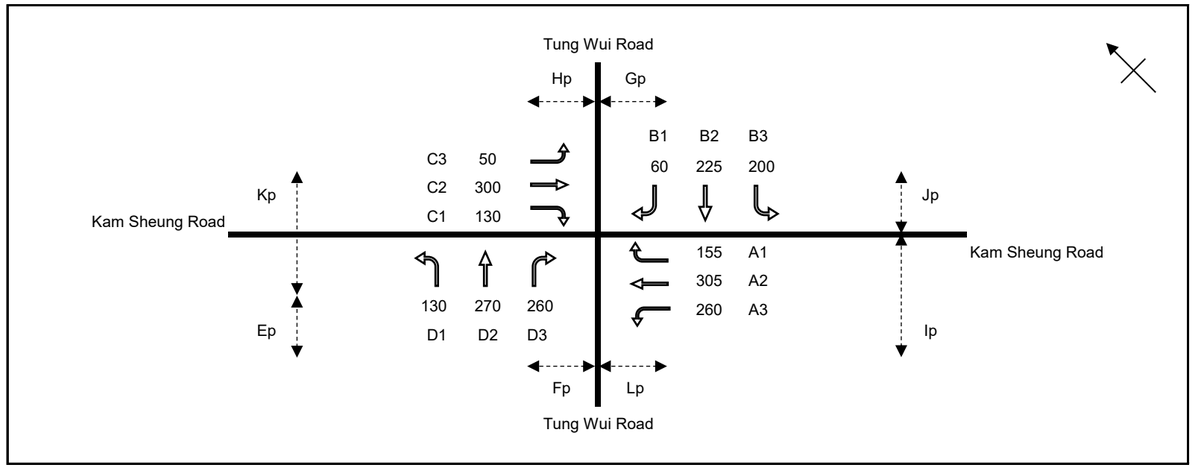
Total in Sum = 2925 pcu/h

DFC of Critical Approach = 0.56

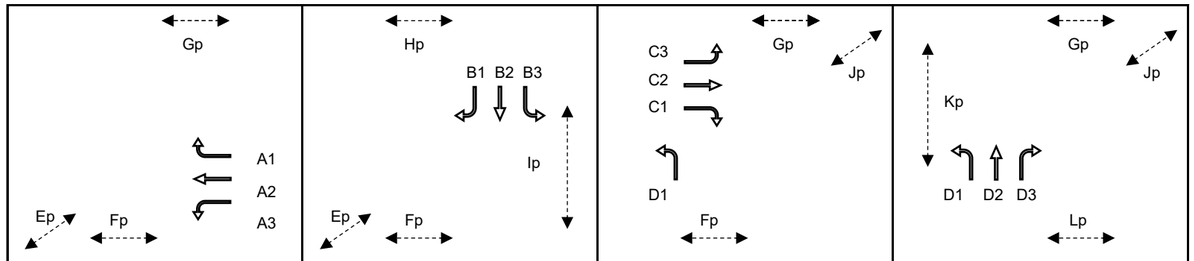
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO: 190160-04
JUNCTION NO.	J5	REFERENCE: J5_SEN_AM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.490
Loss time		L =	19 sec
Total Flow		=	2345 pcu
Co	= (1.5*L+5)/(1-Y)	=	65.7 sec
Cm	= L/(1-Y)	=	37.2 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	54.6 %
Cp	= 0.9*L/(0.9-Y)	=	41.7 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	55 %



STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Ep	8.5	5	2	7	57	2	7	OK
Fp	13	5	2	11	75	2	11	OK
Gp	9	5	6	8	40	6	8	OK
Hp	10	5	6	8	18	6	8	OK
Ip	9.5	8	2	7	23	2	7	OK
Jp	9	5	6	8	40	6	8	OK
Kp	11	9	2	8	22	2	8	OK
Lp	9.5	5	2	8	22	2	8	OK

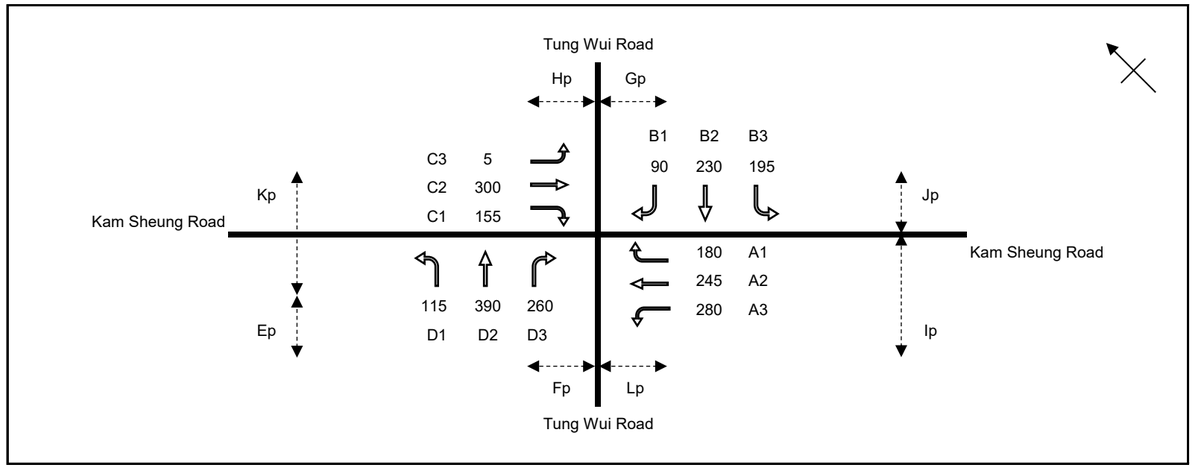
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									19				
A1	1	3.40	A	1	20			2095			155	155	1.00	1949			1949	0.080			16	30	0.316	23
A2	1	3.40	A	1				2095		305		305	0.00	2095			2095	0.146			30	30	0.579	46
A2,A3	1	3.40	A	1	15		N	1955	260	0		260	1.00	1777			1777	0.146	0.146		30	30	0.582	39
B1,B2	2	3.30	B	1	25			2085		195	60	255	0.24	2056			2056	0.124			26	26	0.580	40
B2,B3	2	3.30	B	1	25		N	1945	200	30		230	0.87	1849			1849	0.124	0.124		26	26	0.582	36
C1	3	3.30	C	1	17.5			2085			130	130	1.00	1920			1920	0.068			14	18	0.446	22
C2	3	3.30	C	1				2085		184		184	0.00	2085			2085	0.088	0.088		18	18	0.582	31
C2,C3	3	3.30	C	1	15		N	1945	50	116		166	0.30	1888			1888	0.088			18	18	0.580	28
D1,D2	4	3.30	D1	1	30		N	1945	130	60		190	0.68	1881			1881	0.101			21	27	0.449	29
D2	4	3.30	D2	1				2085		210		210	0.00	2085			2085	0.101			21	27	0.448	33
D3	4	3.30	D2	1	30			2085			260	260	1.00	1986			1986	0.131	0.131		27	27	0.582	40

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

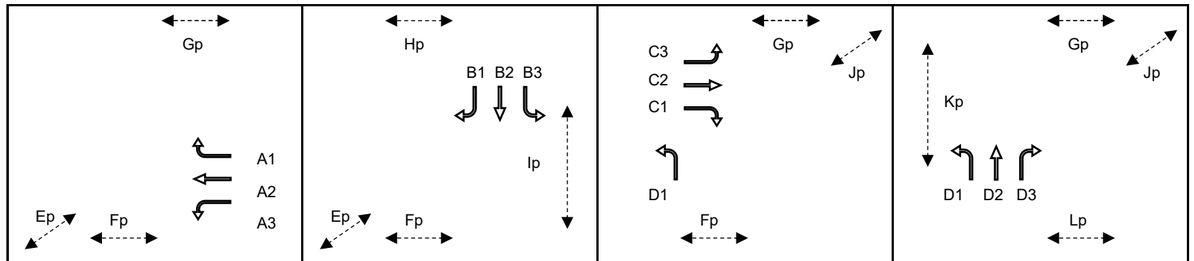
OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15		SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO: 90160-04
JUNCTION NO.	J5	REFERENCE: J5_SEN_PM	JUNCTION NAME:	J5 - Tung Wui Road / Kam Sheung Road	DATE: 12-Oct-2026



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	4
Cycle time		C =	120 sec
Sum(y)		Y =	0.501
Loss time		L =	19 sec
Total Flow		=	2445 pcu
Co	= (1.5*L+5)/(1-Y)	=	67.2 sec
Cm	= L/(1-Y)	=	38.1 sec
Yult		=	0.758
R.C.ult	= (Yult-Y)/Y*100%	=	51.1 %
Cp	= 0.9*L/(0.9-Y)	=	42.9 sec
Ymax	= 1-L/C	=	0.842
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51 %



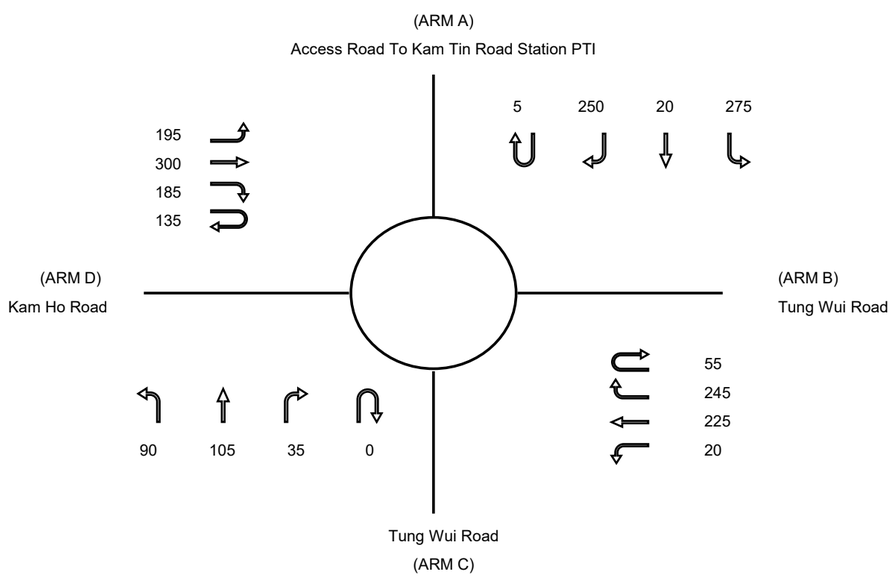
STAGE 1	INT= 5	STAGE 2	INT= 7	STAGE 3	INT= 5	STAGE 4	INT= 6

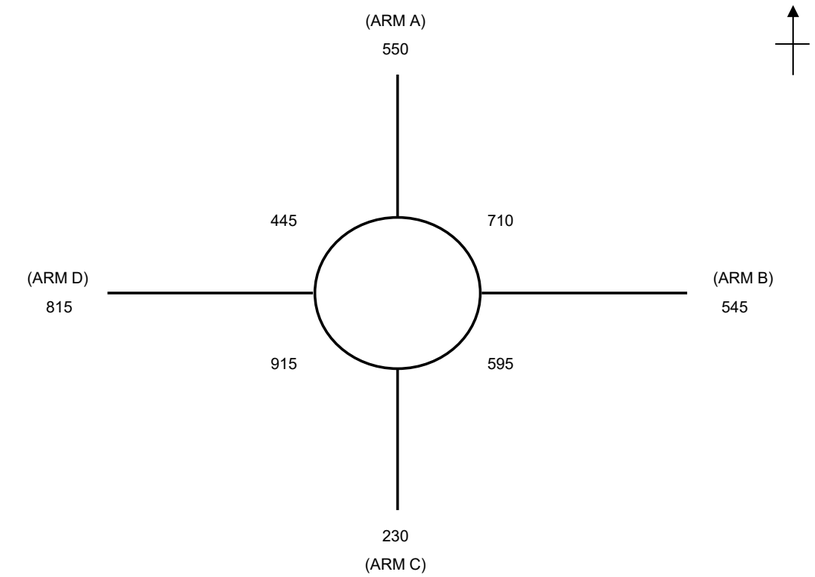
Pedestrian Phase	Width (m)	Green Time Required (s)			Green Time Provided (s)			Check
		SG	Delay	FG	SG	Delay	FG	
Ep	8.5	5	2	7	59	2	7	OK
Fp	13	5	2	11	76	2	11	OK
Gp	9	5	6	8	38	6	8	OK
Hp	10	5	6	8	19	6	8	OK
Ip	9.5	8	2	7	24	2	7	OK
Jp	9	5	6	8	38	6	8	OK
Kp	11	9	2	8	21	2	8	OK
Lp	9.5	5	2	8	21	2	8	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow (pcu/h)			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
									Left	Straight	Right									19				
A1	1	3.40	A	1	20			2095			180	180	1.00	1949			1949	0.092			19	32	0.349	26
A2	1	3.40	A	1				2095		245		245	0.00	2095			2095	0.117			24	32	0.442	36
A2,A3	1	3.40	A	1	15		N	1955	280	0		280	1.00	1777			1777	0.158	0.158		32	32	0.596	41
B1,B2	2	3.30	B	1	25			2085		180	90	270	0.33	2044			2044	0.132	0.132		27	27	0.596	42
B2,B3	2	3.30	B	1	25		N	1945	195	50		245	0.80	1856			1856	0.132			27	27	0.595	38
C1	3	3.30	C	1	17.5			2085			155	155	1.00	1920			1920	0.081	0.081		16	16	0.596	27
C2	3	3.30	C	1				2085		158		158	0.00	2085			2085	0.076			15	16	0.559	27
C2,C3	3	3.30	C	1	15		N	1945	5	142		147	0.03	1938			1938	0.076			15	16	0.560	25
D1,D2	4	3.30	D1	1	30		N	1945	115	126		241	0.48	1900			1900	0.127			26	26	0.577	38
D2	4	3.30	D2	1				2085		264		264	0.00	2085			2085	0.127			26	26	0.576	41
D3	4	3.30	D2	1	30			2085			260	260	1.00	1986			1986	0.131	0.131		26	26	0.596	41

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_SEN_AM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026



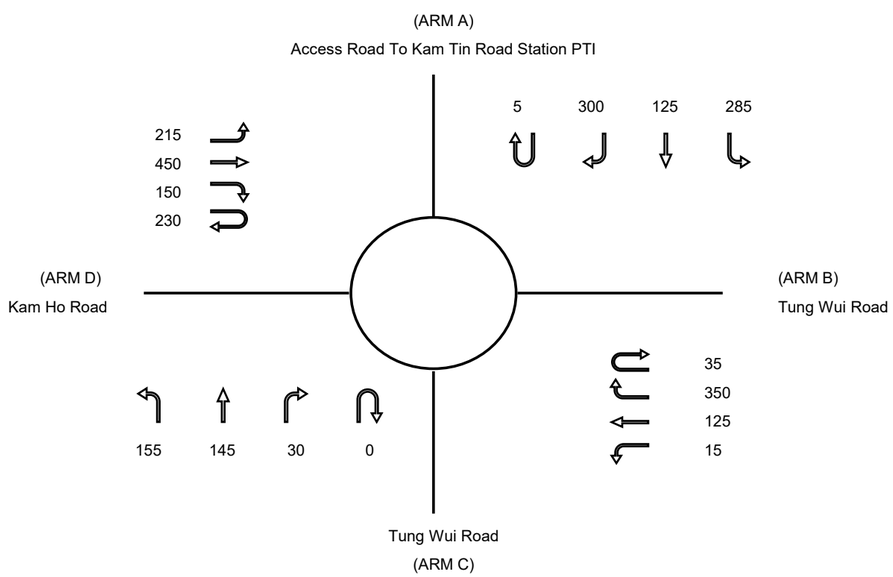


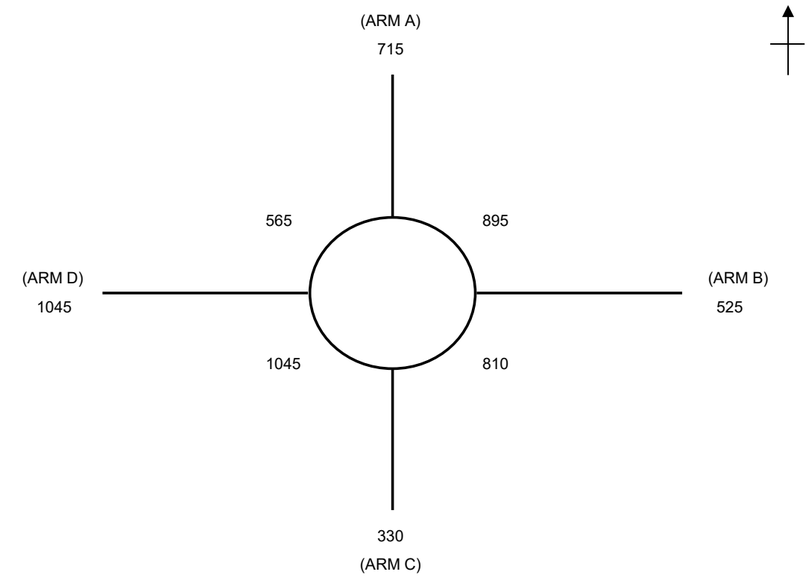
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46
A	=	Entry angle / degree (10-60)	20	15	24	25
Q	=	Entry flow (pcu/h)	550	545	230	815
Qc	=	Circulating flow across entry (pcu/h)	710	595	915	445
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25
F	=	303*X2	2284	2580	1982	2727
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82
Qe	=	K(F-Fc*Qc)	1864	2250	1389	2440
DFC	=	Design flow/Capacity = Q/Qe	0.29	0.24	0.17	0.33

Total in Sum = 2140 pcu/h

DFC of Critical Approach = 0.33

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J6	REFERENCE:	J6_SEN_PM	JUNCTION NAME:	J6 - Kam Ho Road / Tung Wui Road / Access Road To Kam Tin Road Station PT	DATE:	12-Oct-2026



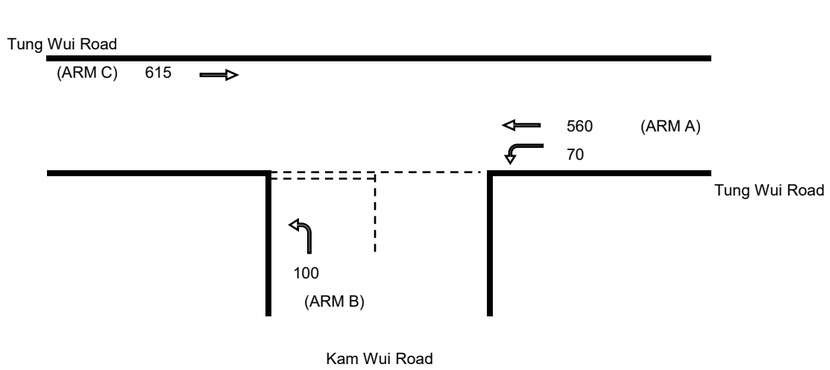


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width / m (2.0 - 7.3)	6	7.5	3.5	9
E	=	Entry width / m (4.0 - 15.0)	10	9	8	9
L	=	Effective length of flare / m (1.0 - 100.0)	8	10	30	1
R	=	Entry radius / m (6.0 - 100.0)	40	30	20	30
D	=	Inscribed circle diameter / m (15-100)	46	46	46	46
A	=	Entry angle / degree (10-60)	20	15	24	25
Q	=	Entry flow (pcu/h)	715	525	330	1045
Qc	=	Circulating flow across entry (pcu/h)	895	810	1045	565
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.80	0.24	0.24	0.00
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.06	1.07	1.02	1.03
X2	=	V + ((E-V)/(1+2S))	7.54	8.51	6.54	9.00
M	=	EXP((D-60)/10)	0.25	0.25	0.25	0.25
F	=	303*X2	2284	2580	1982	2727
Td	=	1+(0.5/(1+M))	1.40	1.40	1.40	1.40
Fc	=	0.21*Td(1+0.2*X2)	0.74	0.80	0.68	0.82
Qe	=	K(F-Fc*Qc)	1720	2068	1299	2338
DFC	=	Design flow/Capacity = Q/Qe	0.42	0.25	0.25	0.45

Total in Sum = 2615 pcu/h

DFC of Critical Approach = 0.45

OVE ARUP & PARTNERS				TRAFFIC SIGNAL CALCULATION			
PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 AM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_SEN_AM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8	(metres)
W cr	=	2	(metres)
q a-b	=	70	(pcu/hr)
q a-c	=	560	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0	(metres)
Vr c-b	=	0	(metres)
q c-a	=	615	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0	(metres)
W b-c	=	6.8	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	100	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.32627
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

Q b-a	=	211	
Q b-c	=	781	
Q c-b	=	338	
Q b-ac	=	781	
TOTAL FLOW	=	1345	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

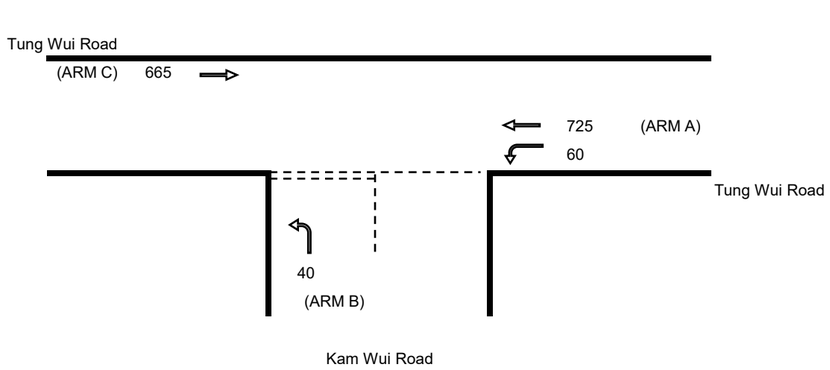
DFC b-a	=	0.00
DFC b-c	=	0.13
DFC c-b	=	0.00
DFC b-ac	=	0.13

CRITICAL DFC = 0.13

OVE ARUP & PARTNERS

TRAFFIC SIGNAL CALCULATION

PROJECT:	S.12A Application for Amendment to the Approved Kam Tin South Outline Zoning Plan No. S/YL-KTS/15			SCENARIO:	2038 PM Peak Hour Design Flows (Sensitivity Assessment)	PROJECT NO:	390160-04
JUNCTION NO.	J7	REFERENCE:	J7_SEN_PM	JUNCTION NAME:	J7 - Tung Wui Road / Kam Wui Road	DATE:	12-Oct-2026



NOTES: (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250m)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.8	(metres)
W cr	=	2	(metres)
q a-b	=	60	(pcu/hr)
q a-c	=	725	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0	(metres)
Vr c-b	=	0	(metres)
q c-a	=	665	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0	(metres)
W b-c	=	6.8	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	40	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.53322
E	=	1.32627
F	=	0.58595
Y	=	0.7309

THE CAPACITY OF MOVEMENT :

Q b-a	=	184	
Q b-c	=	724	
Q c-b	=	314	
Q b-ac	=	724	
TOTAL FLOW	=	1490	(pcu/hr)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.00
DFC b-c	=	0.06
DFC c-b	=	0.00
DFC b-ac	=	0.06

CRITICAL DFC = 0.06