Appendix 3

Traffic Impact Assessment

Section 16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Services/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui

Traffic Impact Assessment

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1 INTRODUCTION

1.1 Background

1.1.1 The application site, with an area of approximately 1,074.5 m², is situated within a street block in Tsim Sha Tsui, bounded by Haiphong Road to the north, Hankow Road to the east, Ichang Street to the south, and Ashley Road to the west. The site is zoned "Commercial" under the Draft Tsim Sha Tsui Outline Zoning Plan ("Draft OZP") No. S/K1/29. The location of the application site is illustrated in **Figure 1.1**.

1.1.2 The Applicant intends to redevelop the application site into Proposed Flat with Permitted Hotel, Office and Shop & Services/Eating Place ("Proposed Development Scheme"). The Scheme will feature a 27-storey mixed-use building comprising 95 flats, 99 hotel rooms and a GFA of 4,228 m^2 designated for office, shop and services/eating place uses.

1.1.3 According to the Statutory Notes of the Draft OZP for the "Commercial" Zone, "Hotel", "Office", "Shop and Services" and "Eating Place" are Column 1 uses which are always permitted. "Flat" is a Column 2 use and requires permission from the Town Planning Board.

1.1.4 A Section 16 Planning Application no. A/K1/269 for Proposed Flat with Permitted Office, Shop and Services and Eating Place at the subject site was approved by the Town Planning Board in January 2024. In the above approved application, **nil internal transport provision** was proposed. In consideration of the site constraints and the given justification, the Transport Department had no comment on the nil internal Transport provision from traffic engineering viewpoint. Under the current application, the proposed development does not have any internal transport provisions.

1.1.5 Arup Hong Kong Limited ("Arup") was commissioned to prepare a Traffic Impact Assessment ("TIA") report in support of the Section 16 planning application for the application site.

1.2 Objectives of this Report

1.2.1 The principal objective of this report is to support the Proposed Development Scheme by addressing the traffic-related issues and ensuring that the Proposed Development Scheme would be feasible in traffic terms without causing adverse impact on the surrounding road network.

1.3 Scope of Study

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

- Carry out traffic surveys at critical junctions to appreciate current traffic condition;
- Update the inventory regarding traffic circulation patterns, traffic conditions, as well as the constraints of the existing and future committed road network in the vicinity of the application site based on the latest information available;
- Provide justifications on nil internal transport facilities under the Proposed Development Scheme;
- Assess the volume of traffic likely to be generated by the Proposed Development Scheme;
- Set up the reference scenario without the Proposed Development Scheme;
- Identify the likely change in traffic generation should the application site be redeveloped under the Proposed Development Scheme;
- Assess future traffic condition, taking into account any future traffic growth, as well as the traffic generated by the Proposed Development Scheme and other planned / committed development, if any, to be built in the vicinity;
- Compare the above traffic scenarios for evaluation of the likely traffic impact, if any, associated with the Proposed Development Scheme;

1.4 Structure of the Report

1.4.1 The structure of this TIA report is as follows:

Chapter	Title	Aims
1	Introduction	Provide project background and scope of the Study
2	Existing Traffic Condition	Review and appreciate the existing traffic condition
3	The Subject Development	Provide information of the Proposed Development Scheme
4	Traffic Impact Assessment	Illustrate the results of Traffic Impact Assessment
5	Conclusion	Summarise the findings of this Study

2 EXISTING TRAFFIC CONDITONS

2.1 Site Characteristics

2.1.1 The application site is situated at Nos. 43–49A Hankow Road, Tsim Sha Tsui, Kowloon. It is bounded by Haiphong Road to the north, Hankow Road to the east, Ichang Street to the south, and Ashley Road to the west.

2.1.2 The application site is currently under construction. Prior to demolition, it was occupied by a composite building with retail shops on the lower floors and approximately 90 flats on the upper floors.

2.1.3 The former building did not include any internal transport facilities. Loading/unloading activities associated with the premises were conducted along the general lay-bys on Hankow Road.

2.2 Existing Road Network

2.2.1 The application site is well-connected by a comprehensive road network, providing convenient access to and from all districts. Major roads in the vicinity of the application site include the following:

- **Hankow Road** is a local distributor of single carriageway standard. It connects Salisbury Road to the south and Haiphong Road to the north. The road section fronting the application site between Ichang Street and Haiphong Road is a one-way northbound carriageway with footpaths on both sides. At present, a general lay-by and 2 nos. on-street parking spaces designated for the disabled can be found along the western kerbside of the concerned Hankow Road section.
- **Haiphong Road** is a one-way two-lane carriageway running at eastbound direction. It connects Canton Road to the west and Nathan Road to the east.
- **Kowloon Park Drive** is a primary distributor of dual carriageway standard running in north-south direction. It connects Canton Road to the north and Salisbury Road to the south.
- **Nathan Road** is a primary distributor and is one of the major vehicular corridors in Kowloon aligning north-south from Sham Shui Po to Tsim Sha Tsui. The section of Nathan Road between Austin Road and Salisbury Road is a dual two-lane carriageway running in north-south direction.

2.3 Public Transport Facilities

2.3.1 The application site is well-served by an extensive range of public transport services, including high-capacity railway systems and road-based modes of transport, as illustrated in **Figure 2.1**.

2.3.2 Tsim Sha Tsui MTR Station (Tsuen Wan Line) is located approximately 150m from the application site. East Tsim Sha Tsui MTR Station (Tuen Ma Line) is conveniently connected to Tsim Sha Tsui MTR Station via underground walkways within a comfortable walking distance. As such, the application site is well-served by a comprehensive railway network with a substantial passenger catchment.

2.3.3 In addition to the railway network, the application site is well-served by major public transport corridors, including Nathan Road, Kowloon Park Drive, and Canton Road. These corridors support an extensive range of franchised bus services (comprising over 70 bus routes) and Green Mini-bus ("GMB") services. A taxi stand is also located to the south of the application site along Hankow Road, further enhancing accessibility.

2.3.4 In conclusion, the application site has convenient and comprehensive access to public transport services. A summary of the public transport services operating in the vicinity is provided in **Table 2.3.1**.

Table 2.3.1 Existing Franchised Bus & GMB Services*

Route No.	Origin	Destination
Franchised Bus Service		
1	Chui Yuen Estate	Star Ferry
1A	Sau Mau Ping (Central)	Star Ferry
1R	Hung Hom (Hung Luen Road)	Ngong Ping
2	Cheung Sha Wan (So Uk Estate)	Star Ferry
3X	Tsz Wan Shan (North)	China Ferry Terminal
6	Lai Chi Kok	Star Ferry
7	Lok Fu	Star Ferry
9	Choi Fook	Tsim Sha Tsui East (Mody Road)
12	Hoi Lai Estate	Tsim Sha Tsui East (Mody Road)
12P	Hoi Lai Estate	Hung Hom Station
13X	Po Tat	Tsim Sha Tsui East
14X	Yau Tong (Shung Tak Wai)	Tsim Sha Tsui (Circular)
20A	High Speed Rail West Kowloon Station	Kai Tak (Circular)
26	Shun Tin	Tsim Sha Tsui East
26X	Tsim Sha Tsui East	Shun Tin
35A	Kwai Chung (On Yam Estate)	Tsim Sha Tsui East
35X	Kwai Chung (On Yam Estate)	Tsim Sha Tsui East
36X	Lei Muk Shue	Tsim Sha Tsui East (Mody Road)
41A	Tsing Yi (Cheung On Estate)	Tsim Sha Tsui East
50	Tuen Mun (Ching Tin and Wo Tin)	Tsim Sha Tsui (Kowloon Station)
81C	Yiu On	Tsim Sha Tsui East (Mody Road)
87D	Kam Ying Court	Hung Hom Station

Route No.	Origin	Destination
87E	Nai Chun	Tsim Sha Tsui
98D	Hang Hau (North) (Tseung Kwan O Hospital)	Tsim Sha Tsui East
98P	Tsim Sha Tsui East	Hong Sing Garden
110	Shau Kei Wan	Tsim Sha Tsui (Circular)
203C	Sham Shui Po (Tai Hang Tung)	Tsim Sha Tsui East (Mody Road)
203S	Chak On Estate	Tsim Sha Tsui East (Mody Road)
208	Broadcast Drive	Tsim Sha Tsui East
213X	On Tai (South) (Hang Tai House)	Tsim Sha Tsui (Circular)
215P	Lam Tin (Kwong Tin Estate)	Kowloon Station
215X	Lam Tin (Kwong Tin Estate)	Kowloon Station
219X	Laguna City	Tsim Sha Tsui (Circular)
224X	Kai Yip	Tsim Sha Tsui East (Circular)
234P	Tsuen Wan (Bayview Garden)	Star Ferry
234X	Tsuen Wan (Bayview Garden)	Tsim Sha Tsui East (Mody Road)
242X	Tsing Yi (Cheung Han Estate)	Tsim Sha Tsui
260X	Tuen Mun (Po Tin Estate)	Hung Hom Station
261B	Sam Shing	Kowloon Station
268B	Long Ping Station	Hung Hom (Hung Luen Road)
269B	Tin Shui Wai Town Centre	Hung Hom (Hung Luen Road)
270A	Sheung Shui	Tsim Sha Tsui East (Mody Road)
270C	Fanling (Luen Wo Hui)	Tsim Sha Tsui East (Mody Road)
270S	Tsim Sha Tsui East (Mody Road)	Fanling (Luen Wo Hui)
271	Jordan (West Kowloon Station)	Tai Po (Fu Heng)
271B	Jordan (West Kowloon Station)	Tai Po (Fu Heng)
271P	Kau Lung Hang	Tsim Sha Tsui (Canton Road)
271S	Hung Hom Station	Tai Po (Tai Wo)
271X	Jordan (West Kowloon Station)	Tai Po (Fu Heng)
280X	Tsim Sha Tsui East (Mody Road)	Sui Wo Court
281A	Kwong Yuen	Kowloon Station
281B	Shek Mun Estate	Tsim Sha Tsui East (Mody Road)
281E	Hai Phong Road Tsim Sha Tsui	Kwong Yuen
281X	Yiu On	Tsim Sha Tsui East (Mody Road)
287D	Hung Hom Station	Kam Ying Court
296D	Sheung Tak	Kowloon Station
790	Oscar by the Sea	Tsim Sha Tsui (Mody Road)
796P	Tsim Sha Tsui (East)	Lohas Park
973	Tsim Sha Tsui East (Mody Road)	Stanley
A21	Hung Hom Station	Airport (via HZMB Hong Kong Port)
A25	Kai Tak	Airport
E21X	Tung Chung (Mun Tung Estate)	Hung Hom Station
H1	Tsim Sha Tsui	Central (Star Ferry)
H2	Tsim Sha Tsui	Central (Star Ferry)
N21	Tsim Sha Tsui (Star Ferry)	Airport (Ground Transportation Centre)
N21A	Tsim Sha Tsui (Star Ferry)	Airport

Route No.	Origin	Destination
N41X	Hung Hom Station	Tsing Yi (Cheung Wang Estate)
N213	Tsim Sha Tsui East (Mody Road)	On Tai (West)
N216	Yau Tong	Hung Hom Station
N241	Hung Hom Station	Tsing Yi (Cheung Wang Estate)
N271	Tai Po (Fu Heng)	Hung Hom Station
N281	Kam Ying Court	Hung Hom Station
N283	Tsim Sha Tsui East (Mody Road)	Wong Nai Tau
N287	Tsim Sha Tsui East (Mody Road)	Wu Kai Sha Station
N796	Lohas Park / Tseung Kwan O Station	Mongkok (via Tsim Sha Tsui)
T270	Fanling (Cheung Wah)	Tsim Sha Tsui East (Mody Road)
GMB Services		
3	Cosmopolitan Estates	Tsim Sha Tsui (Ashley Road)
8	Ho Man Tin (Sheung Wo Street)	Tsim Sha Tsui (Hankow Road)
8S	Ho Man Tin PTI	Tsim Sha Tsui (Hankow Road)
62S	Lam Tin (Kwong Tin Estate)	Tsim Sha Tsui
77M	Kowloon Station	East Tsim Sha Tsui (Circular)
78	Tak Kok Tsui (Island Harbourview) PTI	Tsim Sha Tsui (Peking Road) (Circular)
78A	Tak Kok Tsui (Island Harbourview) PTI	Tsim Sha Tsui (Peking Road)
606S	Tsim Sha Tsui (Mody Road)	Yuen Long (Fung Cheung Road)
610S	Tin Shui Wai (Tin Shui Estate)	Tsim Sha Tsui (Haipong Road)

* Source: Hong Kong eTransport (https://www.hkemobility.gov.hk/)
KMB (http://search.kmb.hk/KMBWebSite/)
CityBus & NWFB
(http://www.nwstbus.com.hk/routesearch.aspx?t=1479712062077&intLangID=2)
GMB (http://www.16seats.net/)

2.3.5 The high level of accessibility to public transport services is expected to encourage pedestrians associated with the application site to opt for public transport over private vehicle use.

2.4 Pedestrian Facilities

2.4.1 Footpaths are provided along the roads surrounding the application site, and at-grade pedestrian crossings are available at nearby junctions. These facilities offer safe and convenient pedestrian access, enabling easy connectivity between the application site, the surrounding public transport network, and other destinations within Tsim Sha Tsui.

2.5 Existing Junction Performance

2.5.1 To assess the existing traffic conditions, comprehensive classified traffic counts were conducted at key junctions identified in the vicinity of the application site. The surveyed junctions are listed below, and their respective locations are illustrated in **Figure 2.2**.

J1	-	Nathan Road / Granville Road	(Signalised Junction)
J2	-	Nathan Road / Humphreys Avenue	(Signalised Junction)
J3	-	Hankow Road / Haiphong Road	(Signalised Junction)
J4	-	Hankow Road / Middle Road	(Signalised Junction)
J5	-	Kowloon Park Drive / Peking Road	(Signalised Junction)
J6	-	Kowloon Park Drive / Middle Road	(Signalised Junction)
J7	-	Nathan Road / Peking Road	(Signalised Junction)
J8	-	Salisbury Road / Kowloon Park Drive	(Signalised Junction)

2.5.2 The manual traffic count surveys were conducted in April 2025 on one weekday, during the periods of 07:30-10:30 and 17:00-20:00; and one Saturday, during the period of 17:00-20:00.

2.5.3 Based on the survey findings, the weekday peak hours were identified as 09:00–10:00 in the morning and 17:45–18:45 in the evening. The weekend peak hour was identified as 18:00–19:00. The observed traffic flows during these peak hours are illustrated in **Figure 2.3**.

2.5.4 Junction capacity analyses were conducted at the identified key junctions. The results of the assessment are summarised in **Table 2.5.1**, while detailed calculation sheets are provided in **Appendix A**.

Table 2.5.1 Year 2025 Existing Junction Performance

Junction		Type	Performance (1)		
			AM	PM	Weekend
J1	Nathan Road / Granville Road	Signalised	>100%	>100%	>100%
J2	Nathan Road / Humphreys Avenue	Signalised	>100%	>100%	>100%
J3	Hankow Road / Haiphong Road	Signalised	>100%	>100%	>100%
J4	Hankow Road / Middle Road	Signalised	>100%	>100%	>100%
J5	Kowloon Park Drive / Peking Road	Signalised	93%	60%	71%
J6	Kowloon Park Drive / Middle Road	Signalised	>100%	>100%	>100%
J7	Nathan Road / Peking Road	Signalised	>100%	>100%	>100%
J8	Salisbury Road / Kowloon Park Drive	Signalised	49%	58%	73%

Note:
(1) Figures shown represent "Reserve Capacity" ("RC") in % for signalised junctions.

2.5.5 The assessment results indicate that all identified junctions are currently operating with spare capacity during both weekday and weekend peak hours.

2.6 Transport Inventory Surveys

2.6.1 To gather the necessary data for the traffic study, a series of transport inventory surveys was conducted on a typical weekday. The findings are summarised in the following sections.

Travel Behaviour Survey

2.6.2 To better understand the travel behaviour of future pedestrians associated with the application site, a travel behaviour survey was conducted at the Hong Kong Pacific Centre, a commercial building with retail use on the lower floors, located opposite the application site at No. 28 Hankow Road. Face-to-face interviews were carried out with pedestrians exiting the surveyed site to identify their modes of arrival. The survey results are summarised in **Table 2.6.1**.

Table 2.6.1 Arrival Transport Modes of Hong Kong Pacific Centre

Mode of Transport	Proportion
Railway	**60%**
Bus / GMB	**25%**
Taxi / On foot	10%
Private Car	5%
Total	100%

2.6.3 As shown in **Table 2.6.1**, approximately 85% of pedestrians accessed the Hong Kong Pacific Centre via railway or road-based public transport. This indicates a high level of accessibility to public transport services in the vicinity of the application site.

Parking Utilisation Survey

2.6.4 To assess the current availability of private car parking spaces at nearby public car parks, a parking utilisation survey was conducted at four public car parks located in the vicinity of the application site between 07:00–24:00. Details of the surveyed car parks are provided in **Table 2.6.2**, and their locations are shown in **Figure 2.4**.

Table 2.6.2 Private Car Parking Inventories of Surveyed Car Parks

Development	Number of Private Car Parking Spaces	Approximate Distance from the Application site
[A] - Lippo Sun Centre	90	160m
[B] - One Peking	130	210m
[C] - Ocean Terminal	1200	380m
[D] - H Zentre	470	340m

2.6.5 The survey results are summarised in **Table 2.6.3**.

Table 2.6.3 Availability of Private Car parking Spaces in Surveyed Car Parks

Survey Period	Available Number of Car Parking Spaces				Total
	[A]	[B]	[C]	[D]	
07:00 – 08:00	75	95	880	215	1265
08:00 – 09:00	70	85	860	205	1220
09:00 – 10:00	60	80	815	180	1135
10:00 – 11:00	50	65	755	150	1020
11:00 – 12:00	40	60	700	145	945
12:00 – 13:00	35	55	565	125	780
13:00 – 14:00	25	55	380	110	570
14:00 – 15:00	25	45	380	105	555
15:00 – 16:00	**15**	**40**	**375**	**110**	**540**
16:00 – 17:00	25	45	415	85	570
17:00 – 18:00	30	50	460	90	630
18:00 – 19:00	40	45	435	65	585
19:00 – 20:00	55	55	420	45	575
20:00 – 21:00	60	75	385	25	545
21:00 – 22:00	70	70	615	75	830
22:00 – 23:00	70	85	700	115	970
23:00 – 24:00	70	90	840	175	1175

2.6.6 As shown in **Table 2.6.3**, the overall peak occupancy of the surveyed car parks, i.e. the lowest availability of private car parking spaces, occurred between 15:00–16:00. During this peak hour, 540 parking spaces were available. Additionally, the survey recorded over 1,000 overnight parking spaces across the car parks.

Trip Generation and Vehicle Type Survey at Hotels with less than 100 guest rooms

2.6.7 To estimate the trip generation of the proposed hotel developments, a trip generation and vehicle type survey was conducted at two hotels in Tsim Sha Tsui, namely Hotel Pravo and Xi Hotel, each with fewer than 100 guest rooms. The survey was carried out between 07:00–19:00. A summary of the survey results is presented in **Table 2.6.4**. As these hotels do not have internal transport facilities, the survey recorded the frequency of vehicles performing roadside pick-up/drop-off and loading/unloading activities associated with the hotels.

Table 2.6.4 Summary of Trip Generation and Vehicle Type Survey at Hotel Pravo and Xi Hotel

Survey Period	Hotel Pravo (92 guest rooms)				Xi Hotel (64 guest rooms)			
	Private Car	Taxi	Light Goods Vehicle	Total	Private Car	Taxi	Light Goods Vehicle	Total
07:00 – 08:00	0	0	0	0	0	0	0	0
08:00 – 09:00	0	1	0	1	0	0	0	0
09:00 – 10:00	0	2	0	2	0	0	0	0
10:00 – 11:00	0	0	0	0	0	0	0	0
11:00 – 12:00	0	2	0	2	1	0	0	1
12:00 – 13:00	1	0	0	1	1	1	0	2
13:00 – 14:00	2	1	0	3	0	1	0	1
14:00 – 15:00	0	1	0	1	1	0	0	1
15:00 – 16:00	0	0	1	1	1	0	0	1
16:00 – 17:00	1	0	0	1	2	0	0	2
17:00 – 18:00	1	2	0	3	0	0	1	1
18:00 – 19:00	0	1	0	1	0	1	0	1
Total	5	10	1	**16**	6	3	1	**10**
Average Number of Trips per Hour	1.3				1			
Number of Trips at Peak Hours	AM Peak: 2 trips, PM Peak: 3 trips				AM Peak: 0 trips, PM Peak: 2 trips			

2.6.8 According to the survey results shown in **Table 2.6.4**, pick-up/drop-off activities by private light bus or coach were not observed.

Goods Vehicle Trip Generation Survey

2.6.9 To assess the goods loading and unloading demand of commercial, residential, and hotel developments in Tsim Sha Tsui, a goods vehicle trip generation survey was conducted at three commercial sites, three residential sites, and two hotels (refer to **Section 2.6.7**) between 09:00–18:00. As these sites do not have internal loading/unloading facilities, the survey recorded the frequency of goods vehicles performing roadside loading/unloading activities and delivering goods to the respective sites.

2.6.10 Details of the surveyed sites are provided in **Table 2.6.5**, and their locations are shown in **Figure 2.5**.

Table 2.6.5 Survey Sites of Goods Vehicle Trip Generation Survey

Surveyed Site	Development Parameters (About)	Distance from the Application Site (About)
Type of Development: **Commercial**		
[A] - Kowloon Centre	12,710 m^2 GFA	60m
[B] - Yue Hwa International Building	7,365 m^2 GFA	140m
[C] - Hong Kong Pacific Centre	16,470 m^2 GFA	70m
Type of Development: **Residential**		
[D] – Passkon Court	63 flats	630m
[E] – Shun Fai Building	68 flats	610m
[F] – Hart Avenue Court	64 flats	420m
Type of Development: **Hotel**		
[G] – Hotel Pravo	92 guest rooms	100m
[H] – Xi Hotel	64 guest rooms	310m

2.6.11 The survey results are summarised in **Table 2.6.6**. All observed goods vehicles were either light vans or light goods vehicles; no heavy goods vehicles were recorded during the survey.

Table 2.6.6 Observed nos. of Goods Vehicle Trips Associated with the Surveyed Sites at Roadside

Survey Period	Observed Goods Vehicle Trips (no.)							
	Survey Sites							
	[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]
09:00 – 10:00	3	1	1	0	0	0	0	0
10:00 – 11:00	4	3	2	0	0	1	0	0
11:00 – 12:00	3	2	1	0	0	0	0	0
12:00 – 13:00	2	2	2	1	0	0	0	0
13:00 – 14:00	2	1	2	0	0	0	0	0
14:00 – 15:00	3	1	1	0	0	1	0	0
15:00 – 16:00	1	0	1	0	0	0	1	0
16:00 – 17:00	3	1	1	0	1	0	0	0
17:00 – 18:00	1	0	1	0	0	0	0	1
Total	**22**	**11**	**12**	**1**	**1**	**2**	**1**	**1**
Average Number of Trips per Hour	2.4	1.2	1.3	0.1	0.1	0.2	0.1	0.1
Average Dwelling Time for each trip (min)	5.5	5.9	5.7	5.8	5.1	5.5	5.0	4.0
Average Goods Vehicle Trip Generation Rate								
(Trip/hour/ 1,000m^2 GFA)	0.19	0.17	0.08	---	---	---	---	---
(Trip/hour/ 100 flats)	---	---	---	0.18	0.16	0.35	---	---
(Trip/hour/ 100 guest rooms)	---	---	---	---	---	---	0.11	0.16

Kerbside Utilisation Survey

2.6.12 To assess current kerbside activity patterns and utilisation at the general lay-by adjacent to the application site, a kerbside activity survey was conducted at the concerned lay-by along Hankow Road between 09:00–18:00. The survey recorded the types of vehicles and the duration of their kerbside activities. The location of the surveyed lay-by is illustrated in **Figure 2.6**, and the survey findings are summarised in **Tables 2.6.7**.

Table 2.6.7 Kerbside Activity Pattern and Utilization of the Surveyed Lay-by at Hankow Road

Survey Period	Observed No. of Vehicle (vehicle/hour)	Average Occupied Length (1) (m)	Length of general lay-by (m)	Average Utilization Rate
09:00 – 10:00	16	55	70	79%
10:00 – 11:00	15	52	70	74%
11:00 – 12:00	15	60	70	86%
12:00 – 13:00	17	52	70	74%
13:00 – 14:00	22	53	70	76%
14:00 – 15:00	20	55	70	79%
15:00 – 16:00	18	61	70	87%
16:00 – 17:00	15	57	70	81%
17:00 – 18:00	18	60	70	86%

Note:

(1) It was observed that lay-by sections B and C, with a combined length of 34m as shown in **Figure 2.6** were occupied by construction vehicles, a construction waste container, and the construction vehicular access for the construction site at Nos. 31–37 Hankow Road during the survey period. As a conservative assumption, these lay-by sections are considered fully occupied as reflected in the table above. The kerbside utilisation at the surveyed lay-by is expected to improve upon completion of the construction works at the site.

2.6.13 The survey results presented in **Table 2.6.6** indicate that the surveyed lay-by at Hankow Road was not operating at full capacity.

3 THE PROPOSED DEVELOPMENT SCHEME

3.1 Development Schedule and Proposed Layout Plan

3.1.1 The key development parameters of the Proposed Development Scheme are summarised in **Table 3.1.1**, while the proposed ground floor layout plan is illustrated in **Figure 3.1**.

Table 3.1.1 Key Development Parameters of the Proposed Development Scheme

Key Development Parameters	Proposed Development Scheme
Site Area	About 1,074.5 m^2
Total Plot Ratio (PR)	About 12
• Domestic PR	About 3.4
• Non-domestic PR	About 8.6
Total Gross Floor Area (GFA)	About 12,894 m^2
• Domestic GFA	About 3,683 m^2
• Non-domestic GFA *(For Office, Shop and Services/Eating Place)* *Hotel*	About 4,228 m^2 99 guest rooms
No. of Block	1
No. of Storeys	27 nos. storeys (1)
Total No. of Flat	95
Flat Size	FS ≤ 40m^2: 90 Flats 40 m^2 < FS ≤ 70 m^2: 3 Flats 100 m^2 < FS ≤ 130 m^2: 2 Flats
Tentative Completion Year	2029

Note:
(1) According to the section plan submitted with this application, G/F – 2/F will be used for retail / shop / F&B; 3/F –7/F will be used for retail / shop / F&B / office; 8/F – 17/F will be used for hotel, 18/F will be used for clubhouse / flat; and 19/F - 29/F will be used for flats.

3.2 Provision of Internal Transport Facilities

HKPSG Requirements on Internal Transport Provision

3.2.1 In accordance with the Hong Kong Planning Standards and Guidelines ("HKPSG"), the required provisions for internal transport facilities, based on the development parameters of the Proposed Development Scheme, are summarised in **Table 3.2.1**.

Table 3.2.1 HKPSG Required Internal Transport Provisions under the Proposed Development Scheme

Facilities (L x W x H)	Use	HKPSG Requirement				HKPSG Required Provision	
						Low-end	High-end
Private Car Parking Space (5m x 2.5m x 2.4m)	Private Housing (95 flats, incl. *FS ≤ 40m²: 90 Flats*, *40 m² < FS ≤ 70 m²: 3 Flats*, *100 m² < FS ≤ 130 m²: 2 Flats*, 1 block)	Ancillary Parking Space				7	11
		Global Parking Standard (GPS)			1 car space per 4-7 flats		
		Demand Adjustment Ratio (R1)	Flat Size (FS) (m² GFA)	FS≤40	**0.5**		
				40<FS≤70	**1.2**		
				70<FS≤100	2.4		
				100<FS≤130	**4.1**		
				130<FS≤160	5.5		
				FS>160	7.0		
		Accessibility Adjustment Ratio (R2)	Within a 500m-radius of rail station		**0.75**		
			Outside a 500m-radius of rail station		1.00		
		Development Intensity Adjustment Ratio (R3)	Domestic Plot Ratio (PR)	0.00<PR≤1.00	1.30		
				1.00<PR≤2.00	1.10		
				2.00<PR≤5.00	**1.00**		
				5.00<PR≤8.00	0.90		
				PR>8.00	0.75		
		Parking Requirement = GPS x R1 x R2 x R3					
		Visitor Parking Space: 5 visitor spaces per block in addition to the recommendations, or as determined by the Authority.				5	
	Retail [(1)] (4,228 m² GFA)	1 car space per 150 - 300m² GFA				14	28
	Hotel (99 guest rooms)	1 car space per 100 rooms (the proposed hotel has less than 100 rooms)				0	0
		Total				**26** (incl. Accessible Car Parking Space)	**44** (incl. Accessible Car Parking Space)
Accessible Car Parking Space (5m x 3.5m x 2.4m)	1 space for 1-50 total number of car parking spaces in the lot;					1	1
Motorcycle Parking Space (2.4m x 1m x 2.4m)	Private Housing (95 flats, 1 block)	1 space per 100-150 flats excluding non-residential elements.				1	1
	Retail [(1)] (4,228 m² GFA)	5% - 10% of private cars provision for non-residential developments with respect to each type of development				1	3
	Hotel (99 guest rooms)	5% - 10% of private cars provision for non-residential developments with respect to each type of development				0	0
		Total				**2**	**4**

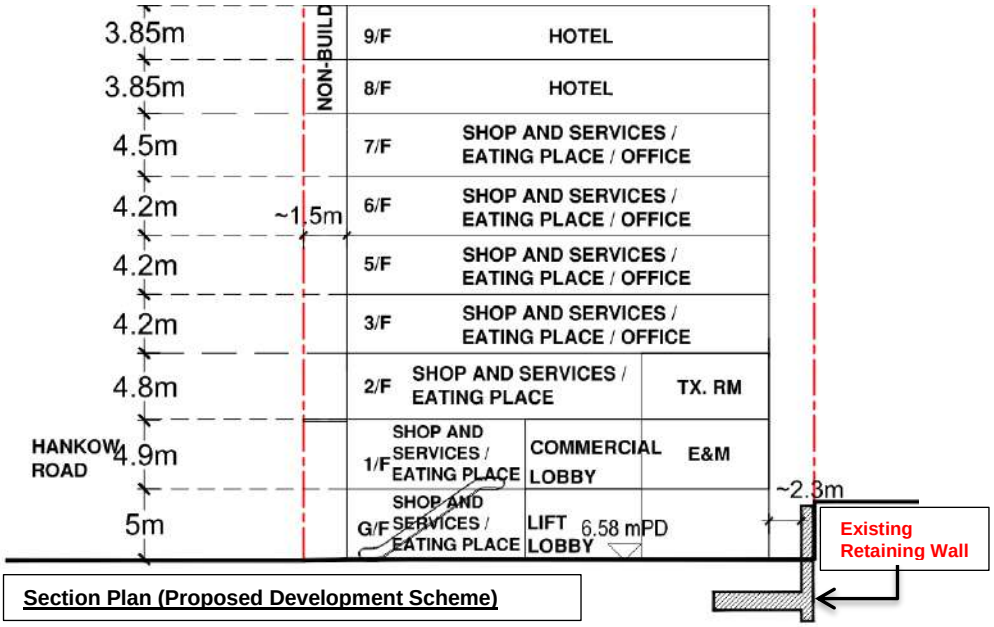
Facilities (L x W x H)	Use	HKPSG Requirement	HKPSG Required Provision	
			Low-end	High-end
Loading / Unloading Bay for Goods Vehicles **LGV** (7m x 3.5m x 3.6m) **HGV** (11m x 3.5m x 4.7m)	Private Housing (95 flats, 1 block)	Minimum of 1 L/UL bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority	1 (HGV)	
	Retail (1) (4,228 m^2 GFA)	1 L/UL bay per 800 – 1,200m^2 GFA, including 65% LGV and 35% HGV	4 (3 LGV + 1 HGV)	6 (4 LGV + 2 HGV)
	Hotel (99 guest rooms)	0.5 - 1 L/UL bay per 100 rooms (the proposed hotel has less than 100 rooms)	0	0
	Total		**5** (3 LGV + 2 HGV)	**7** (4 LGV + 3 HGV)
Lay-by for Taxi and Private Car (5m x 2.5m x 2.4m)	Hotel (99 guest rooms)	Minimum of 2 lay-bys for hotel with fewer than 299 rooms	**2**	**2**
Lay-by for Single-deck Tour Bus (12m x 3.5m x 3.8m)	Hotel (99 guest rooms)	Minimum of 1 lay-by for hotel with fewer than 299 rooms	**1**	**1**

Note:
(1) To adopt a conservative approach in the calculation, it is assumed that the GFA designated for office use will be treated as retail use. This is because under the HKPSG high-end requirements, retail use shares the same private car parking provision standard as office use (i.e., 1 space per 150 m² GFA), but requires a greater provision of loading/unloading bays (i.e., 1 space per 800 m² GFA).

Feasibility on Internal Transport Provision

3.2.2 Based on the ground floor layout plan, the usable floor area is constrained due to the presence of essential architectural elements, including structural columns, staircases, lift lobbies, escalators, and E&M rooms.

3.2.3 At present, an "L"-shaped retaining wall structure is situated along the western boundary of the application site to provide soil stabilisation. Notably, the toe of this retaining structure extends into the underground level of the application site, as illustrated in the section plan diagram below.



Section Plan (Proposed Development Scheme)

3.2.4 Should a basement level be incorporated, a minimum setback of 6m is recommended to preserve the integrity of the existing retaining structure and prevent any adverse impact on soil stability. This requirement further limits the usable basement floor area, in addition to the space already occupied by essential architectural features.

3.2.5 In view of the above constraints, a feasibility study has been carried out from a traffic engineering perspective to assess the potential for providing internal transport facilities under the Proposed Development Scheme.

3.2.6 For the purpose of this feasibility study, it is assumed that the parking spaces will be accommodated within the basement levels, accessed via car ramps or car lifts. Goods vehicle loading/unloading bays and lay-bys for private and taxi are proposed to be located on the ground floor. The proposed vehicular run-in/out is planned along the eastern boundary, fronting Hankow Road.

Scenario A *- Car Parking Space Provision at Basement via Car Ramp*

3.2.7 According to PNAP APP-111 issued by the Buildings Department, the maximum gradient for a helical ramp serving private cars is 1:8. Based on an assumed floor-to-floor height of 4m, the minimum ramp length required to connect the ground floor to the basement would be about 32m. The proposed car ramp, designed to accommodate two-way movement of private cars, is shown on the ground floor plan and illustrated in **Figure 3.2**.

3.2.8 As shown in **Figure 3.2**, the proposed car ramp would conflict with the structural columns and wall. Consequently, the proposed ground floor layout incorporating a car ramp to access basement-level parking under *Scenario A* is deemed unfeasible.

Scenario B *- Car Parking Space Provision at Basement via Car Lift*

3.2.9 Based on the available usable area at the ground floor, the proposed layout can accommodate 2 car lifts, 1 waiting space and 2 lay-bys for private car and taxi, along with the essential manoeuvring space for vehicles, as illustrated in **Figure 3.3**. According to the car lift assessment based on the parameters of (i) 2 car lifts, (ii) 1 waiting space and (iii) an estimated arrival rate of 6 vehicle/peak 15-min, this configuration can serve up to 2 basement parking levels. Additional waiting spaces would be required to serve more basement levels. Details of the car lift assessment are included in **Appendix B**.

3.2.10 Each typical basement floor can accommodate 7 private car parking spaces, as shown in **Figure 3.4**. Based on this configuration, a total of 14 private car parking spaces can be provided across two basement levels with the use of 2 car lifts. However, this provision falls short of the low-end requirements of 26 private car parking spaces as stipulated in HKPSG. Therefore, due to the identified site constraints, it is considered that the parking facilities would not be adequate under *Scenario B* within the current development parameters.

Scenarios C & D *- Goods Vehicle Loading / Unloading Bay Provision*

3.2.11 To minimise the manoeuvring space required for goods vehicles and accessing the ground floor, the use of a turntable is proposed. For reference, the typical diameters required to accommodate a heavy goods vehicle (HGV) and a light goods vehicle (LGV) are approximately 12.6m and 8m, respectively.

3.2.12 Based on the current ground floor layout, it is not feasible to install a 12.6m diameter turntable without encroaching upon structural columns or walls, as illustrated in **Figures 3.5** under *Scenario C*.

3.2.13 Alternatively, the proposed layout can accommodate an 8m diameter turntable along with 4 LGV loading/unloading bays, as shown in **Figure 3.6** under *Scenario D*. Nonetheless, this falls short of the low-end requirements of 5 loading/unloading bays (3 LGV + 2 HGV) as stipulated in HKPSG. Therefore, due to the identified site constraints, it is considered that the loading/unloading facilities would not be adequate under *Scenario D* within the current development parameters.

3.3 Justifications for Nil Internal Transport Facilities for the Proposed Development Scheme

3.3.1 In view of the site constraints outlined in **Chapter 3.2**, it is proposed that no internal transport facilities be provided under the Proposed Development Scheme. Accordingly, a relaxation of the requirement for internal transport provision would be required.

3.3.2 The justifications for not providing internal transport facilities under the Proposed Development Scheme are outlined below:

Justification 1 – Site constraints

3.3.3 Based on the ground floor plan, the usable floor area is significantly constrained due to the presence of essential architectural elements, including structural columns, staircases, lift lobbies, escalators, and E&M rooms. In addition, maintaining the existing "L"-shaped retaining wall structure along the western boundary of the application site would impact the available basement floor area, if a basement is to be provided.

Justification 2 – Good accessibility to public transport services

3.3.4 The application site is situated in Tsim Sha Tsui, an area well-served by high-capacity public transport, including extensive services along Nathan Road and Kowloon Park Drive. The MTR Tsim Sha Tsui Station entrance/exit is approximately 100m from the application site, equivalent to less than a two-minute walk. Given this high level of accessibility, it is expected that the majority of visitors, office workers, and residents associated with the proposed development will rely on public transport rather than private vehicles. This expectation is supported by interview survey results on pedestrian arrival modes for a commercial building located opposite the application site (refer to **Table 2.6.1**), which indicate a strong preference for public transport. Therefore, the demand for car parking spaces under the Proposed Development Scheme is anticipated to be minimal.

3.3.5 Furthermore, a taxi stand is located near the application site on Hankow Road. This added accessibility is likely to further reduce reliance on private vehicles, thereby lowering the demand for car parking spaces.

Justification 3 – Observed spare capacity on the car parks located in the vicinity

3.3.6 According to the parking utilisation survey results for car parks in the vicinity of the application site (refer to **Table 2.6.3**), there is a surplus of approximately 540 car parking spaces during weekday peak hours, and over 1,000 spaces available during midnight hours. Therefore, the existing surrounding car parks are capable of accommodating the limited parking demand anticipated under the Proposed Development Scheme.

Justification 4 – low demand for goods vehicle loading / unloading bay

3.3.7 A survey was conducted at commercial, residential and hotel developments in Tsim Sha Tsui to assess the actual demand for goods loading/unloading facilities. Based on the peak hour goods vehicle trip generation rates derived from the traffic survey (refer to **Table 2.6.6**), the estimated demand under the Proposed Development Scheme is approximately 2 goods vehicle trips per hour. (*Commercial*: 4,128m^2 / 1,000m^2 x 0.19 + *Residential:* 95 flats /100 flats x 0.35 + *Hotel*: 99 guest rooms / 100 rooms x 0.16). Therefore, the demand of goods loading / unloading bays of the Proposed Development Scheme is expected to be low.

Justification 5 – On-street activities are permitted at the general lay-bys outside the application site

3.3.8 At present, on-street activities are permitted at the general lay-by outside the application site on Hankow Road.

3.3.9 Under the Proposed Development Scheme, goods vehicle activity is estimated at an average of approximately 2 trips per hour, with each trip having an average dwell time of less than six minutes. Utilisation surveys of the relevant lay-by (refer to **Table 2.6.7**) indicate that it is not fully occupied during peak periods. Therefore, the anticipated loading/unloading activities can be accommodated within the existing lay-by without adversely affecting traffic flow along Hankow Road.

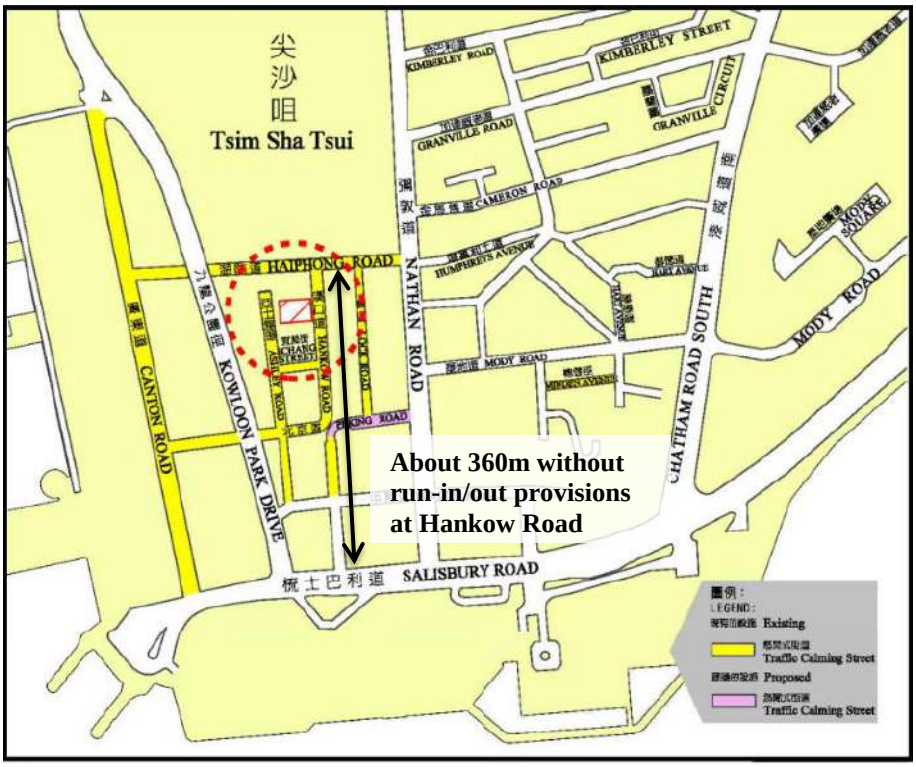
Justification 6 – Minimal demand for lay-by for single deck tour bus at referenced hotel developments with less than 100 rooms

3.3.10 According to the survey results (refer to **Table 2.6.4**) from the referenced hotel developments, namely Hotel Pravo and Xi Hotel in Tsim Sha Tsui, pick-up/drop-off activities by private light bus or coach were not observed. This suggests that the demand for lay-by for single-deck tour bus is minimal for hotels of a similar scale within the locality.

Justification 7 – The provision of run-in / out is not desirable from pedestrian viewpoint

3.3.11 Under existing conditions, a significant volume of pedestrian activity is observed along the footpaths on both sides of Haiphong Road and Hankow Road surrounding the application site, as illustrated in the site photos below.

3.3.12 The section of Hankow Road fronting the application site is designated as a "Traffic Calming Street" under the current pedestrian schemes implemented by the Transport Department as part of the Area Improvement Plan for Tsim Sha Tsui (refer to the diagram below). The primary objective of the traffic calming measures is to enhance pedestrian comfort and safety by prioritizing pedestrian use of the road space.



Source:
https://www.td.gov.hk/en/transport_in_hong_kong/pedestrians/pedestrianisation/tsim_sha_tsui_/index.html

3.3.13 At present, the entire section of Hankow Road between Haiphong Road and Salisbury Road is approximately 360m long without any run-in/out provisions. The former building on the application site did not include a run-in/out. Introducing such a facility under the Proposed Development Scheme would create a new conflict point between vehicular traffic and pedestrians along the western footpath of this section of Hankow Road, which is considered undesirable from a pedestrian safety perspective.

Justification 8 – The provision of run-in / out would be located in close proximity to the nearby signalised junction

3.3.14 According to TPDM Vol. 2 Ch. 3.6.2.3, run-ins should not normally be sited within 60m of the stop line on the major road or within 45m on the minor road, on either the approach or exit roads. Assuming a conceptual run-in/out is proposed along the eastern boundary of the application site fronting Hankow Road with consideration of the layout of essential architectural facilities at ground floor, the distance between the run-in/out and the existing stop line on the Hankow Road approach

is approximately 21m, as illustrated in **Figure 3.7**. This proposed location does not comply with the relevant design guidelines.

3.3.15 Furthermore, vehicles exiting the site would immediately encounter a signalised pedestrian crossing point at the Hankow Road approach. On-site observations indicate that some pedestrians tend to jaywalk in this area. Given the proximity of the proposed run-in/out to the stop line, along with the restricted sightline for motorists turning left, this arrangement poses a potential safety hazard for pedestrians, as illustrated in **Figure 3.8**.

3.3.16 Therefore, the provision of a run-in/out at this location is considered undesirable due to its insufficient separation from the nearby signalised junction and the associated pedestrian safety concerns.

Justification 9 – The provision of run-in / out is not desirable from local traffic viewpoint

3.3.17 At present, there is an approximately 70m long general lay-by fronting the application site along Hankow Road. To accommodate the manoeuvring space required for vehicles entering and exiting the site, and to achieve the recommended visibility distance of 60m as stipulated in TPDM Vol. 2, Ch. 3.6.3.2, the existing general lay-by would be significantly affected.

3.3.18 As shown in the swept path analysis for 7m long LGV in **Figure 3.9**, approximately 21m of the existing general lay-by would need to be removed to accommodate the required manoeuvring space for LGVs accessing the site.

3.3.19 Based on the sightline assessment illustrated in **Figure 3.10**, an additional section of approximately 45m (comprising 15m + 20m + 10m) of the general lay-by falls within the required visibility splay. Any vehicles, particularly goods vehicles, conducting loading/unloading activities within this section would obstruct the sightline of motorists exiting the site when looking to the right for oncoming traffic. If such an obstruction occurs, the available sight distance for motorists at the conceptual run-in/out would be reduced to approximately 10m, posing a significant traffic safety risk.

3.3.20 In view of the above, a total of 66m of the general lay-by would need to be removed. This removal equates to approximately 9 LGV loading/unloading bays that would otherwise be available for public use. In other words, the proposed arrangement would result in a significant reduction in loading/unloading capacity within the local area.

3.3.21 A comparison of the net gain and loss of internal transport facilities (both private and public) under *Scenarios B* and *D* is presented in **Figure 3.11** for reference.

Justification 10 – Approved Planning Application with Nil Internal transport Provision

3.3.22 According to the approved planning application no. A/K1/269, which pertains to the same location as the current application site, the provision of nil internal transport facilities was permitted.

3.3.23 The approved development under the aforementioned application comprised 110 flats and approximately 9,211 m^2 GFA for office/retail use (the "Approved Scheme"). The total required low-end provisions under the Approved Scheme are compared with those under the Proposed Development Scheme, as summarised in **Table 3.3.2**.

Table 3.3.2 Comparison of Required Internal Transport Facilities Provision under HKPSG Low-end Requirements Between Approved Scheme and Proposed Development Scheme

Facility	[A]: Approved Scheme	[B]: Proposed Development Scheme	Net Difference: [B] – [A]
Private Car Parking Space	44	26	**-18**
Goods Vehicle Loading / Unloading Bay	9	5	**-4**
Lay-by for Taxi and Private Car	Nil	2	**+2**
Lay-by for Single-deck tour bus	Nil	1	**+1**

3.3.24 As shown in **Table 3.3.2**, the Proposed Development Scheme requires 16 fewer private car parking spaces and 3 fewer goods vehicle loading/unloading bays compared to the Approved Scheme. Although it requires 2 lay-bys for taxi and private car, and 1 lay-by for single-deck tour bus, the overall demand for internal transport facilities under both schemes is considered broadly comparable.

3.3.25 Given that the Proposed Development Scheme shares similar characteristics and site constraints with the Approved Scheme, it is believed that the provision of nil internal transport facilities under the Proposed Development Scheme is deemed acceptable from a traffic engineering perspective.

Conclusion

3.3.26 In view of the above justifications, the provision of nil internal transport facilities under the Proposed Development Scheme is considered acceptable from a traffic engineering viewpoint.

4 TRAFFIC IMPACT ASSESSMENT

4.1 Trip Generation and Attraction of Proposed Development Scheme

4.1.1 The anticipated traffic generation and attraction of the proposed residential and retail/office development were estimated based on i) *'Traffic Rates for Residential Development at 95% Confidence Level'*, and ii) *'Traffic Rates for Non-Residential Development at 95% Confidence Level'* as outlined in TPDM Vol. 1 Annex C Tables 1 and 2. The adopted traffic generation rates and the corresponding trip estimates are summarised in **Table 4.1.1**.

Table 4.1.1 Trip Generation and Attraction of the Proposed Residential and Retail/Office Development

Proposed Use		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
Residential Flat nos. = **95**	Traffic Rate (pcu/hr/flat)	0.0718	0.0425	0.0286	0.0370
	Trip Generation (pcu/hr)	7	5	3	4
Retail/Office (1) GFA = **4,128 m²**	Traffic Rate (pcu/hr/100m² GFA)	0.2296	0.2434	0.3100	0.3563
	Trip Generation (pcu/hr)	10	11	13	15

Note:
(1) To adopt a conservative approach in the calculation, it is assumed that the GFA designated for office use will be treated as retail use, as retail developments have higher two-way traffic generation and attraction rates compared to office use according to TPDM.

4.1.2 The anticipated traffic generation and attraction of the proposed hotel development were estimated using the surveyed trip rates from Hotel Pravo, a nearby hotel located on Peking Road, Tsim Sha Tui. The adopted trip rates and corresponding trip estimates are summarised in **Table 4.1.2**.

Table 4.1.2 Adopted Trip Rates and Corresponding Trip Estimated for Proposed Hotel Development

Proposed Hotel Development (99 guest rooms)	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Adopted Trip Rate (pcu/hr/guest room)	0.0217	0.0217	0.0326	0.0326
Estimated Vehicular Trips (pcu/hr)	3	3	4	4

4.1.3 In view of the above, the corresponding traffic generation and attraction of the Proposed Development are estimated as shown in **Table 4.1.3**.

Table 4.1.3 Traffic Generation and Attraction of the Proposed Development (pcu/hr)

Development Use	Development Parameters	AM Peak		PM Peak	
		Generation	Attraction	Generation	Attraction
Residential	95 Flats	7	5	3	4
Retail/Office	4,128 m^2 GFA	10	11	13	15
Hotel	99 guest rooms	3	3	4	4
Total (pcu/hr)		**20**	**19**	**20**	**23**

4.1.4 As shown in **Table 4.1.3**, the proposed development is expected to generate approximately **39 pcu/hr** and **43 pcu/hr** (two-way) during the morning and evening peak periods, respectively. Since the TPDM does not provide weekend trip rates, the weekday evening peak hour trip generation figures from **Table 4.1.3** have been applied to represent the weekend peak hour generation.

4.2 Trip Generation and Attraction of Development under the Approved Scheme

4.2.1 As mentioned in **Chapter 3.3**, the Approved Scheme comprised 110 flats and approximately 9,211 m^2 GFA for office/retail use. The anticipated traffic generation and attraction for this development were estimated using a similar methodology, with reference to traffic rates provided in TPDM. A comparison of the trip generation under the Approved Scheme and the Proposed Development Scheme is presented in **Table 4.2.1**.

Table 4.2.1 Net Difference of Trip Generation and Attraction between Proposed Development Scheme and Approved Scheme (pcu/hr)

Proposed Use	AM Peak			PM Peak		
	GEN	ATT	Two-way	GEN	ATT	Two-way
[A]: Development under Approved Scheme	30	28	**58**	33	38	**71**
[B]: Proposed Development Scheme	20	19	**39**	20	23	**43**
Net Difference: [B] – [A]	-10	-9	**-19 (-33%)**	-13	-15	**-28 (-39%)**

4.2.2 As shown in **Table 4.2.1**, the overall two-way traffic generation during the morning and evening peak hours under the Proposed Development Scheme is lower than that of the Approved Scheme. As a result, the traffic impact on the surrounding road network is expected to be lower under the Proposed Development Scheme.

4.3 Adjacent Developments

4.3.1 In addition to the development flow, the traffic generated and attracted by adjacent major planned/committed developments, as shown in **Table 4.3.1**, were taken into account in the traffic forecast.

Table 4.3.1 Adjacent Planned/Committed Developments

Development	Type	Parameters
Proposed Hotel Redevelopment of Mariners' Club at Middle Road	Hotel Development	About 500 guest rooms (1)
Proposed Expansion of Hong Kong Science Museum and Hong Kong Museum of History	GIC Development	About 66,438 m^2 GFA (2)
Proposed Redevelopment at No. 21 Ashley Road	Commercial Development	About 100,000 ft^2 GFA (3)
Proposed Redevelopment at Nos. 31-37 Hankow Road	Commercial Development	About 115,300 ft^2 GFA (4)

Note:
(1) Source: https://egh.com.hk/news/empire-group-wins-tender-for-mariners-club-redevelopment.html
(2) Refer to approved planning application no.: A/K1/267.
(3) Source: https://21ashley.com.hk/wp-content/uploads/2023/01/21-Ashley_Brochure-2.pdf
(4) Source: https://www.28hse.com/en/news/九展再有新進展-擬重建 4 商廈獲批-59433

4.4 Future Traffic Growth

4.4.1 The tentative completion year for the Proposed Development Scheme is Year 2029. To assess the traffic impact of the development-related traffic on the adjacent road network, Year 2032 (i.e. 3 years after the anticipated completion) has been adopted as the design year for this study.

Annual Traffic Census

4.4.2 Reference was made to Annual Traffic Census ("ATC") on annual average daily traffic ("AADT") at counting stations in the vicinity of the Proposed Development Scheme and the corresponding traffic flows are summarised in **Table 4.4.1** below.

Table 4.4.1 Annual Average Growth Rate by ATC

Station No.	2019 AADT	2020 AADT	2021 AADT	2022 AADT	2023 AADT	Annual Average Growth Rate from 2019 to 2023
3021	15,130	14,410	11,350	12,090	12,930	-
3207	27,440	25,690	26,780	25,520	22,640	
3410	49,380	42,720	44,540	42,440	44,780	
3413	29,540	23,760	24,770	23,610	24,910	
3414	15,370	15,650	16,310	15,540	16,400	
3446	10,180	10,570	11,020	10,500	11,080	
3606	52,260	48,970	42,140	40,150	42,360	
3609	26,270	26,320	26,310	25,070	26,450	
3811	36,220	33,900	40,380	40,290	42,510	
4009	36,020	33,710	35,150	36,350	40,380	
4614	5,490	5,570	5,960	4,880	7,080	
4654	11,290	10,610	8,260	10,520	10,080	
4655	2,580	2,670	2,340	2,310	2,680	
Total	**317,170**	**294,550**	**295,310**	**289,270**	**304,280**	**-1.0%**

4.4.3 The ATC historic data indicates an average reduction of traffic in recent years in the region with around -1.0% p.a.

Territorial Population and Employment Data Matrix (TPEDM)

4.4.4 Reference was made to 2021-based TPEDM published by Planning Department. **Table 4.4.2** below summarises the estimated and projected population and employment data as well as their respective annual average growth rates of Yau Tsim Mong in 2021, 2026 and 2031.

Table 4.4.2 Annual Average Growth Rate by TPEDM (Yau Tsim Mong)

Year	2021	2026	2031
Population	310,650	291,700	267,100
Annual Average Growth Rate	**-1.50% (from 2021 to 2031)**	**-1.75% (from 2026 to 2031)**	---
Employment	413,950	439,300	428,850
Annual Average Growth Rate	**+0.35% (from 2021 to 2031)**	**-0.48% (from 2026 to 2031)**	**---**

4.4.5 Based on the table above, the annual growth rates for the periods from 2021 to 2031 and 2026 to 2031 are as follows:

i) -1.50% and -1.75%, respectively, based on population data; and

ii) +0.35% and -0.48%, respectively, based on employment data.

4.4.6 For conservative purposes, an annual growth rate of **+0.50%** has been adopted to project traffic forecasts for the period from 2025 to 2032.

4.5 Assessment Scenarios

4.5.1 To assess the potential traffic impact associated with the Proposed Development Scheme, two scenarios were analysed and compared:

- *Scenario 1 – Year 2032 Reference Scenario*: Assumes traffic conditions without the redevelopment.
- *Scenario 2 – Year 2032 Design Scenario:* Assumes redevelopment in accordance with the Proposed Development Scheme.

Scenario 1 (Reference Case)

Year 2032 Reference Scenario

= Year 2025 existing traffic flows × growth factor during the period of year 2025-2032

Plus traffic generations of other planned/committed developments in the vicinity

Scenario 2 (Design Case)

Year 2032 Design Scenario

= Year 2032 Reference Scenario

Plus trips generated and attracted by the Proposed Development Scheme

4.5.2 The forecasted traffic flows for the two scenarios described above are illustrated in **Figures 4.1** and **4.2**, respectively.

4.6 Junction Capacity Assessment

4.6.1 Junction capacity assessments were carried out at the identified key junctions under the Year 2032 Reference and Design scenarios. A summary of the assessment results is provided in **Table 4.6.1** below, while detailed calculation sheets are included in **Appendix A**.

Table 4.6.1 Year 2032 Future Junction Performance

Junction		Type	Junction Performance (1)					
			Year 2032 Reference			Year 2032 Design		
			AM	PM	Weekend	AM	PM	Weekend
J1	Nathan Road / Granville Road	Signalised	>100%	>100%	>100%	>100%	>100%	>100%
J2	Nathan Road / Humphreys Avenue	Signalised	>100%	>100%	>100%	>100%	>100%	>100%
J3	Hankow Road / Haiphong Road	Signalised	>100%	>100%	>100%	>100%	>100%	>100%
J4	Hankow Road / Middle Road	Signalised	>100%	>100%	>100%	>100%	>100%	>100%
J5	Kowloon Park Drive / Peking Road	Signalised	80%	51%	61%	79%	50%	60%
J6	Kowloon Park Drive / Middle Road	Signalised	>100%	>100%	>100%	>100%	>100%	>100%
J7	Nathan Road / Peking Road	Signalised	>100%	>100%	>100%	>100%	>100%	>100%
J8	Salisbury Road / Kowloon Park Drive	Signalised	39%	47%	61%	39%	47%	61%

Notes:
(1) Figures shown represent "Reserve Capacity" (RC) in % for signalised junctions.

4.6.2 As shown in **Table 4.6.1**, the assessment results indicate that the identified key junctions are expected to operate within capacity under the Proposed Development Scheme. Therefore, it is anticipated that the Proposed Development Scheme will not impose any significant traffic impact on the surrounding road network.

5 CONCLUSION

5.1 Summary

5.1.1 The application site is located at Nos. 43 – 49A Hankow Road with a site area of approximately 1,074.5m^2. It is currently zoned as "Commercial" under the Draft Tsim Sha Tsui Outline Zoning Plan No. S/K1/29.

5.1.2 The Applicant intends to redevelop the application site into Proposed Flat with Permitted Hotel, Office and Shop & Services/Eating Place ("Proposed Development Scheme"). The Proposed Development Scheme will comprise a 27-storey mixed-use building with 95 flats, 99 hotel rooms and 4,228m^2 GFA designated for office, shop and services/eating place uses.

5.1.3 A Traffic Impact Assessment (TIA) study was conducted to evaluate the potential traffic implications associated with the Proposed Development, in support of the Section 16 planning application for the application site.

5.1.4 Due to the limited floor area available at the ground and basement levels, it is proposed that no internal transport facilities be provided under the Proposed Development Scheme. This proposal is supported by the following justifications:

1) Site constraints;
2) Good accessibility to public transport services;
3) Observed spare capacity on the car parks located in the vicinity;
4) low demand for goods vehicle loading / unloading bay;
5) On-street activities are permitted at the general lay-bys outside the application site;
6) Minimal demand for lay-by for single deck tour bus at referenced hotel developments with fewer than 100 rooms;
7) The existing Hankow Road is a traffic calming street which prioritises pedestrian use of the road space. Hence, the provision of run-in/out is not desirable from pedestrian viewpoint;
8) The provision of run-in/out would be located in close proximity to the nearby signalised junction, which raises road safety concerns.
9) Due to the sightline issues, the provision of run-in/out would result in significant reduction of significantly reduce the length of the existing general lay-by, which is considered undesirable from a local traffic viewpoint; and

10) A Section 16 Planning Application no. A/K1/269 for Proposed Flat with Permitted Office, Shop and Services and Eating Place at the subject site was approved by the Town Planning Board in January 2024. The Approved Scheme did not include any internal transport provisions, which is consistent with the current application.

5.1.5 In view of the above justifications, the provision of nil internal transport facilities under the Proposed Development Scheme is considered acceptable from a traffic engineering perspective.

5.1.6 The identified key junctions in the vicinity were assessed with respect to the traffic generated by the Proposed Development Scheme in the design year 2032 (i.e. three years after the target completion year of 2029). The assessment also considered traffic generation from major planned developments in the surrounding area.

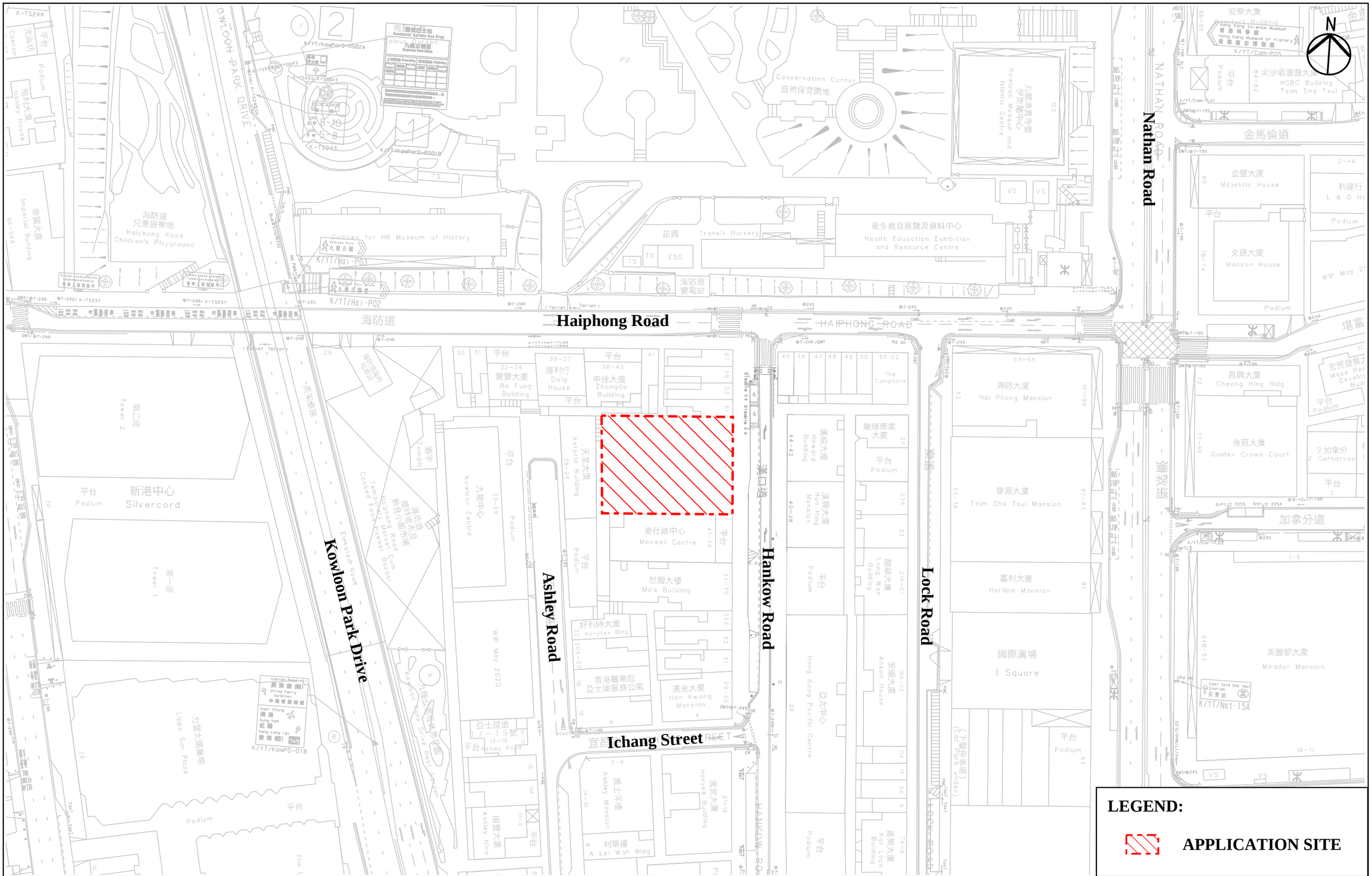
5.1.7 Traffic impact assessment scenarios were set up under the Proposed Development. The first scenario assumed the traffic conditions without the redevelopment, i.e. *Year 2032 Reference Scenario*. The second scenario assumed redevelopment in accordance with the Proposed Development Scheme, i.e. *Year 2032 Design Scenario*.

5.1.8 The assessment results indicate that traffic conditions under the Reference and Design Scenarios in Year 2032 would be broadly similar. Therefore, the Proposed Development Scheme is not expected to generate any significant traffic impact on the surrounding road network.

5.2 Conclusion

5.2.1 It is concluded that the Proposed Development Scheme will not impose any adverse traffic impact on the surrounding road network and is therefore considered feasible from a traffic engineering perspective.

Figures



LEGEND:

APPLICATION SITE

Job Title: **SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI**		**FIGURE 1.1**
Date: **05/2025**	Scale: **1:1,000 (A3)**	Drawing Title: **LOCATION OF THE APPLICATION SITE AND ITS ENVIRONS**
Drawn: **WYJL**	Job No.: **294680-02**	**ARUP**

LEGEND:

- APPLICATION SITE
- GMB STOP
- BUS STOP
- MTR STATION ENTRANCE/EXIT
- TAXI STAND

200m away from the application site

N

Bus Route:
271, 271B, 271X

Bus Route:
1R, 2, 3X, 7, 9, 50, 13X, 203C, 208, 213X, 219X, 224X, 260X, 269B, 270A, 270C, 270S, 271, 271B, 271S, 271X, N213, N241, N271, N796

GMB Route:
606S

GMB Route:
62S, 610S

GMB Route:
606S

Bus Route:
1, 1A, 2, 6, 9, 26, 98D, 98P, 203S, 270A, 270C, 790, 796P, A21, N21, N21A, N216, N241

GMB Route:
3, 26A

Bus Route:
12P, 20A, 203C, 973, A25, E21X

GMB Route:
77M, 78, 78A

GMB Route:
610S

Bus Route:
26, 26X, 81C, 87D, 87E, 98D, 98P, 280X, 281A, 281E, 287D, 296D, 790, 796P, A21, N21, N21A, N41X, N213, N216, N241, N281, N283, N287, N796

GMB Route:
77M, 78

GMB Route:
26A

GMB Route:
78

Bus Route:
3X, 12, 20A, 50, 215P, 215X, 261B, 271, 271B, 271P, 281A, 296D, A25, T270

GMB Route:
76C, 8, 8S, 77M

Bus Route:
1, 1A, 2, 6, 7, 9, 13X, 14X, 26, 35A, 35X, 41A, 50, 81C, 87D, 203S, 208, 234P, 234X, 268B, 270A, 270C, 271, 271B, 271P, 280X, 281A, 281B, 281X, 296D, 790, 796P, A21, N21, N21A, N216, N241, N271, N281

GMB Route:
3, 77M, 78, 78A

GMB Route:
606S

Bus Route:
50, 973

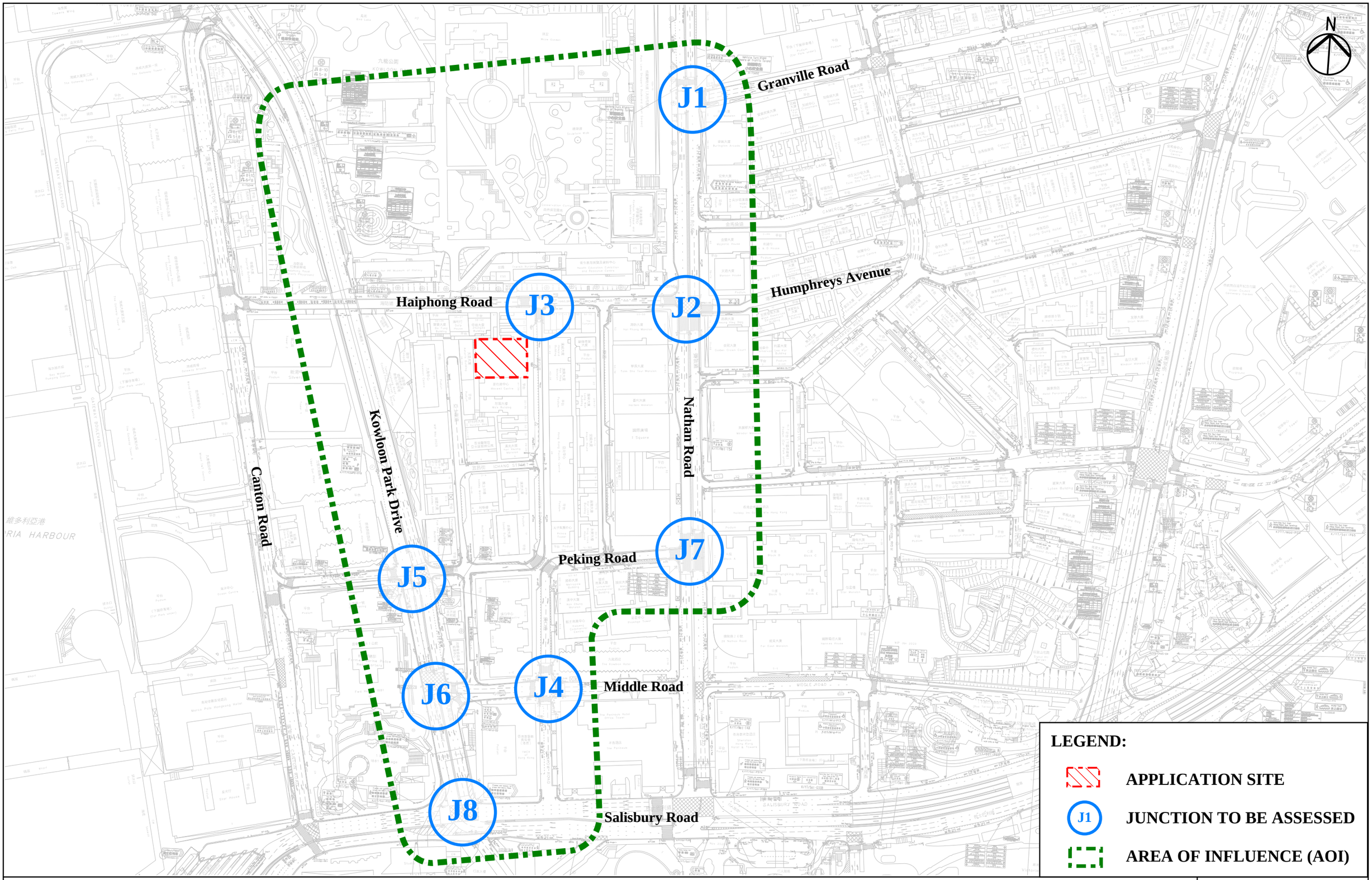
Bus Route:
1, 1A, 2, 3X, 6, 9, 13X, 35A, 35X, 36X, 41A, 50, 203C, 213X, 224X, 234X, 242X, 260X, 268B, 269B, N21, N21A, N241

Bus Route:
20A, 110, 271, 271B, 271X, 973, A25, E21X, H1, H2

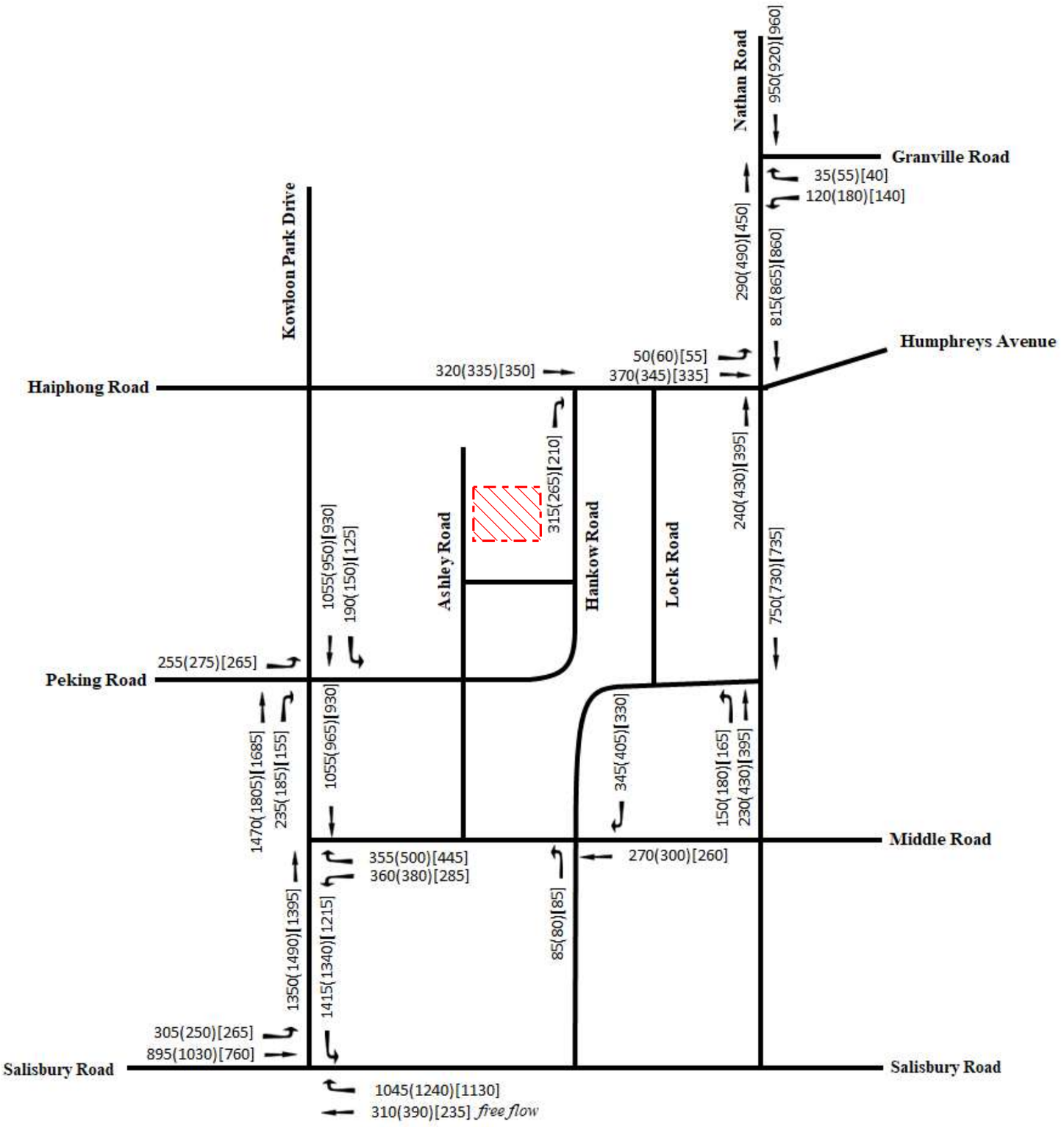
GMB Route:
3

Granville Road
Nathan Road
Humphreys Avenue
Haiphong Road
Kowloon Park Drive
Canton Road
Hankow Road
Peking Road
Middle Road
維多利亞港
VICTORIA HARBOUR

Job Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI		FIGURE 2.1
Date: 05/2025	Scale: 1:2,000 (A3)	Drawing Title: EXISTING PUBLIC TRANSPORT SERVICES IN THE VICINITY
Drawn: WYJL	Job No.: 294680-02	ARUP



Job Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI			FIGURE 2.2
Date: 05/2025	Scale: 1:2,500 (A3)	Drawing Title: IDENTIFIED JUNCTIONS TO BE ASSESSED	ARUP
Drawn: WYJL	Job No.: 294680-02		



LEGEND:

APPLICATION SITE

AM PEAK TRAFFIC FLOW (PCU/HR)

55
(105) ← **PM PEAK TRAFFIC FLOW (PCU/HR)**
[80]

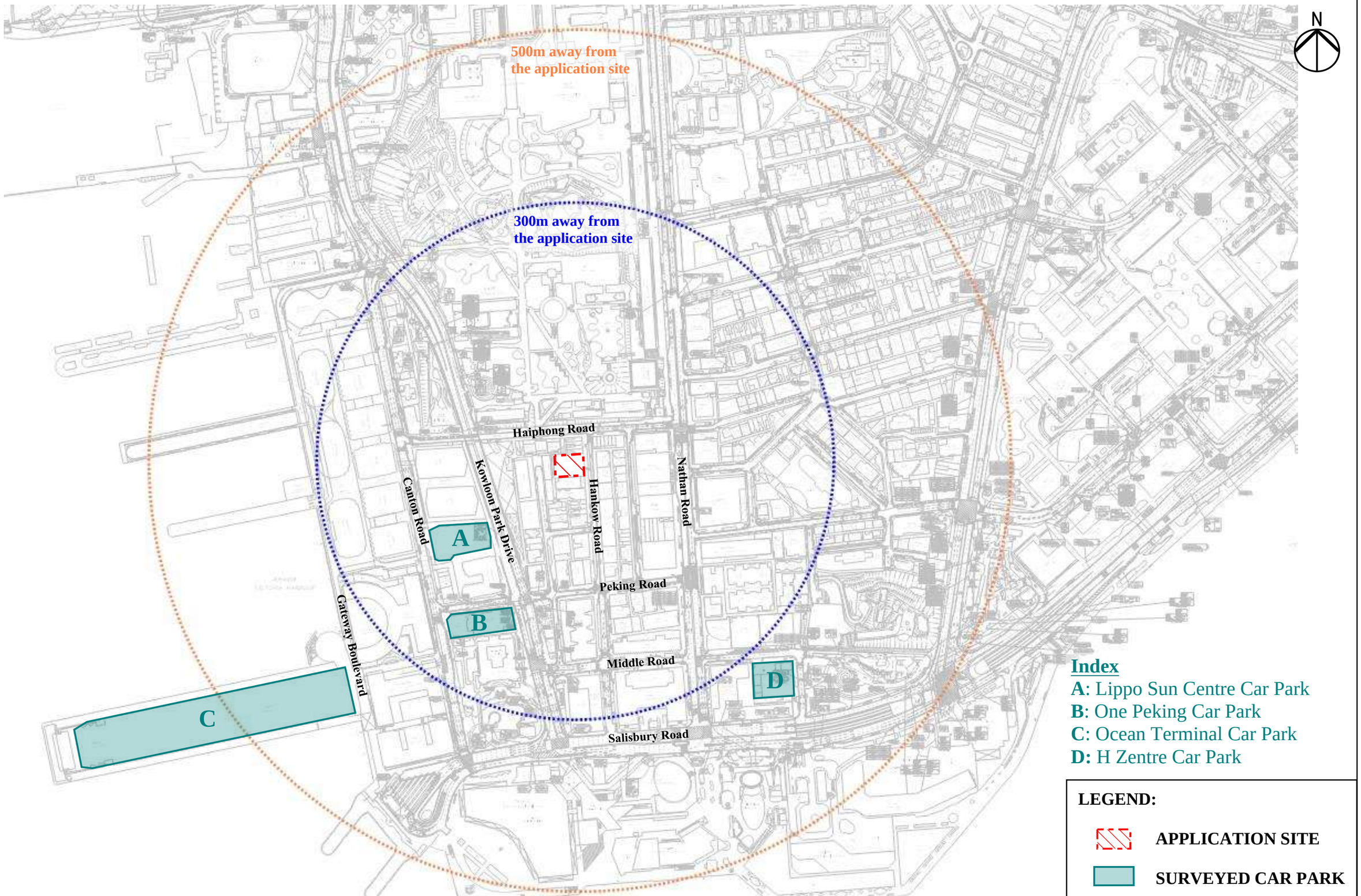
WEEKEND PEAK TRAFFIC FLOW (PCU/HR)

Job Title
SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 2.3

Date	Scale	Drawing Title
05/2025	N.T.S	**YEAR 2025 EXISTING TRAFFIC FLOW**
Drawn	Job No.	
WYJL	294680-02	

ARUP

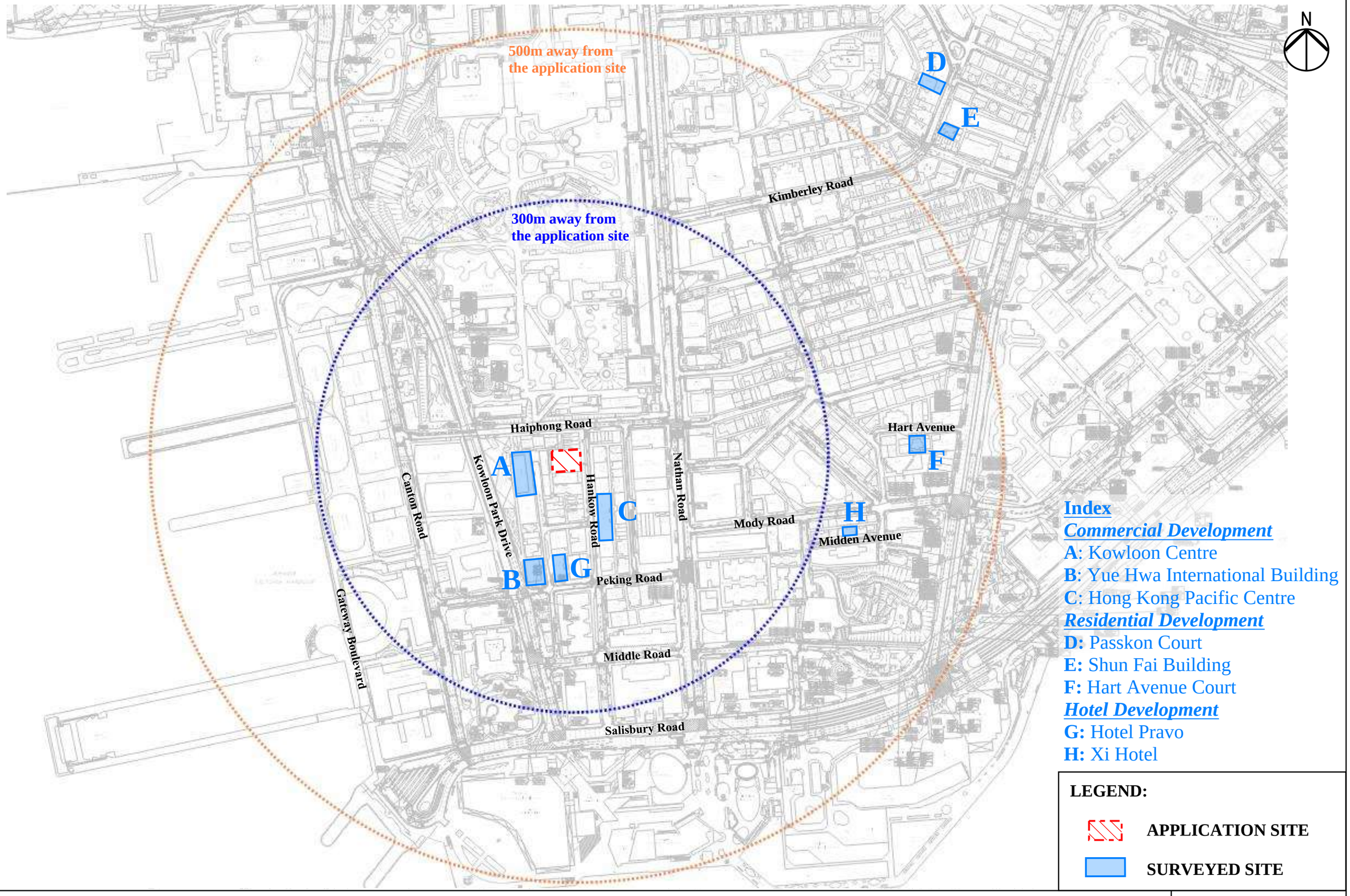


Job Title
SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 2.4

Date	Scale	Drawing Title
05/2025	1:4,000 (A3)	**LOCATION OF SURVEYED CAR PARKS FOR PARKING UTILIZATION SURVEY**
Drawn	Job No.	
WYJL	294680-02	

ARUP



Index

Commercial Development

A: Kowloon Centre

B: Yue Hwa International Building

C: Hong Kong Pacific Centre

Residential Development

D: Passkon Court

E: Shun Fai Building

F: Hart Avenue Court

Hotel Development

G: Hotel Pravo

H: Xi Hotel

LEGEND:

APPLICATION SITE

SURVEYED SITE

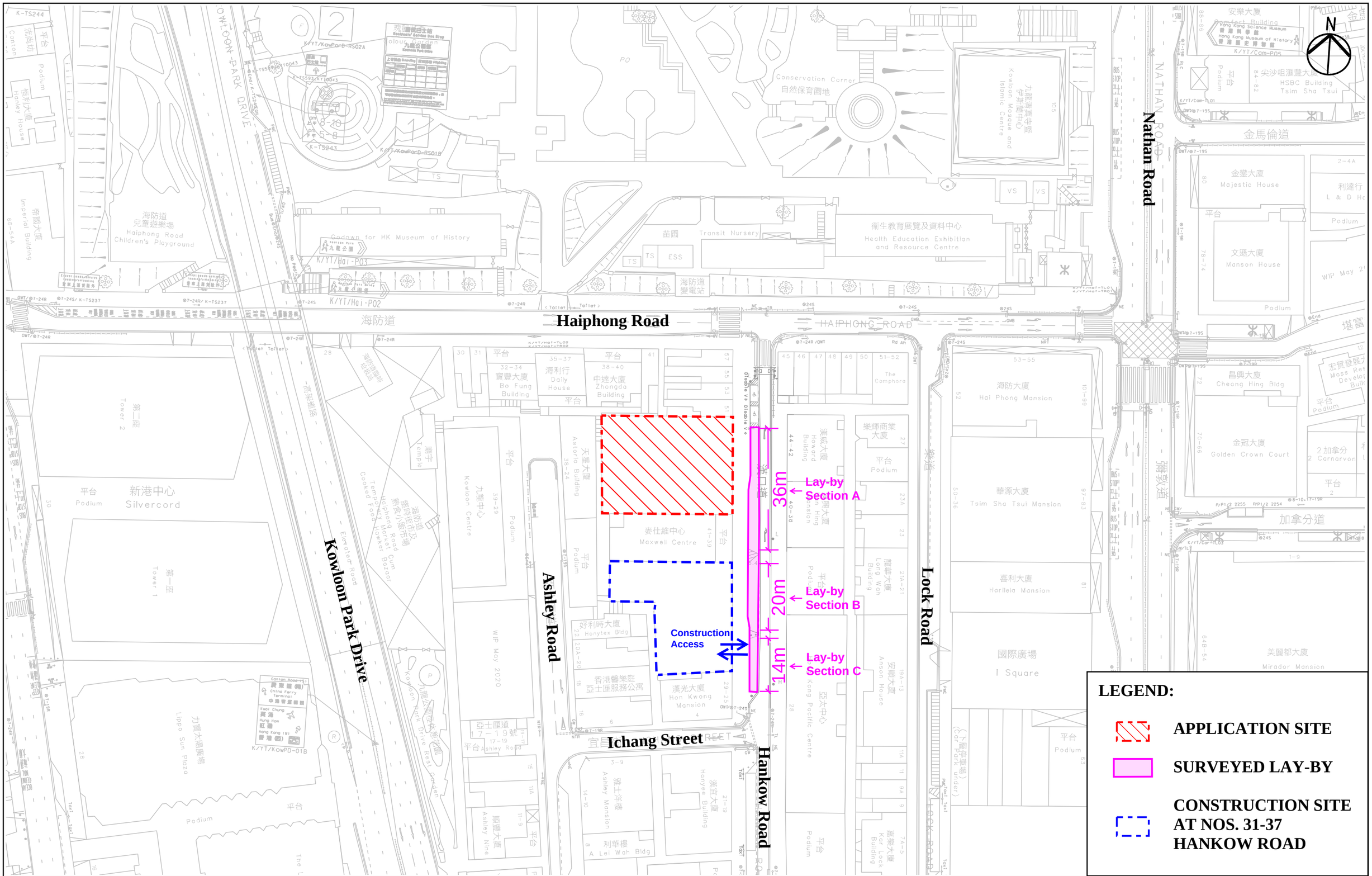
Job Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 2.5

Date	Scale	Drawing Title
05/2025	1:4,000 (A3)	**LOCATION OF SURVEYED SITES FOR GOODS VEHICLE TRIP GENERATION SURVEY**
Drawn	Job No.	
WYJL	294680-02	

ARUP



Job Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 2.6

Date	Scale	Drawing Title
05/2025	1:1,000 (A3)	**LOCATION OF SURVEYED LAY-BYS FOR KERBSIDE UTILIZATION SURVEY**
Drawn: WYJL	Job No.: 294680-02	

ARUP

Existing Retaining Wall

GROUND PLANTER

~2.3m

DN FROM 1/F

UP TO 1/F

CANOPY ABOVE

~2.3m

10.70 FFL

EXISTING RETAINING WALL

VG

UP

6.58

LIFT LOBBY

L5

L2

L1

L4

L3

P.D.

ELV

A.D.

E&M

SERVICE LIFT LOBBY

HOISTING SHAFT VOID ABOVE

RESIDENTIAL LOBBY

CANOPY ABOVE

~1.5m

BUILDING LINE AT 2/F

NON-BUILDING AREA

~2.3m

~2.3m

GROUND PLANTER

Structural Wall at Basement
(If Basement Level is Provided)

Disable V

N

Job Title: **SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI**		**FIGURE 3.1**
Date: **05/2025**	Scale: **1:150 (A3)**	Drawing Title: **GROUND FLOOR LAYOUT PLAN**
Drawn: **WYJL**	Job No.: **294680-02**	**ARUP**

HKPSG Requirement for the Proposed Development

Private parking space: **26 - 44 nos.**

Motorcycle parking space: **2 - 4 nos.**

L/UL bay: **5 - 7 nos. (min: 3 LGV + 2 HGV)**

Lay-by for private car/taxi: **2 nos.**

Lay-by for single-deck tour bus: **1 no.**

The provision of two-way car ramp is affected by structural columns/walls and facilities

Structural Wall at Basement
(If Basement Level is Provided)

N

Disable ↓

Run-in / out

GROUND PLANTER

~2.3m

DN FROM 1/F

UP TO 1/F

CANOPY ABOVE

~2.3m

6.7 m

EXISTING RETAINING WALL

VG

UP

E&M

SERVICE LIFT LOBBY

L5

L2

L1

P.D.

ELV

L4

L3

A.D.

RESIDENTIAL LOBBY

HOISTING VOID ABOVE

CANOPY ABOVE

BUILDING LINE AT 2/F

~2.3m

~2.3m

GROUND PLANTER

~1.5m

NON-BUILDING AREA

LEGEND:

TWO-WAY CAR RAMP

Job Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 3.2

Date	Scale	Drawing Title
05/2025	**1:150 (A3)**	**SCENARIO A - PROVISION OF TWO-WAY CAR RAMP AT CONCEPTUAL GROUND FLOOR**
Drawn: **WYJL**	Job No.: **294680-02**	

ARUP

HKPSG Requirement for the Proposed Development

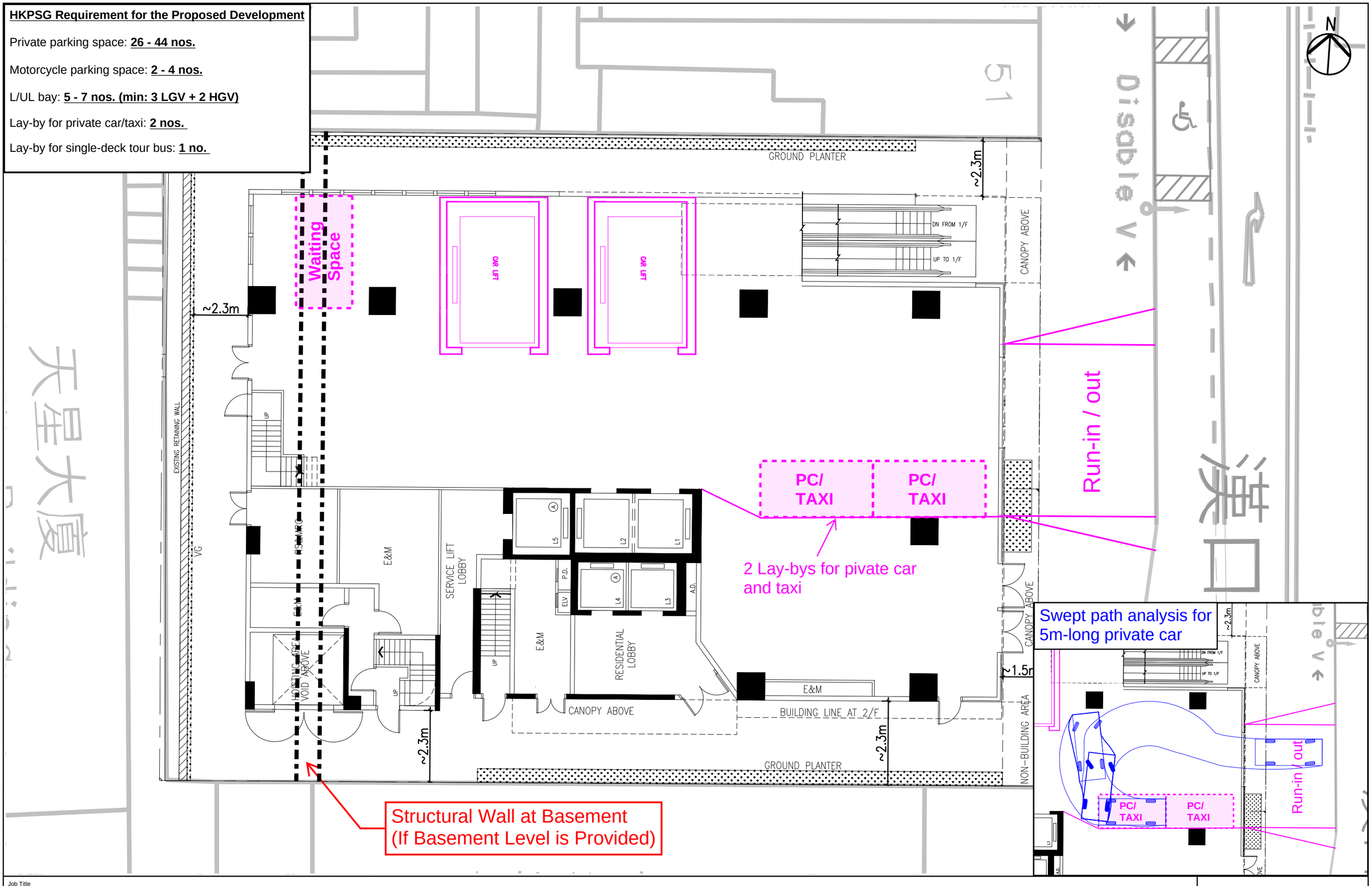
Private parking space: **26 - 44 nos.**

Motorcycle parking space: **2 - 4 nos.**

L/UL bay: **5 - 7 nos. (min: 3 LGV + 2 HGV)**

Lay-by for private car/taxi: **2 nos.**

Lay-by for single-deck tour bus: **1 no.**



Job Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 3.3

Date	Scale
05/2025	**1:150 (A3)**
Drawn	Job No.
WYJL	**294680-02**

Drawing Title

SCENARIO B - PROVISION OF CAR LIFT SYSTEM AT CONCEPTUAL GROUND FLOOR

ARUP

HKPSG Requirement for the Proposed Development

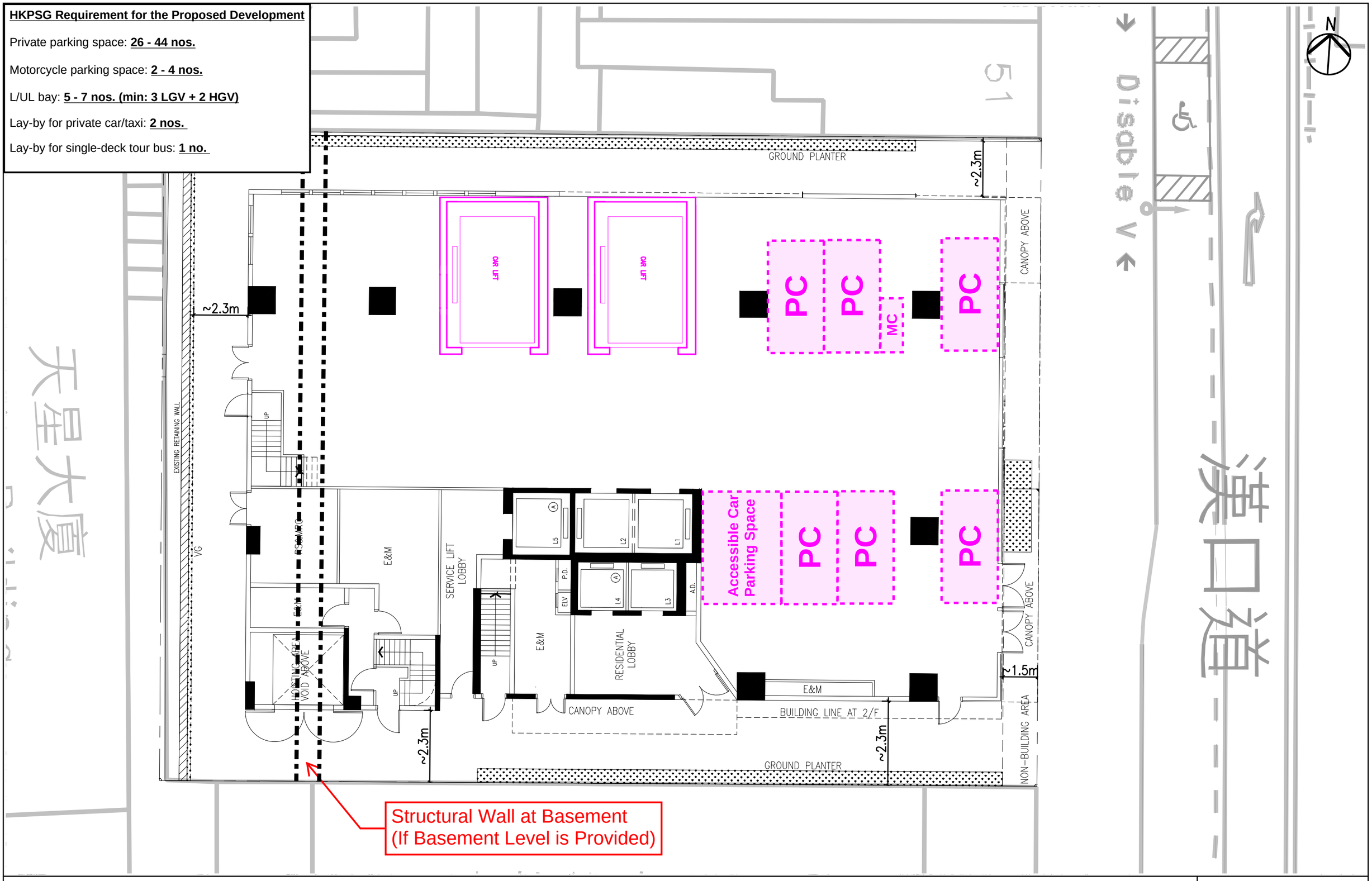
Private parking space: **26 - 44 nos.**

Motorcycle parking space: **2 - 4 nos.**

L/UL bay: **5 - 7 nos. (min: 3 LGV + 2 HGV)**

Lay-by for private car/taxi: **2 nos.**

Lay-by for single-deck tour bus: **1 no.**



Job Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 3.4

Date	Scale	Drawing Title
05/2025	**1:150 (A3)**	**SCENARIO B - PROVISION OF CAR LIFT SYSTEM AT CONCEPTUAL BASEMENT FLOOR**
Drawn: **WYJL**	Job No.: **294680-02**	

ARUP

HKPSG Requirement for the Proposed Development

Private parking space: **26 - 44 nos.**

Motorcycle parking space: **2 - 4 nos.**

L/UL bay: **5 - 7 nos. (min: 3 LGV + 2 HGV)**

Lay-by for private car/taxi: **2 nos.**

Lay-by for single-deck tour bus: **1 no.**

The provision of 12.6m diameter turntable is affected by structural columns/walls and facilities

HGV

12.6m diameter turntable with 0.5m lateral clearance

Run-in / out

GROUND PLANTER

~2.3m

CANOPY ABOVE

DN FROM 1/F

UP TO 1/F

EXISTING RETAINING WALL

VG

RS&MRC

E&M

SERVICE LIFT LOBBY

HOISTING AREA VOID ABOVE

RESIDENTIAL LOBBY

L5

L2

L1

L4

L3

P.D.

ELV

A.D.

UP

~1.5m

BUILDING LINE AT 2/F

NON-BUILDING AREA

N

Job Title: **SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI**			**FIGURE 3.5**
Date: **05/2025**	Scale: **1:150 (A3)**	Drawing Title: **SCENARIO C - PROVISION OF HEAVY GOODS VEHICLE LOADING / UNLOADING BAY WITH TURNTABLE AT CONCEPTUAL GROUND FLOOR**	**ARUP**
Drawn: **WYJL**	Job No.: **294680-02**		

HKPSG Requirement for the Proposed Development

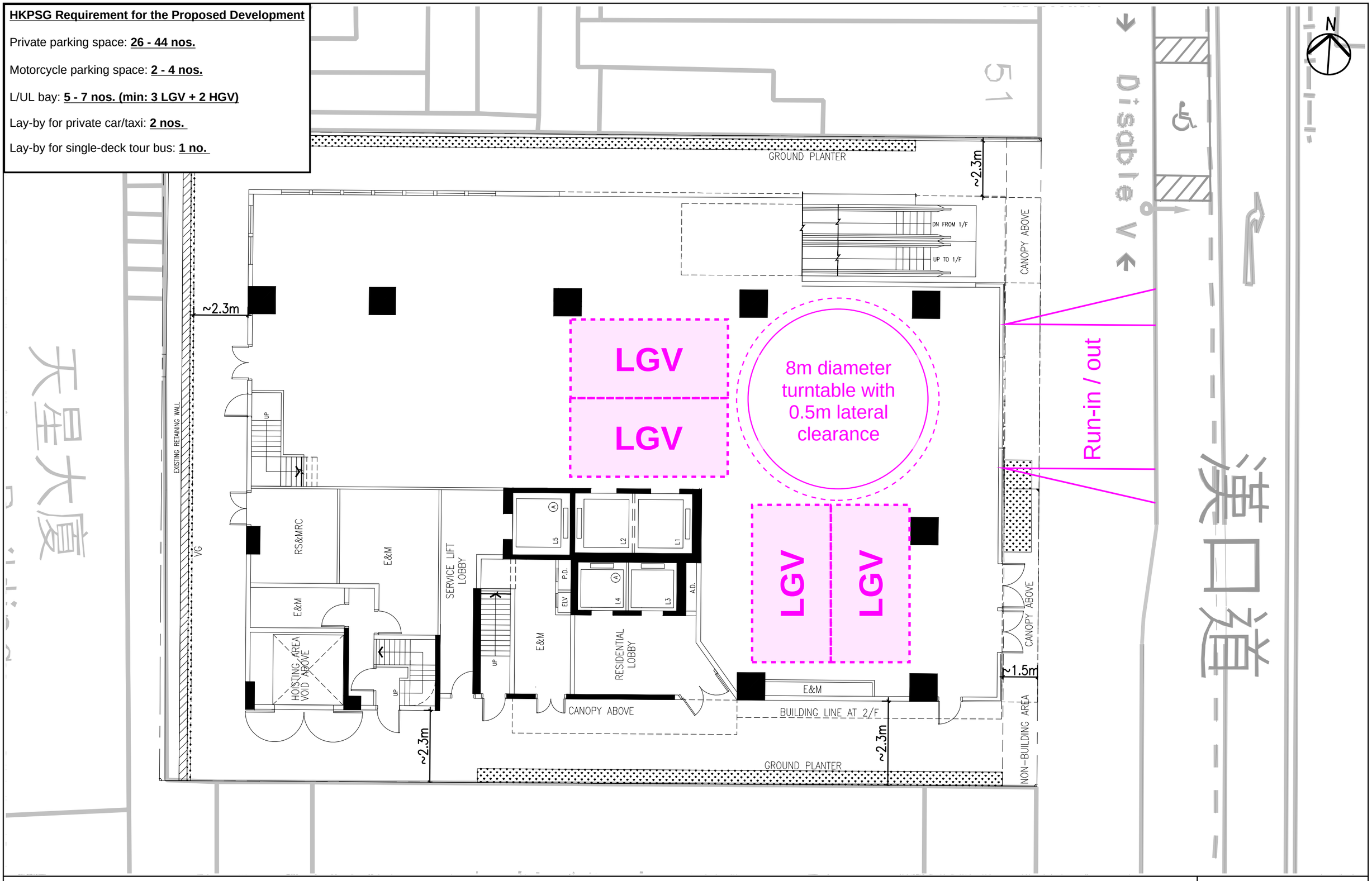
Private parking space: **26 - 44 nos.**

Motorcycle parking space: **2 - 4 nos.**

L/UL bay: **5 - 7 nos. (min: 3 LGV + 2 HGV)**

Lay-by for private car/taxi: **2 nos.**

Lay-by for single-deck tour bus: **1 no.**



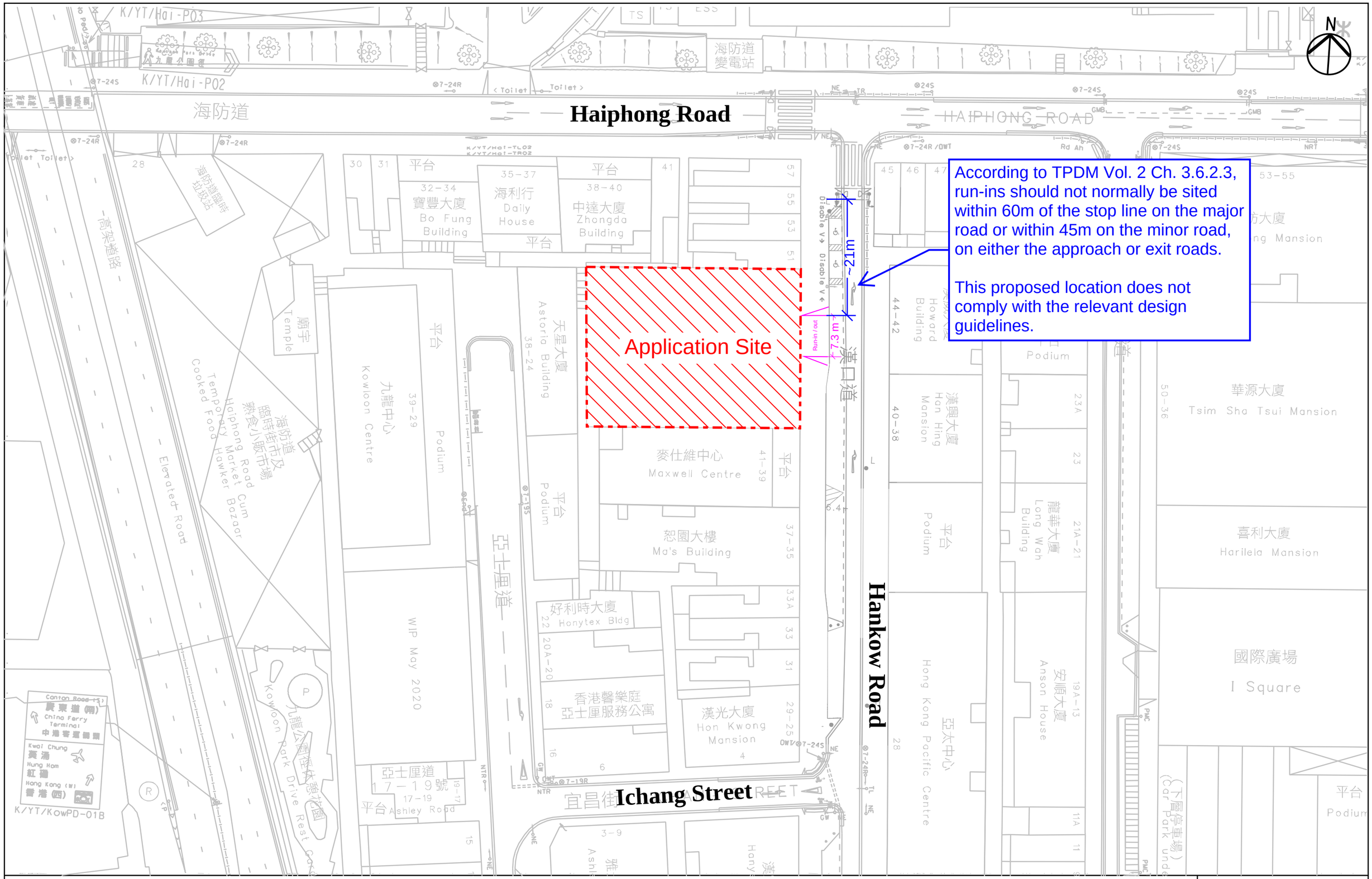
Job Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

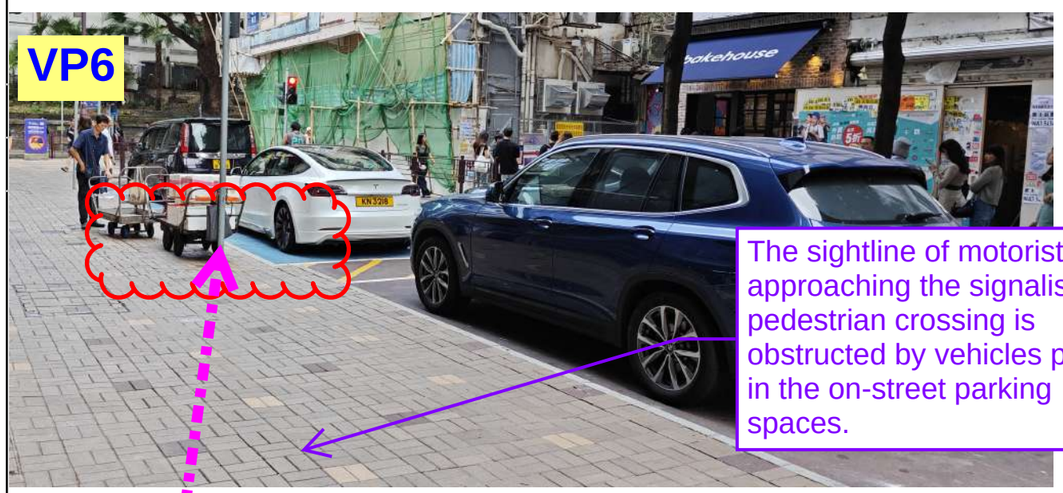
FIGURE 3.6

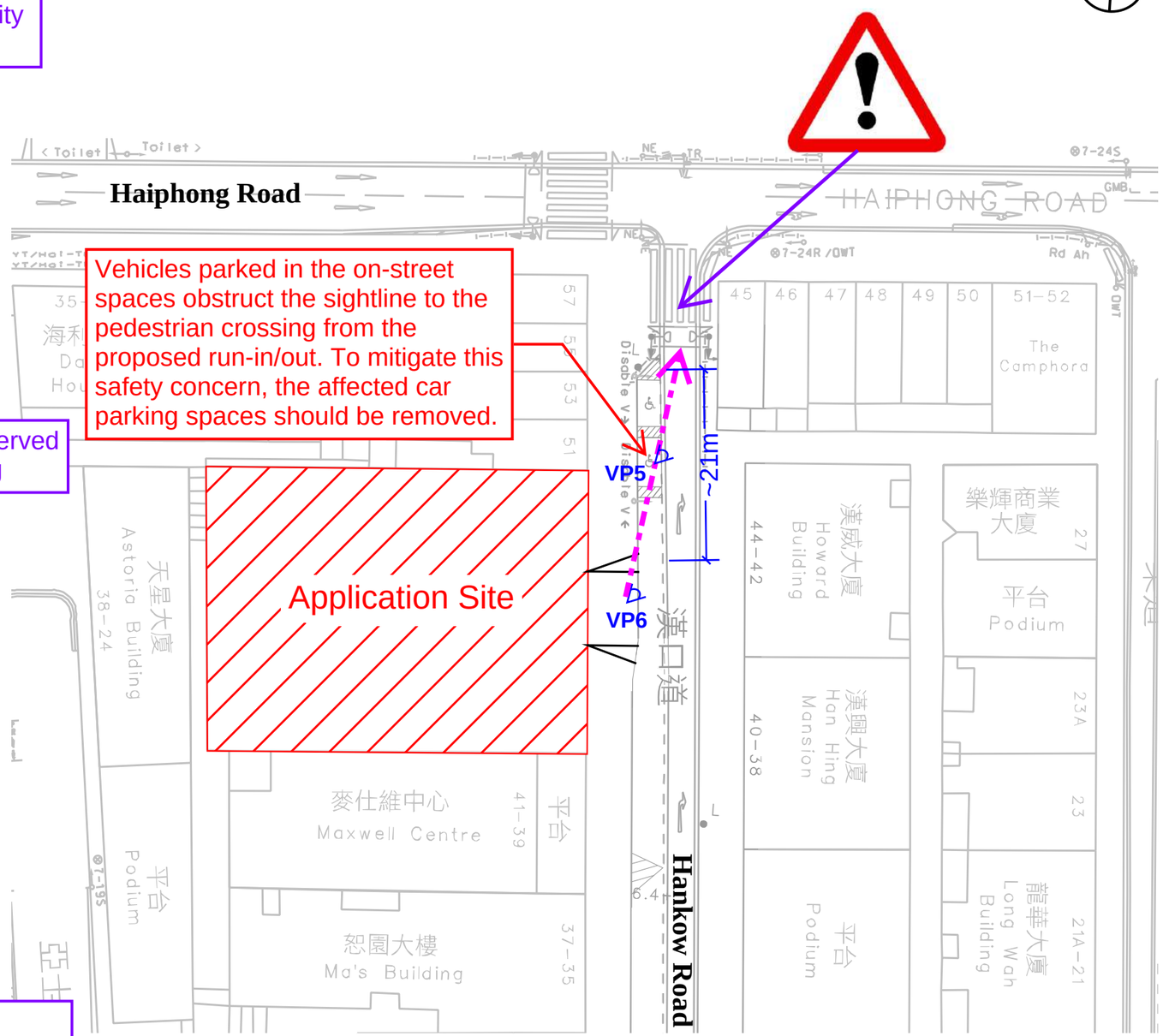
Date	Scale	Drawing Title
05/2025	**1:150 (A3)**	**SCENARIO D - PROVISION OF LIGHT GOODS VEHICLE LOADING / UNLOADING BAYS WITH TURNTABLE AT CONCEPTUAL GROUND FLOOR**
Drawn: **WYJL**	Job No.: **294680-02**	

ARUP



Job Title: **SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI**			**FIGURE 3.7**
Date: **05/2025**	Scale: **1:600 (A3)**	Drawing Title: **ASSESSMENT ON THE LOCATION OF THE CONCEPTUAL RUN-IN / OUT FROM THE EXISTING SIGNALISED JUNCTION (1 OF 2)**	**ARUP**
Drawn: **WYJL**	Job No.: **294680-02**		



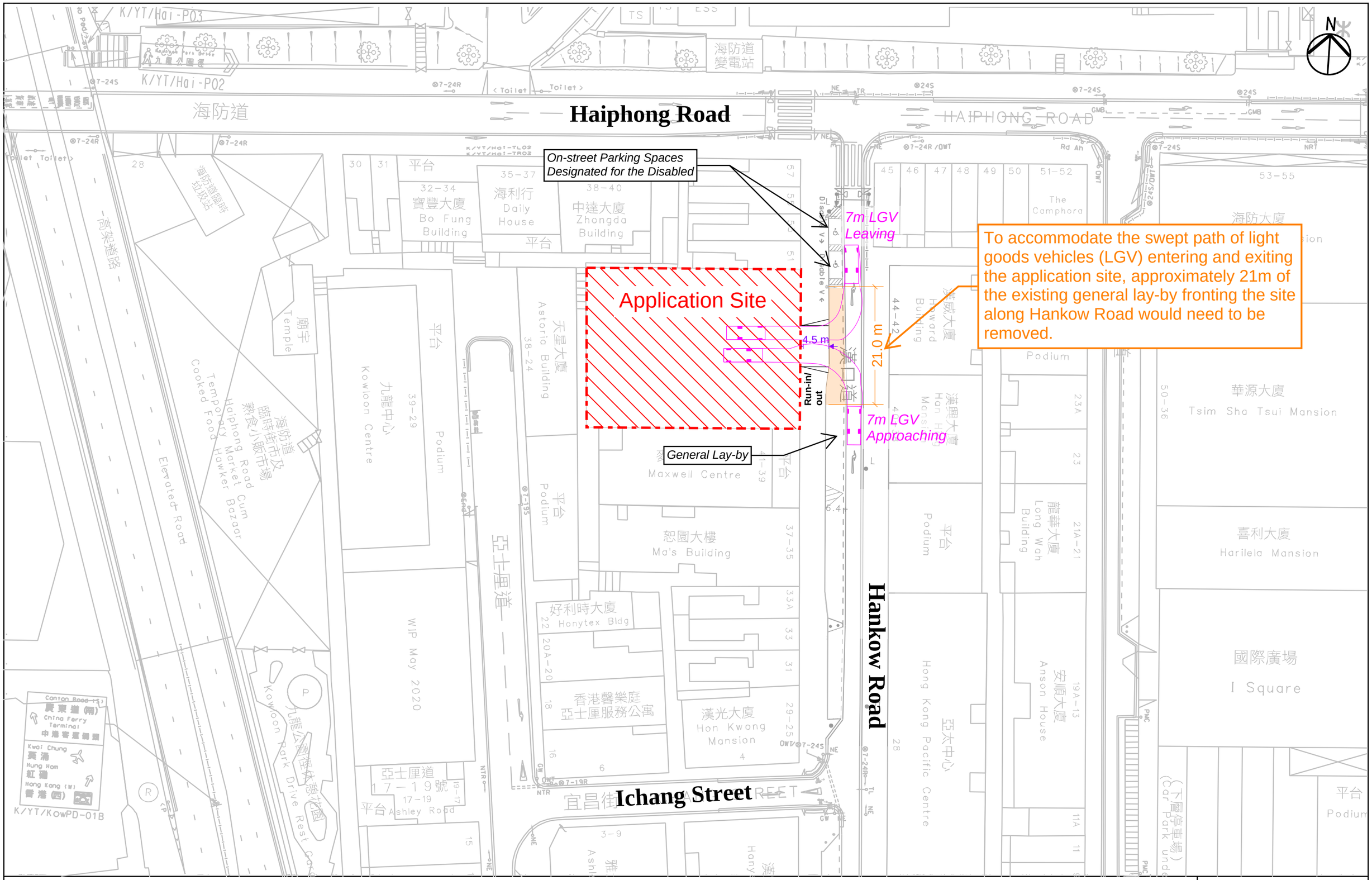


Job Title
SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

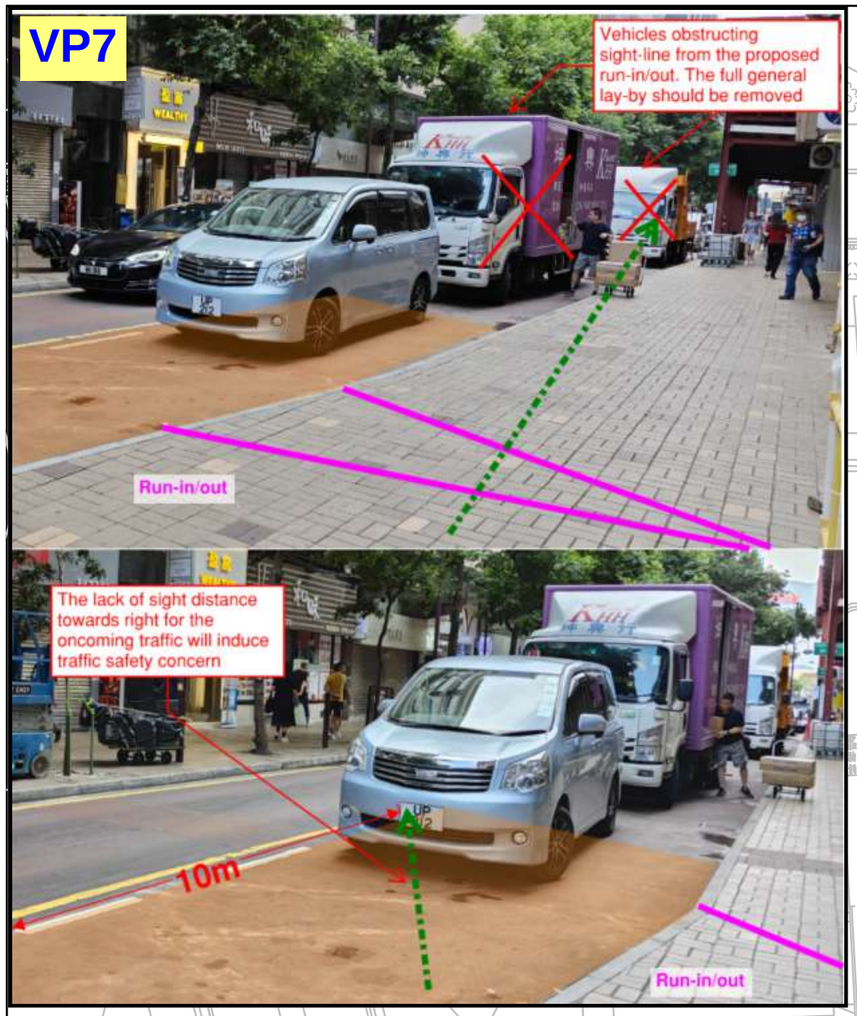
FIGURE 3.8

Date	Scale	Drawing Title
05/2025	1:600 (A3)	**ASSESSMENT ON THE LOCATION OF THE CONCEPTUAL RUN-IN / OUT FROM THE EXISTING SIGNALISED JUNCTION (2 OF 2)**
Drawn: WYJL	Job No.: 294680-02	

ARUP

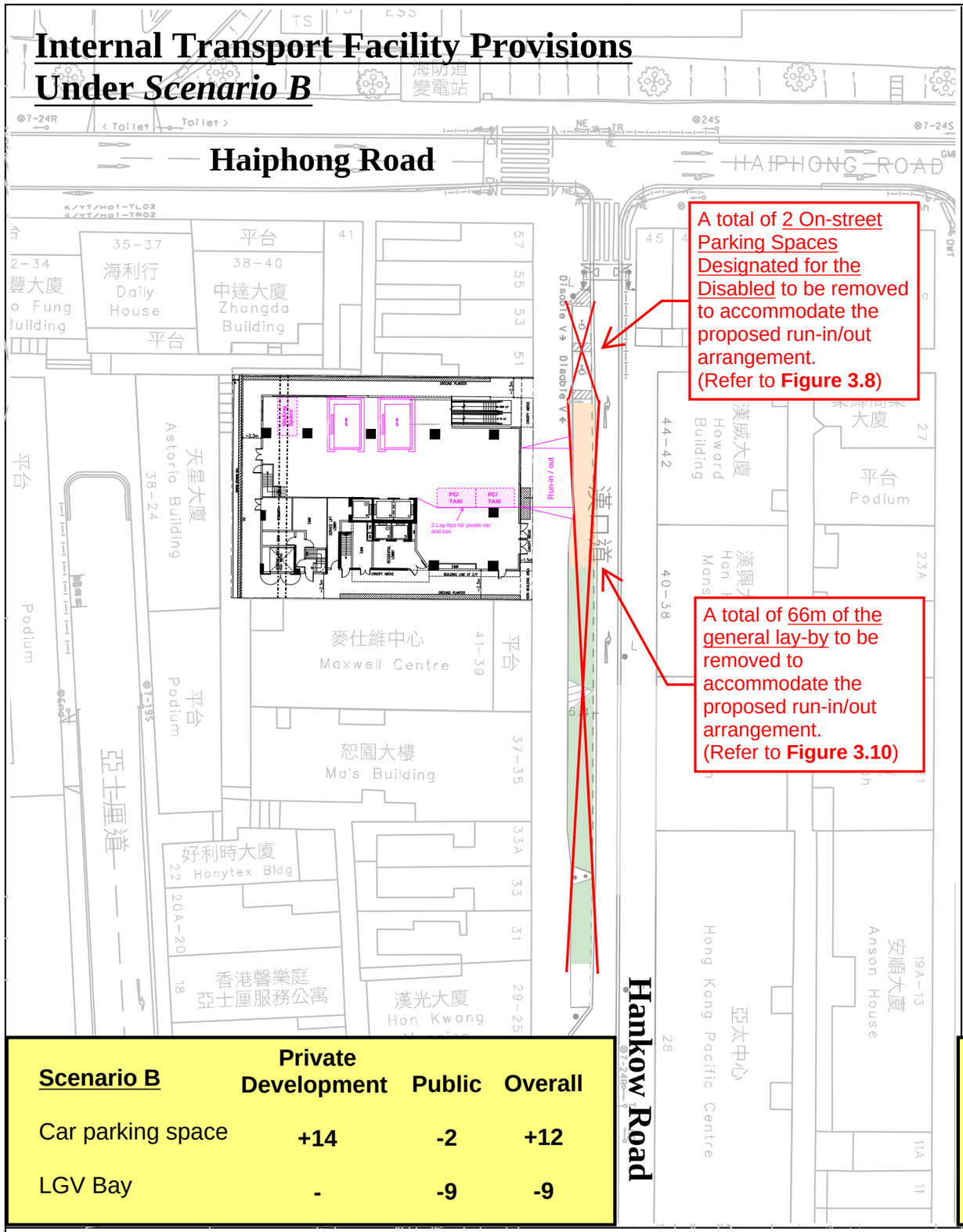


Job Title: **SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI**		**FIGURE 3.9**
Date: **05/2025**	Scale: **1:600 (A3)**	Drawing Title: **SWEPT PATH ANALYSIS FOR 7M LONG LIGHT GOODS VEHICLES ENTERING AND EXITING THE APPLICATION SITE**
Drawn: **WYJL**	Job No.: **294680-02**	**ARUP**



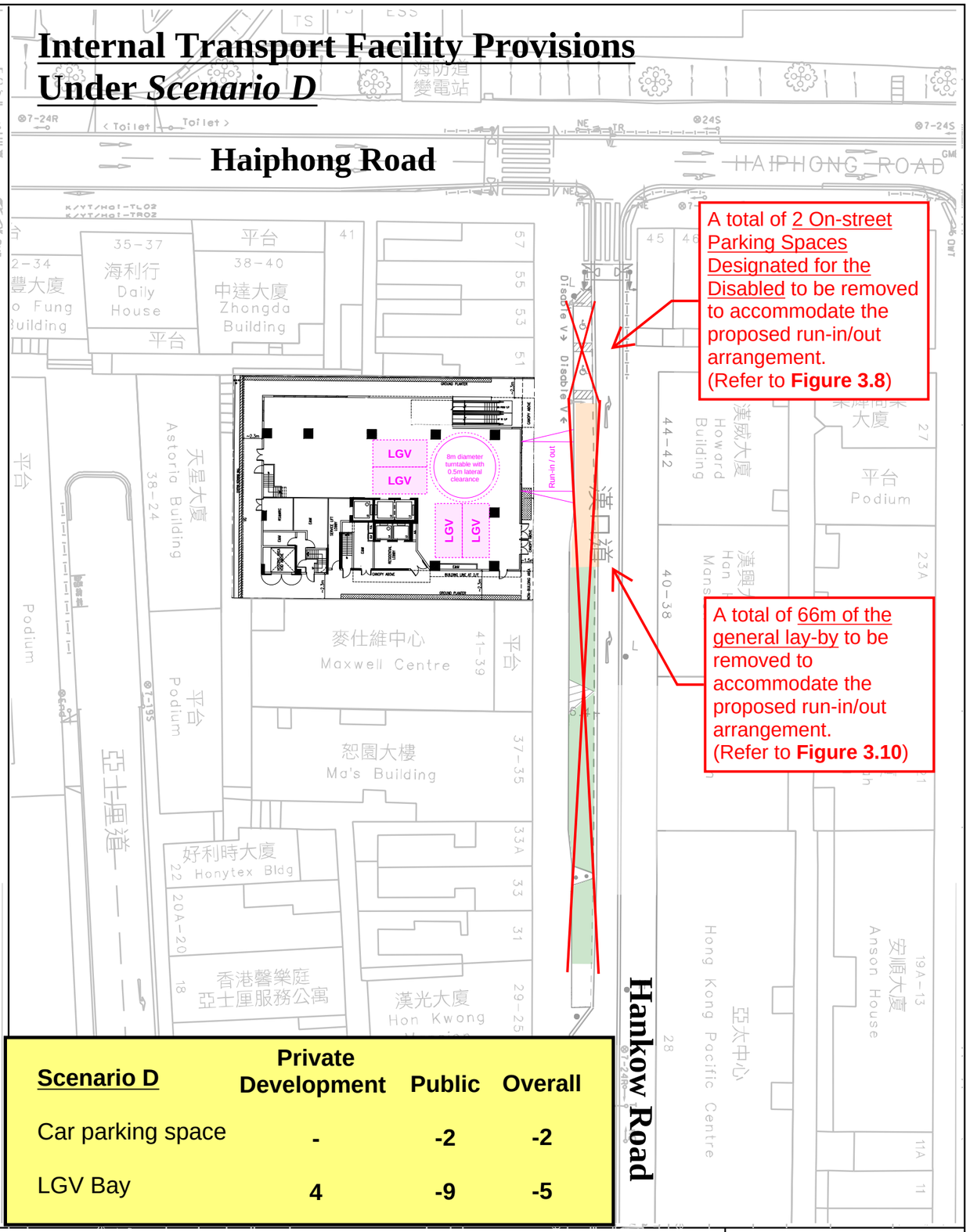
Job Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI			FIGURE 3.10
Date: 05/2025	Scale: 1:600 (A3)	Drawing Title: ASSESSMENT OF VISIBILITY DISTANCE AT CONCEPTUAL RUN-IN / OUT	ARUP
Drawn: WYJL	Job No.: 294680-02		

Internal Transport Facility Provisions Under *Scenario B*



Scenario B	Private Development	Public	Overall
Car parking space	+14	-2	+12
LGV Bay	-	-9	-9

Internal Transport Facility Provisions Under *Scenario D*



Scenario D	Private Development	Public	Overall
Car parking space	-	-2	-2
LGV Bay	4	-9	-5

Job Title
SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI

FIGURE 3.11

Date: 05/2025
Scale: 1:600 (A3)
Drawn: WYJL
Job No.: 294680-02

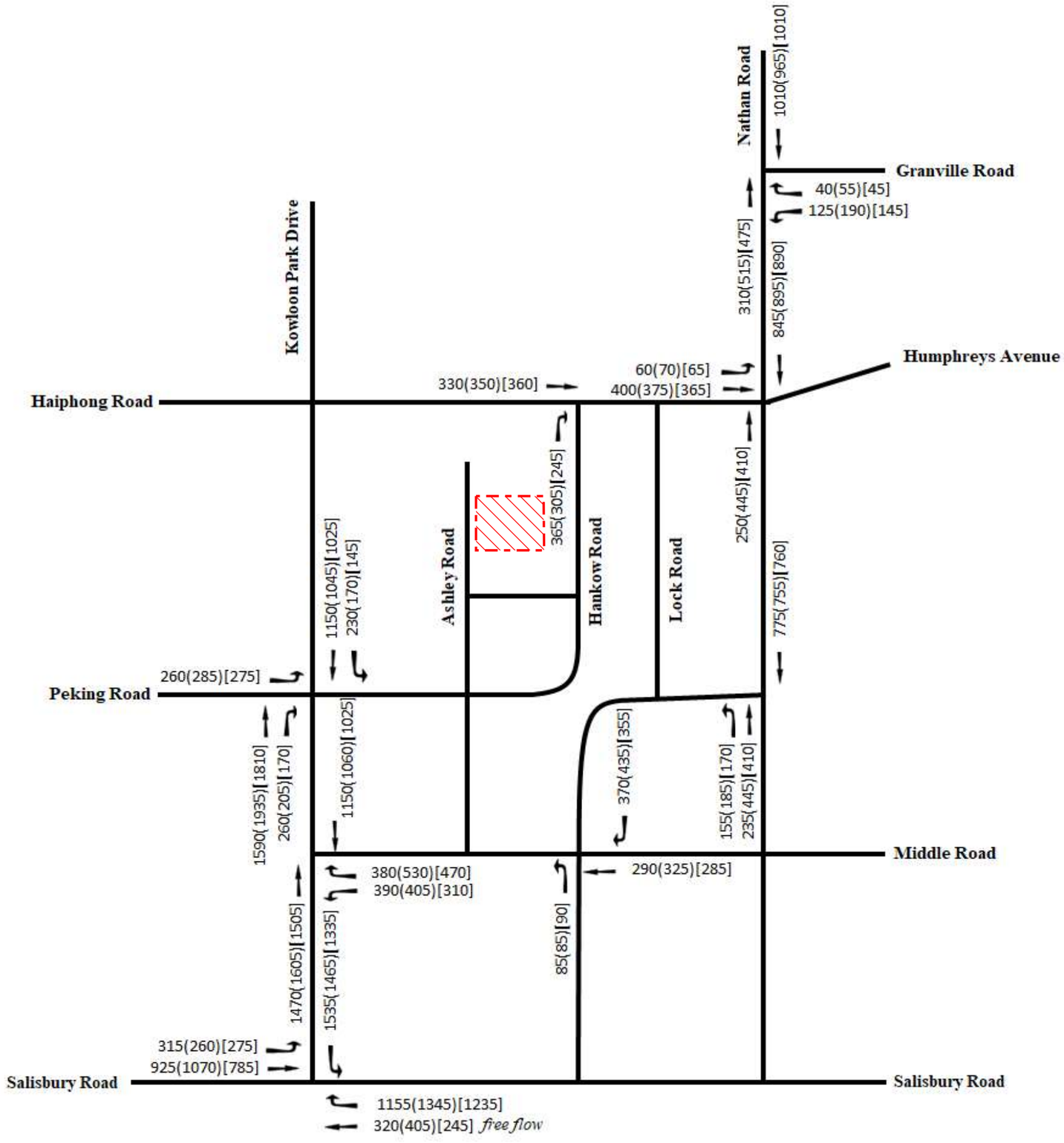
Drawing Title
COMPARISON OF NET GAIN AND LOSS OF INTERNAL TRANSPORT FACILITIES UNDER SCENARIOS B AND D

ARUP

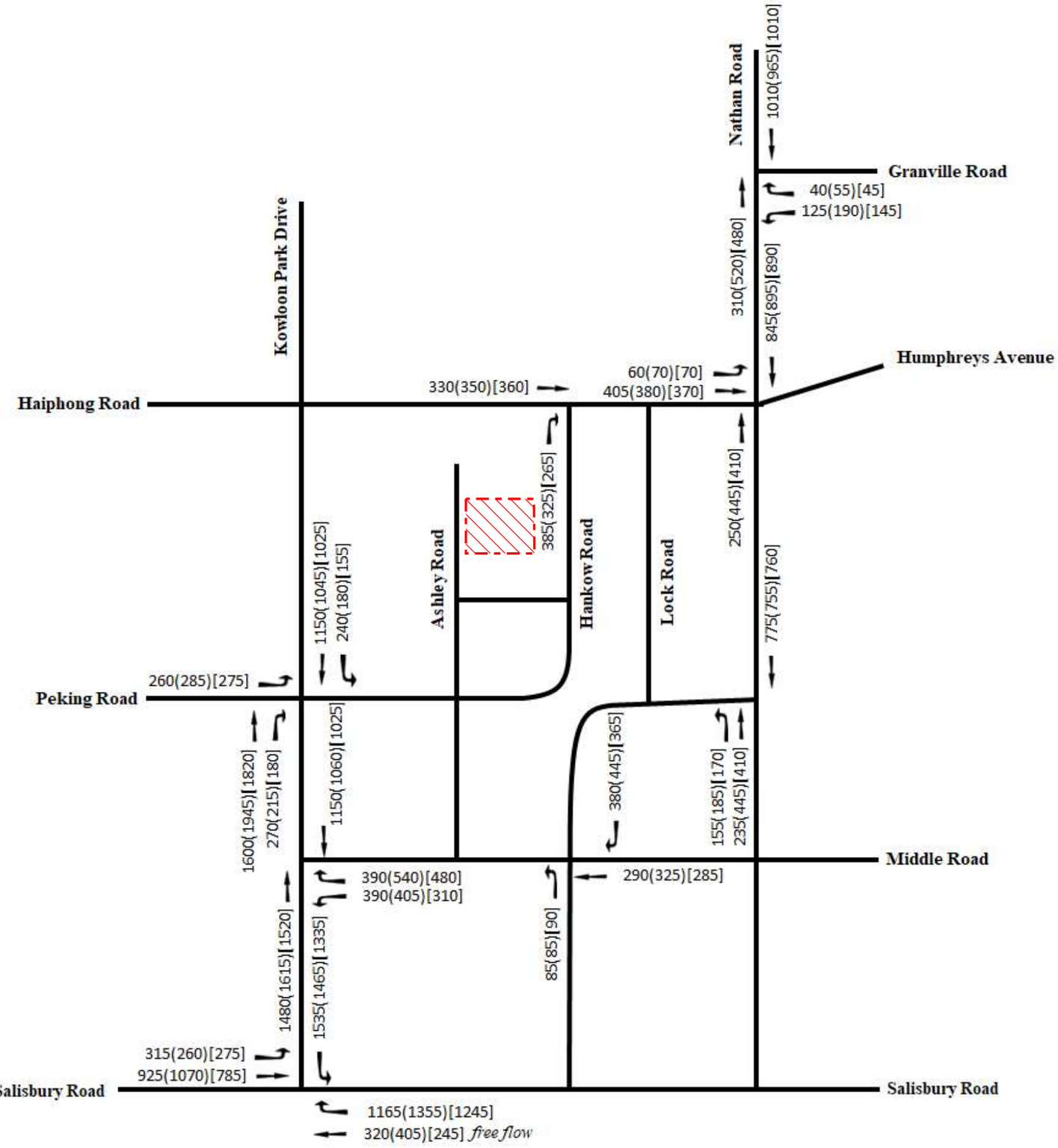
LEGEND:

- APPLICATION SITE
- AM PEAK TRAFFIC FLOW (PCU/HR)
- PM PEAK TRAFFIC FLOW (PCU/HR)
- WEEKEND PEAK TRAFFIC FLOW (PCU/HR)

55
(105)
[80]



Job Title: SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI			FIGURE 4.1
Date: 05/2025	Scale: N.T.S	Drawing Title: YEAR 2032 REFERENCE TRAFFIC FLOW	ARUP
Drawn: WYJL	Job No.: 294680-02		



LEGEND:

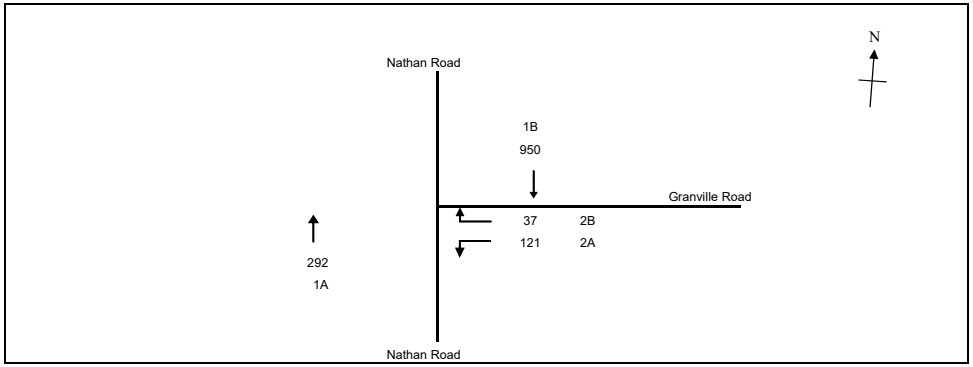
- APPLICATION SITE
- AM PEAK TRAFFIC FLOW (PCU/HR)
- 55 (105) [80] — PM PEAK TRAFFIC FLOW (PCU/HR)
- WEEKEND PEAK TRAFFIC FLOW (PCU/HR)

Job Title: **SECTION 16 PLANNING APPLICATION FOR PROPOSED FLAT WITH PERMITTED HOTEL, OFFICE AND SHOP & SERVICES/EATING PLACE AT NO. 43 - 49A HANKOW ROAD IN TSIM SHA TSUI**		**FIGURE 4.2**
Date: **05/2025**	Scale: **N.T.S**	Drawing Title: **YEAR 2032 DESIGN TRAFFIC FLOW**
Drawn: **WYJL**	Job No.: **294680-02**	**ARUP**

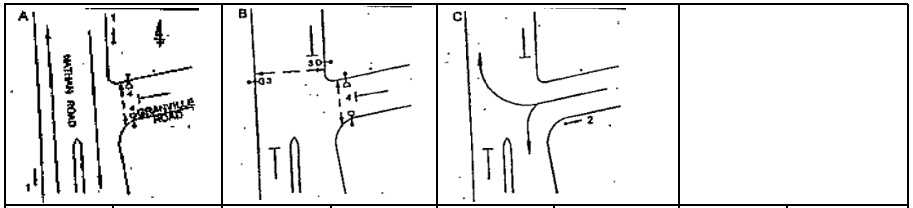
Appendix A

Junction Calculation Sheets

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.283
Loss time		L =	31 sec
Total Flow		=	1400 pcu
Co	= (1.5*L+5)/(1-Y)	=	71.8 sec
Cm	= L/(1-Y)	=	43.2 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	135.7 %
Cp	= 0.9*L/(0.9-Y)	=	45.2 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	136 %



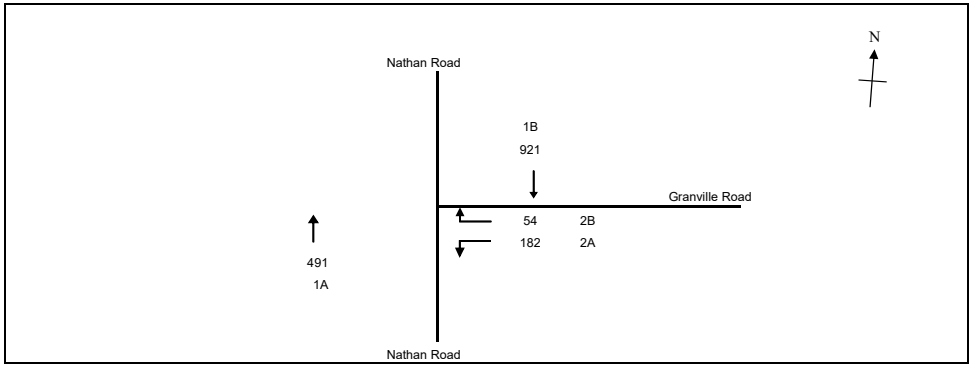
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	88	2	10	OK

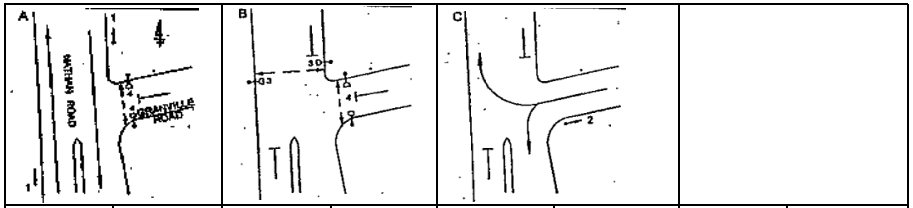
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		292		292	0.00	3970			3970	0.074	0.237		23	74	0.119	11
1B	A	3.20	1	2			N	4010		950		950	0.00	4010			4010	0.237			74	74	0.384	36
2A	C	3.10	3	1	8		N	1925	75			75	1.00	1621			1621	0.046	0.046		15	15	0.370	13
2A,2B	C	3.10	3	1	10			2065	46		37	83	1.00	1796			1796	0.046			15	15	0.370	15
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road	2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.299
Loss time		L =	31 sec
Total Flow		=	1648 pcu
Co	= (1.5*L+5)/(1-Y)	=	73.4 sec
Cm	= L/(1-Y)	=	44.2 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	123.4 %
Cp	= 0.9*L/(0.9-Y)	=	46.4 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	123 %



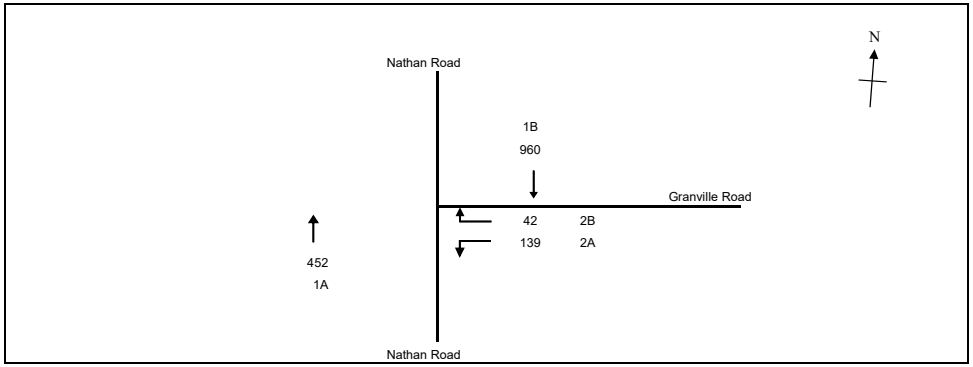
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	82	2	10	OK

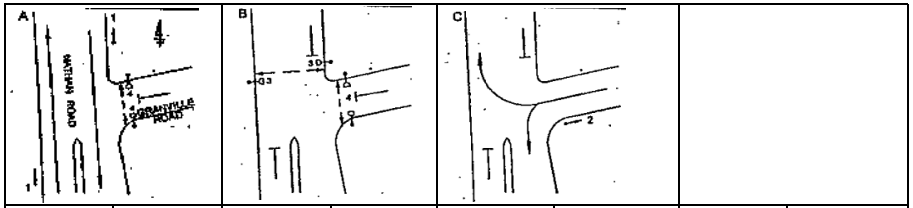
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		491		491	0.00	3970			3970	0.124	0.230		37	68	0.218	21
1B	A	3.20	1	2			N	4010		921		921	0.00	4010			4010	0.230			68	68	0.405	40
2A	C	3.10	3	1	8		N	1925	112			112	1.00	1621			1621	0.069	0.069		21	21	0.395	18
2A,2B	C	3.10	3	1	10			2065	70		54	124	1.00	1796			1796	0.069			21	21	0.395	20
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.293
Loss time		L =	31 sec
Total Flow		=	1594 pcu
Co	= (1.5*L+5)/(1-Y)	=	72.8 sec
Cm	= L/(1-Y)	=	43.8 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	128.1 %
Cp	= 0.9*L/(0.9-Y)	=	45.9 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	128 %



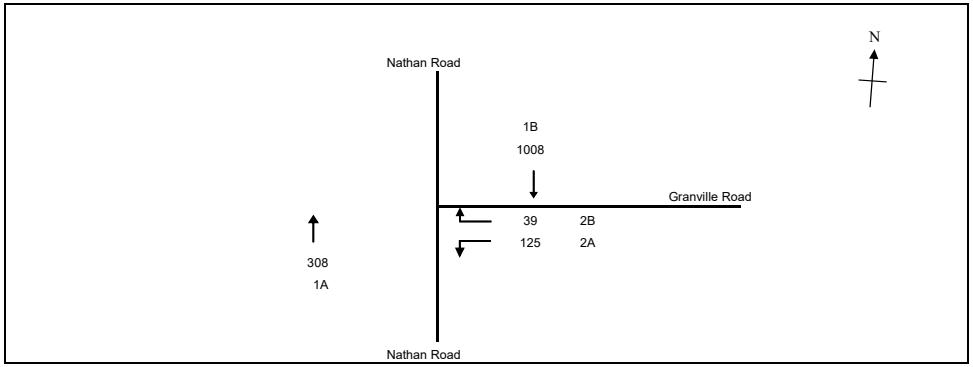
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	87	2	10	OK

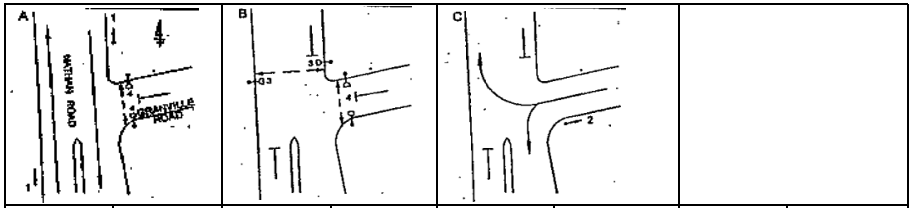
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		452		452	0.00	3970			3970	0.114	0.240		35	73	0.187	18
1B	A	3.20	1	2			N	4010		960		960	0.00	4010			4010	0.240			73	73	0.394	38
2A	C	3.10	3	1	8		N	1925	86			86	1.00	1621			1621	0.053	0.053		16	16	0.398	15
2A,2B	C	3.10	3	1	10			2065	53		42	95	1.00	1796			1796	0.053			16	16	0.398	17
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road		2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.299
Loss time		L =	31 sec
Total Flow		=	1480 pcu
Co	= (1.5*L+5)/(1-Y)	=	73.5 sec
Cm	= L/(1-Y)	=	44.2 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	123.1 %
Cp	= 0.9*L/(0.9-Y)	=	46.4 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	123 %



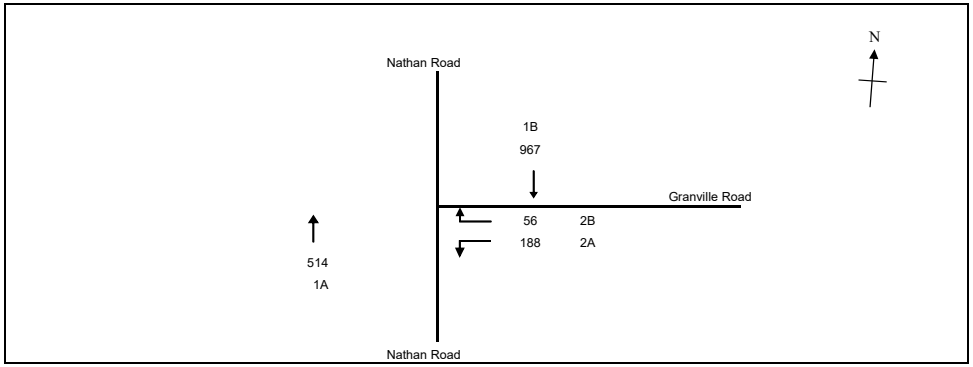
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	89	2	10	OK

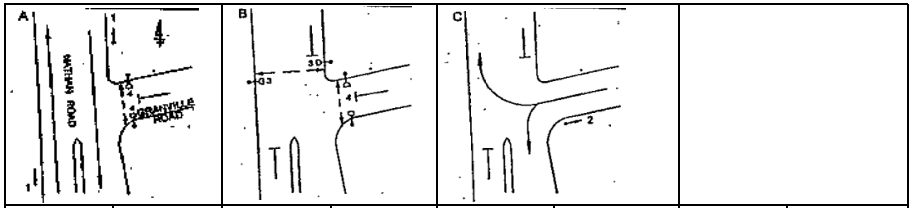
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		308		308	0.00	3970			3970	0.078	0.251		23	75	0.124	12
1B	A	3.20	1	2			N	4010		1008		1008	0.00	4010			4010	0.251			75	75	0.402	38
2A	C	3.10	3	1	8		N	1925	78			78	1.00	1621			1621	0.048	0.048		14	14	0.411	14
2A,2B	C	3.10	3	1	10			2065	47		39	86	1.00	1796			1796	0.048			14	14	0.411	15
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road		2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.313
Loss time		L =	31 sec
Total Flow		=	1726 pcu
Co	= (1.5*L+5)/(1-Y)	=	74.9 sec
Cm	= L/(1-Y)	=	45.1 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	113.5 %
Cp	= 0.9*L/(0.9-Y)	=	47.5 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	113 %



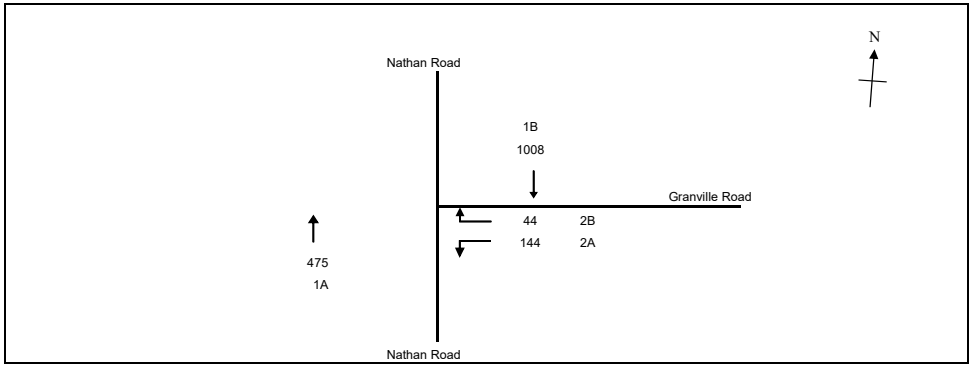
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	83	2	10	OK

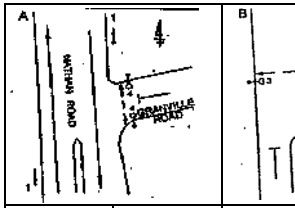
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		514		514	0.00	3970			3970	0.130	0.241		37	69	0.225	22
1B	A	3.20	1	2			N	4010		967		967	0.00	4010			4010	0.241			69	69	0.419	41
2A	C	3.10	3	1	8		N	1925	116			116	1.00	1621			1621	0.072	0.072		20	20	0.429	19
2A,2B	C	3.10	3	1	10			2065	72		56	129	1.00	1796			1796	0.072			20	20	0.429	21
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

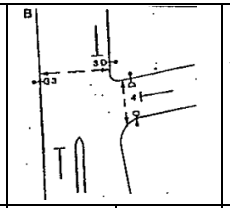
OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road		2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



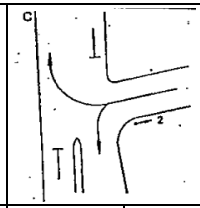
No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.306
Loss time		L =	31 sec
Total Flow		=	1670 pcu
Co	= (1.5*L+5)/(1-Y)	=	74.2 sec
Cm	= L/(1-Y)	=	44.7 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	118.0 %
Cp	= 0.9*L/(0.9-Y)	=	47.0 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	118 %



STAGE A INT= 5



STAGE B INT= 0



STAGE C INT= 6

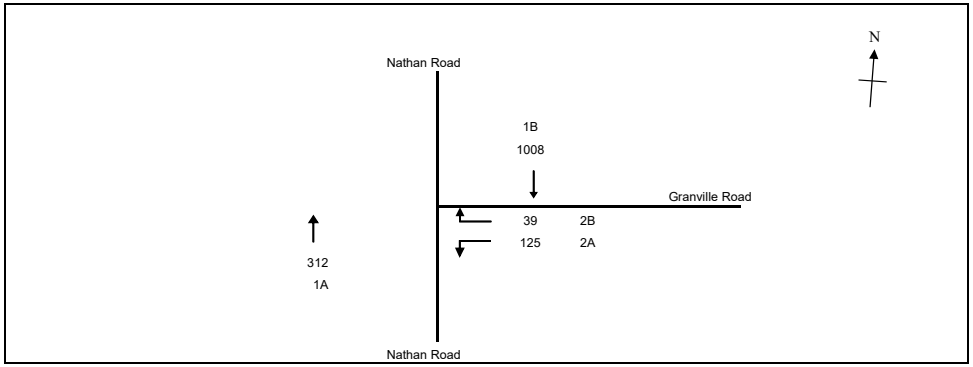
STAGE D INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	87	2	10	OK

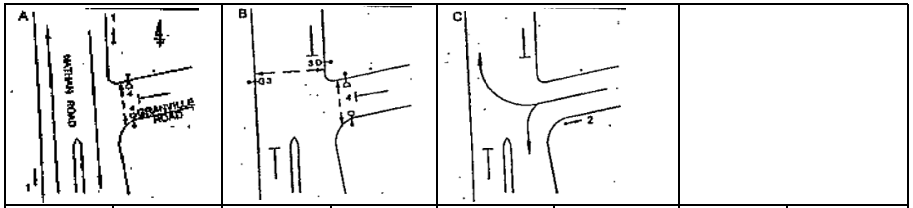
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		475		475	0.00	3970			3970	0.120	0.251		35	73	0.196	19
1B	A	3.20	1	2			N	4010		1008		1008	0.00	4010			4010	0.251			73	73	0.413	39
2A	C	3.10	3	1	8		N	1925	89			89	1.00	1621			1621	0.055	0.055		16	16	0.412	15
2A,2B	C	3.10	3	1	10			2065	55		44	99	1.00	1796			1796	0.055			16	16	0.412	17
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road	2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.299
Loss time		L =	31 sec
Total Flow		=	1484 pcu
Co	= (1.5*L+5)/(1-Y)	=	73.5 sec
Cm	= L/(1-Y)	=	44.2 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	123.1 %
Cp	= 0.9*L/(0.9-Y)	=	46.4 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	123 %



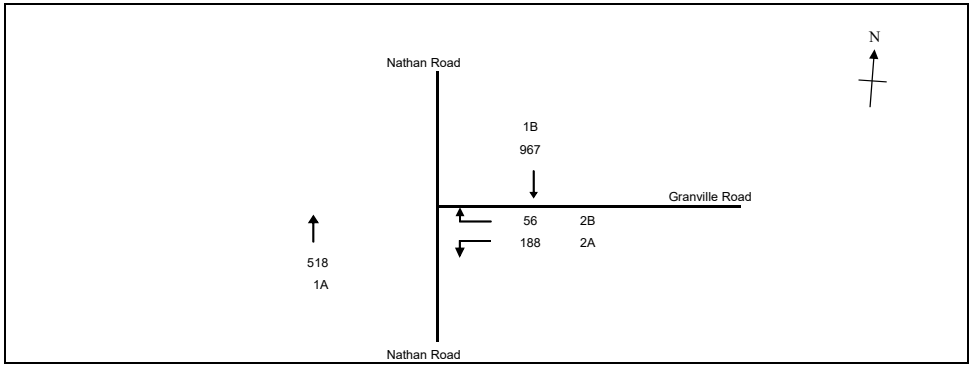
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	89	2	10	OK

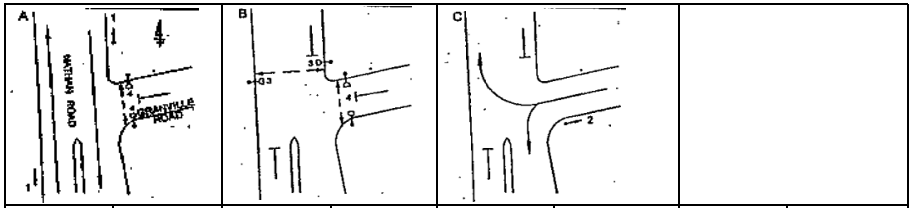
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		312		312	0.00	3970			3970	0.079	0.251		23	75	0.126	12
1B	A	3.20	1	2			N	4010		1008		1008	0.00	4010			4010	0.251			75	75	0.402	38
2A	C	3.10	3	1	8		N	1925	78			78	1.00	1621			1621	0.048	0.048		14	14	0.411	14
2A,2B	C	3.10	3	1	10			2065	47		39	86	1.00	1796			1796	0.048			14	14	0.411	15
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road		2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.313
Loss time		L =	31 sec
Total Flow		=	1730 pcu
Co	= (1.5*L+5)/(1-Y)	=	74.9 sec
Cm	= L/(1-Y)	=	45.1 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	113.5 %
Cp	= 0.9*L/(0.9-Y)	=	47.5 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	113 %



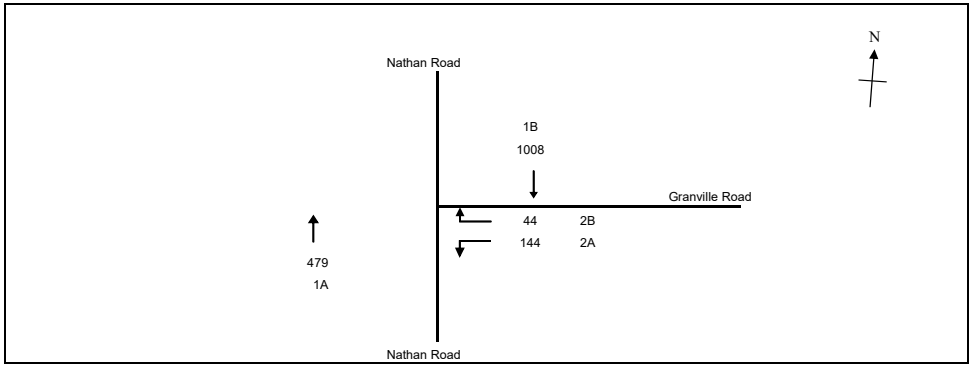
STAGE A	INT= 5	STAGE B	INT= 0	STAGE C	INT= 6	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	83	2	10	OK

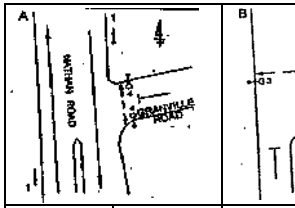
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		518		518	0.00	3970			3970	0.131	0.241		37	69	0.227	22
1B	A	3.20	1	2			N	4010		967		967	0.00	4010			4010	0.241			69	69	0.419	41
2A	C	3.10	3	1	8		N	1925	116			116	1.00	1621			1621	0.072	0.072		20	20	0.429	19
2A,2B	C	3.10	3	1	10			2065	72		56	129	1.00	1796			1796	0.072			20	20	0.429	21
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

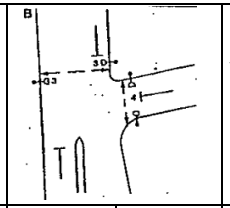
OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J1
Nathan Road / Granville Road		2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



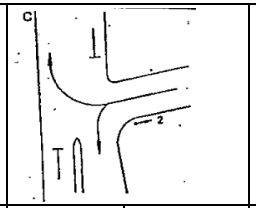
No. of stages per cycle		N =	3
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.306
Loss time		L =	31 sec
Total Flow		=	1674 pcu
Co	= (1.5*L+5)/(1-Y)	=	74.2 sec
Cm	= L/(1-Y)	=	44.7 sec
Yult		=	0.668
R.C.ult	= (Yult-Y)/Y*100%	=	118.0 %
Cp	= 0.9*L/(0.9-Y)	=	47.0 sec
Ymax	= 1-L/C	=	0.742
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	118 %



STAGE A INT= 5



STAGE B INT= 0



STAGE C INT= 6

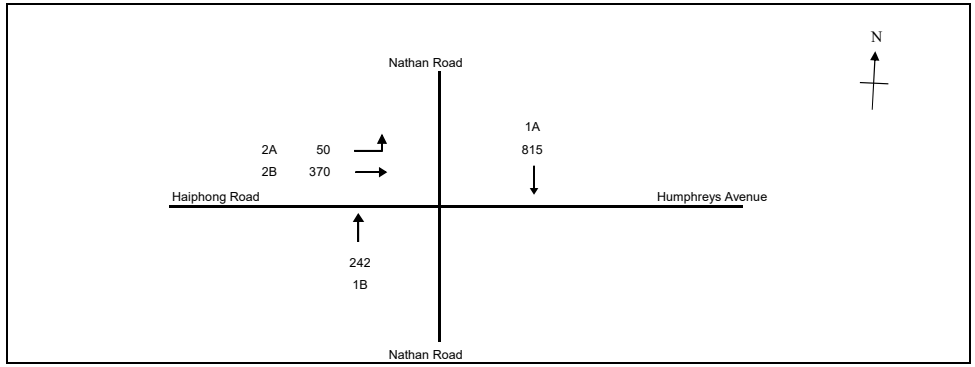
STAGE D INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8	9	6	7	9	6	7	OK
4p	9	5	2	10	87	2	10	OK

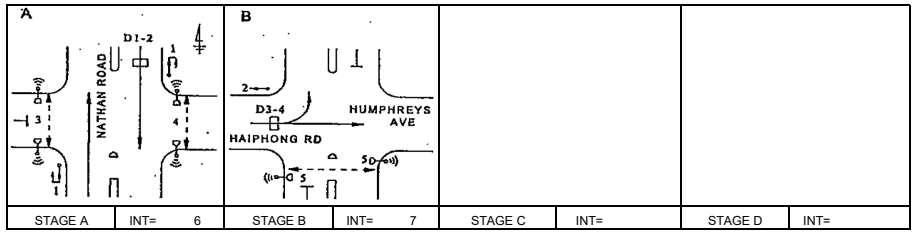
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1A	A	3.00	1	2			N	3970		479		479	0.00	3970			3970	0.121	0.251		35	73	0.198	19
1B	A	3.20	1	2			N	4010		1008		1008	0.00	4010			4010	0.251			73	73	0.413	39
2A	C	3.10	3	1	8		N	1925	89			89	1.00	1621			1621	0.055	0.055		16	16	0.412	15
2A,2B	C	3.10	3	1	10			2065	55		44	99	1.00	1796			1796	0.055			16	16	0.412	17
PED	B		2																	22				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle	N =	2
No. of stage using for calculation	N =	2
Cycle time	C =	120 sec
Sum(y)	Y =	0.378
Loss time	L =	11 sec
Total Flow	=	1476 pcu
Co = (1.5*L+5)/(1-Y)	=	34.6 sec
Cm = L/(1-Y)	=	17.7 sec
Yult	=	0.818
R.C.ult = (Yult-Y)/Y*100%	=	116.0 %
Cp = 0.9*L/(0.9-Y)	=	19.0 sec
Ymax = 1-L/C	=	0.908
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	116 %



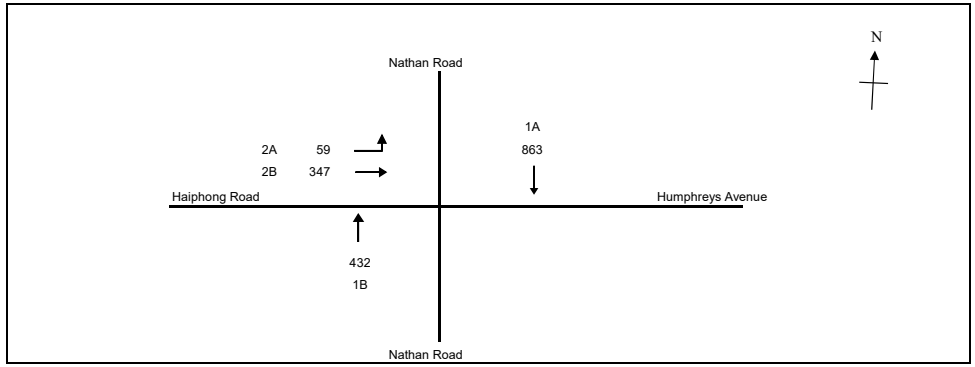
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	55	1	7	OK
4p	5.5	5	5	6	52	5	6	OK
5p	9	10	4	8	45	4	8	OK

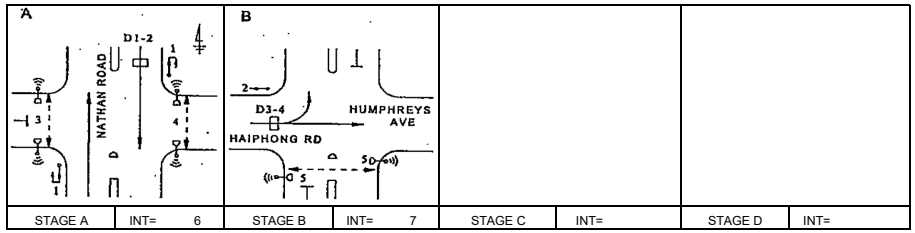
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		815		815	0.00	4070			4070	0.200	0.200		58	58	0.414	42
1B	A	3.40	1	2			N	4050		242		242	0.00	4050			4050	0.060			17	58	0.124	12
2A	B	3.50	2	1	15		N	1965	50			50	1.00	1786			1786	0.028	0.178		8	51	0.066	6
2B	B	3.20	2	1				2075		370		370	0.00	2075			2075	0.178			51	51	0.420	43

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.379
Loss time		L =	11 sec
Total Flow		=	1702 pcu
Co	= (1.5*L+5)/(1-Y)	=	34.6 sec
Cm	= L/(1-Y)	=	17.7 sec
Yult		=	0.818
R.C.ult	= (Yult-Y)/Y*100%	=	115.4 %
Cp	= 0.9*L/(0.9-Y)	=	19.0 sec
Ymax	= 1-L/C	=	0.908
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	115 %



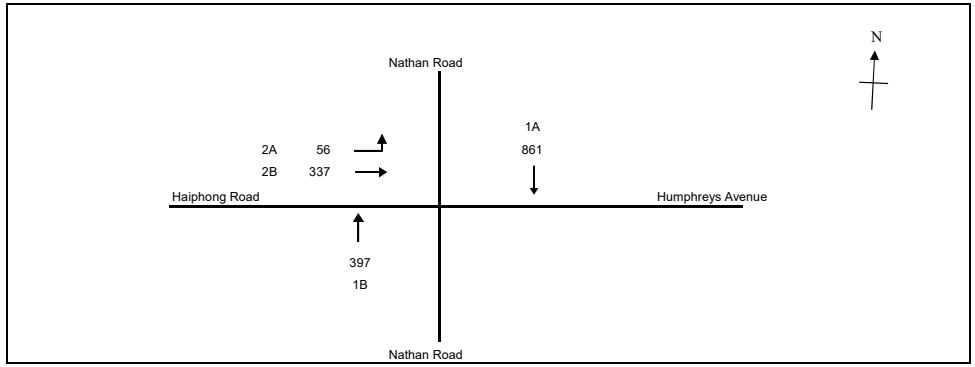
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	58	1	7	OK
4p	5.5	5	5	6	55	5	6	OK
5p	9	10	4	8	42	4	8	OK

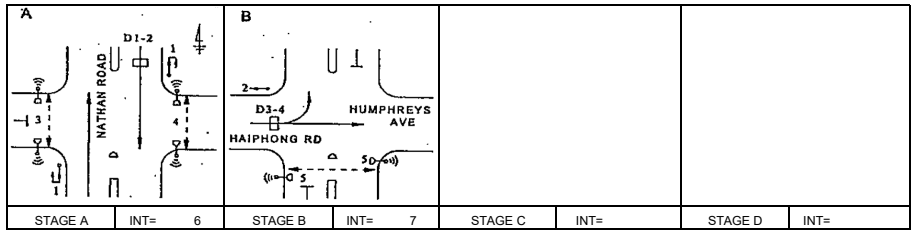
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		863		863	0.00	4070			4070	0.212	0.212		61	61	0.417	42
1B	A	3.40	1	2			N	4050		432		432	0.00	4050			4050	0.107			31	61	0.210	21
2A	B	3.50	2	1	15		N	1965	59			59	1.00	1786			1786	0.033	0.167		10	48	0.083	7
2B	B	3.20	2	1				2075		347		347	0.00	2075			2075	0.167			48	48	0.418	42

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle	N =	2
No. of stage using for calculation	N =	2
Cycle time	C =	120 sec
Sum(y)	Y =	0.374
Loss time	L =	11 sec
Total Flow	=	1650 pcu
Co = (1.5*L+5)/(1-Y)	=	34.3 sec
Cm = L/(1-Y)	=	17.6 sec
Yult	=	0.818
R.C.ult = (Yult-Y)/Y*100%	=	118.7 %
Cp = 0.9*L/(0.9-Y)	=	18.8 sec
Ymax = 1-L/C	=	0.908
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	119 %



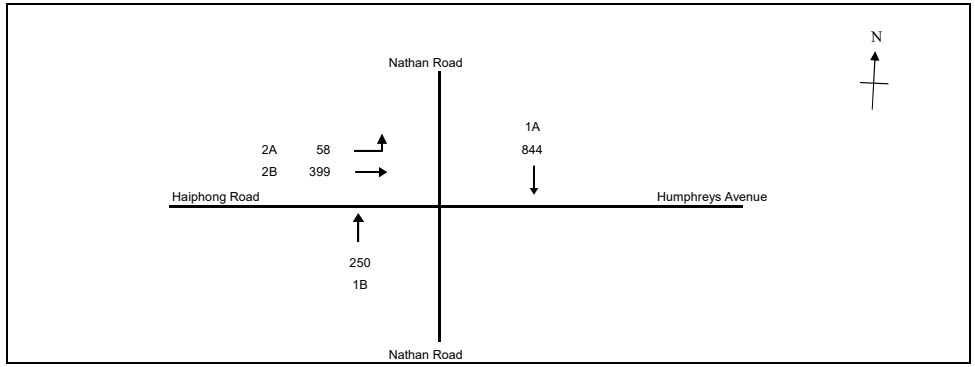
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	59	1	7	OK
4p	5.5	5	5	6	56	5	6	OK
5p	9	10	4	8	41	4	8	OK

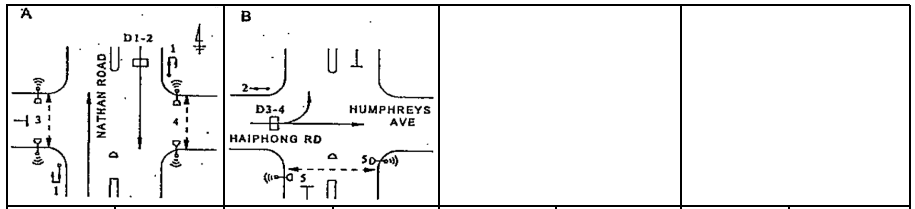
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		861		861	0.00	4070			4070	0.212	0.212		62	62	0.409	42
1B	A	3.40	1	2			N	4050		397		397	0.00	4050			4050	0.098			29	62	0.190	19
2A	B	3.50	2	1	15		N	1965	56			56	1.00	1786			1786	0.031	0.162		9	47	0.080	7
2B	B	3.20	2	1				2075		337		337	0.00	2075			2075	0.162			47	47	0.414	41

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle	N =	2
No. of stage using for calculation	N =	2
Cycle time	C =	120 sec
Sum(y)	Y =	0.400
Loss time	L =	11 sec
Total Flow	=	1551 pcu
Co = (1.5*L+5)/(1-Y)	=	35.8 sec
Cm = L/(1-Y)	=	18.3 sec
Yult	=	0.818
R.C.ult = (Yult-Y)/Y*100%	=	104.6 %
Cp = 0.9*L/(0.9-Y)	=	19.8 sec
Ymax = 1-L/C	=	0.908
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	105 %



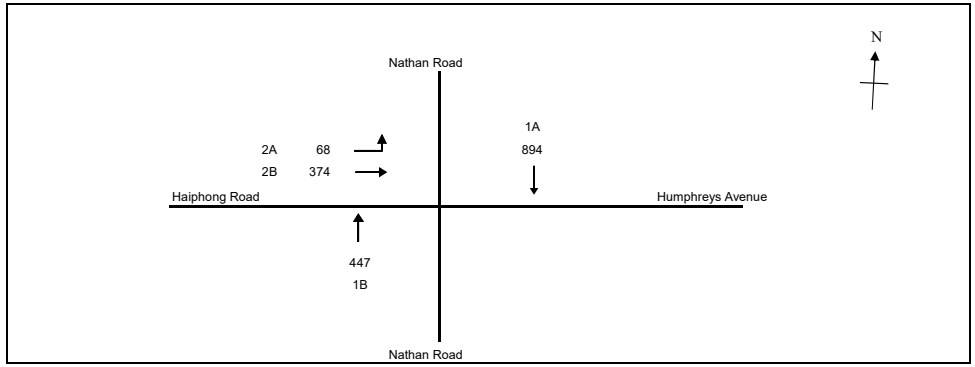
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	54	1	7	OK
4p	5.5	5	5	6	51	5	6	OK
5p	9	10	4	8	46	4	8	OK

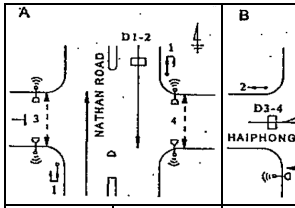
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		844		844	0.00	4070			4070	0.207	0.207		57	57	0.436	44
1B	A	3.40	1	2			N	4050		250		250	0.00	4050			4050	0.062			17	57	0.130	13
2A	B	3.50	2	1	15		N	1965	58			58	1.00	1786			1786	0.032	0.192		9	52	0.074	7
2B	B	3.20	2	1				2075		399		399	0.00	2075			2075	0.192			52	52	0.444	45

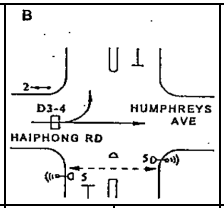
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.400
Loss time		L =	11 sec
Total Flow		=	1782 pcu
Co	= (1.5*L+5)/(1-Y)	=	35.8 sec
Cm	= L/(1-Y)	=	18.3 sec
Yult		=	0.818
R.C.ult	= (Yult-Y)/Y*100%	=	104.5 %
Cp	= 0.9*L/(0.9-Y)	=	19.8 sec
Ymax	= 1-L/C	=	0.908
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	105 %





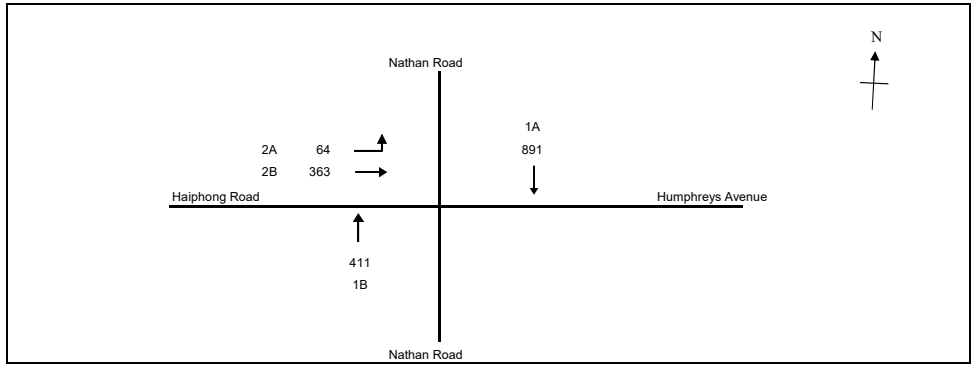
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	57	1	7	OK
4p	5.5	5	5	6	54	5	6	OK
5p	9	10	4	8	43	4	8	OK

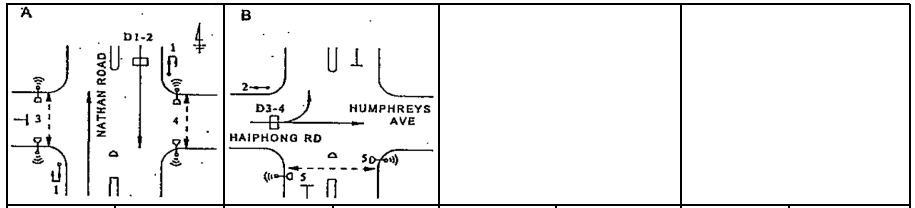
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		894		894	0.00	4070			4070	0.220	0.220		60	60	0.439	45
1B	A	3.40	1	2			N	4050		447		447	0.00	4050			4050	0.110			30	60	0.221	22
2A	B	3.50	2	1	15		N	1965	68			68	1.00	1786			1786	0.038	0.180		10	49	0.093	8
2B	B	3.20	2	1				2075		374		374	0.00	2075			2075	0.180			49	49	0.441	44

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue	2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle	N =	2
No. of stage using for calculation	N =	2
Cycle time	C =	120 sec
Sum(y)	Y =	0.394
Loss time	L =	11 sec
Total Flow	=	1729 pcu
Co = (1.5*L+5)/(1-Y)	=	35.5 sec
Cm = L/(1-Y)	=	18.1 sec
Yult	=	0.818
R.C.ult = (Yult-Y)/Y*100%	=	107.6 %
Cp = 0.9*L/(0.9-Y)	=	19.6 sec
Ymax = 1-L/C	=	0.908
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	108 %



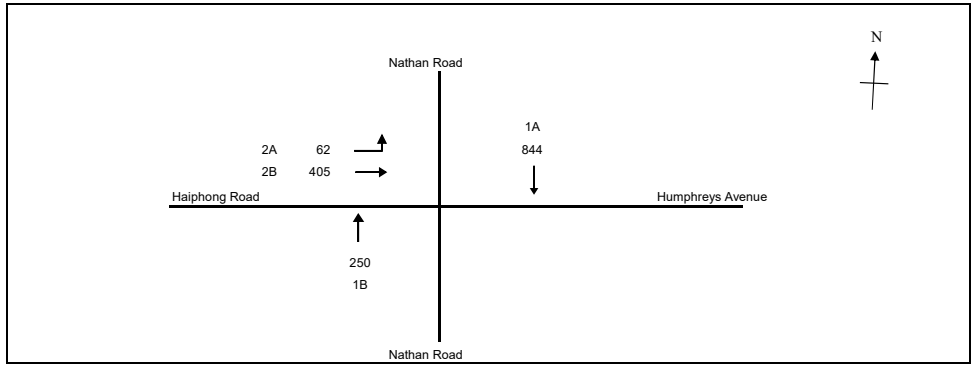
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	58	1	7	OK
4p	5.5	5	5	6	55	5	6	OK
5p	9	10	4	8	42	4	8	OK

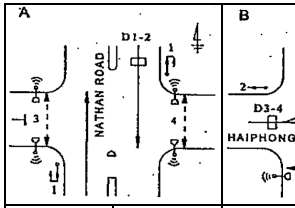
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		891		891	0.00	4070			4070	0.219	0.219		61	61	0.431	44
1B	A	3.40	1	2			N	4050		411		411	0.00	4050			4050	0.101			28	61	0.199	20
2A	B	3.50	2	1	15		N	1965	64			64	1.00	1786			1786	0.036	0.175		10	48	0.089	8
2B	B	3.20	2	1				2075		363		363	0.00	2075			2075	0.175			48	48	0.437	44

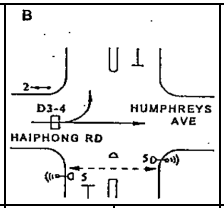
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.403
Loss time		L =	11 sec
Total Flow		=	1561 pcu
Co	= (1.5*L+5)/(1-Y)	=	36.0 sec
Cm	= L/(1-Y)	=	18.4 sec
Yult		=	0.818
R.C.ult	= (Yult-Y)/Y*100%	=	103.1 %
Cp	= 0.9*L/(0.9-Y)	=	19.9 sec
Ymax	= 1-L/C	=	0.908
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	103 %





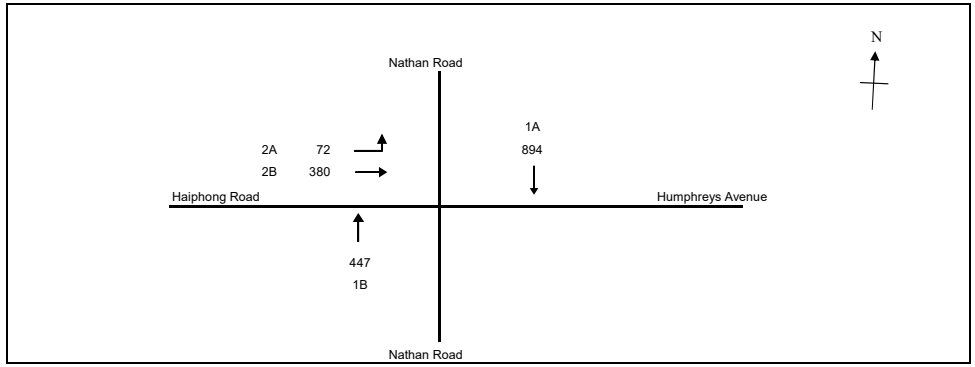
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	53	1	7	OK
4p	5.5	5	5	6	50	5	6	OK
5p	9	10	4	8	47	4	8	OK

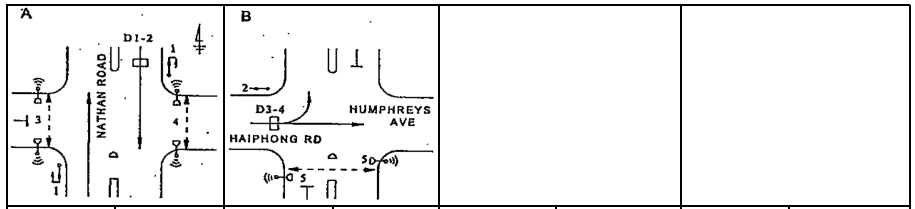
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		844		844	0.00	4070			4070	0.207	0.207		56	56	0.444	45
1B	A	3.40	1	2			N	4050		250		250	0.00	4050			4050	0.062			17	56	0.133	13
2A	B	3.50	2	1	15		N	1965	62			62	1.00	1786			1786	0.034	0.195		9	53	0.078	7
2B	B	3.20	2	1				2075		405		405	0.00	2075			2075	0.195			53	53	0.442	45

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue		2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle	N =	2
No. of stage using for calculation	N =	2
Cycle time	C =	120 sec
Sum(y)	Y =	0.403
Loss time	L =	11 sec
Total Flow	=	1792 pcu
Co = (1.5*L+5)/(1-Y)	=	36.0 sec
Cm = L/(1-Y)	=	18.4 sec
Yult	=	0.818
R.C.ult = (Yult-Y)/Y*100%	=	103.1 %
Cp = 0.9*L/(0.9-Y)	=	19.9 sec
Ymax = 1-L/C	=	0.908
R.C.(C) = (0.9*Ymax-Y)/Y*100%	=	103 %



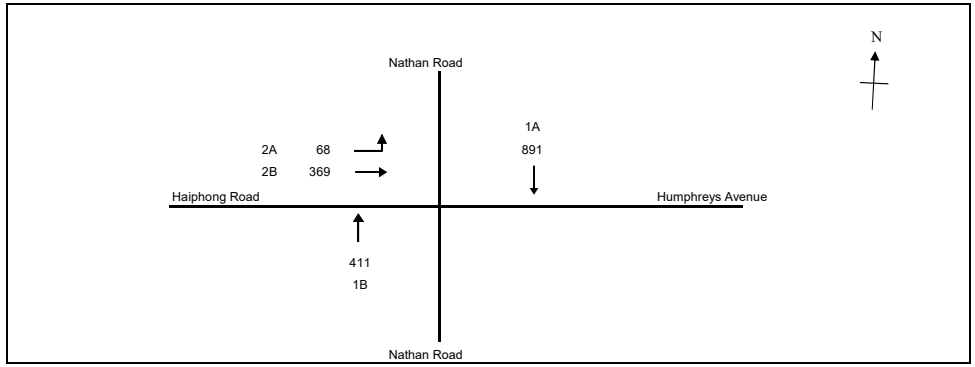
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	56	1	7	OK
4p	5.5	5	5	6	53	5	6	OK
5p	9	10	4	8	44	4	8	OK

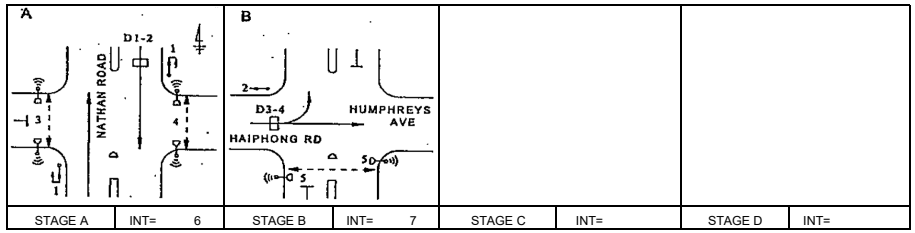
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		894		894	0.00	4070			4070	0.220	0.220		59	59	0.447	45
1B	A	3.40	1	2			N	4050		447		447	0.00	4050			4050	0.110			30	59	0.225	23
2A	B	3.50	2	1	15		N	1965	72			72	1.00	1786			1786	0.040	0.183		11	50	0.096	8
2B	B	3.20	2	1			N	2075		380		380	0.00	2075			2075	0.183			50	50	0.439	44

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J2
Nathan Road / Humphreys Avenue	2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.397
Loss time		L =	11 sec
Total Flow		=	1739 pcu
Co	= (1.5*L+5)/(1-Y)	=	35.6 sec
Cm	= L/(1-Y)	=	18.2 sec
Yult		=	0.818
R.C.ult	= (Yult-Y)/Y*100%	=	106.1 %
Cp	= 0.9*L/(0.9-Y)	=	19.7 sec
Ymax	= 1-L/C	=	0.908
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	106 %



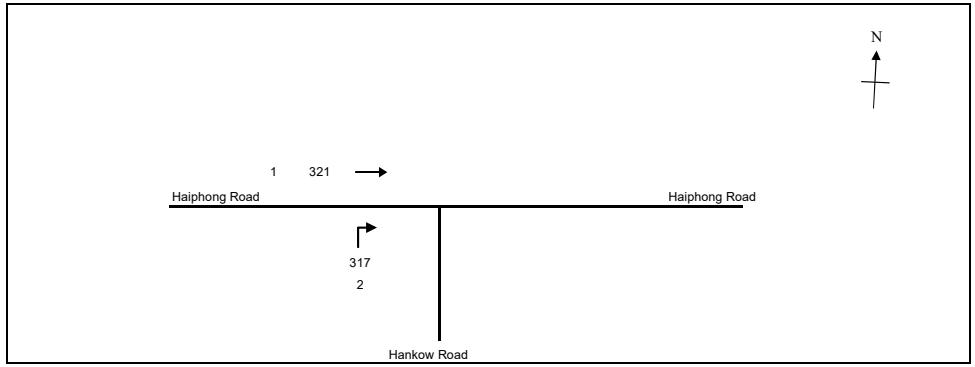
STAGE A	INT= 6	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	6.5	5	1	7	57	1	7	OK
4p	5.5	5	5	6	54	5	6	OK
5p	9	10	4	8	43	4	8	OK

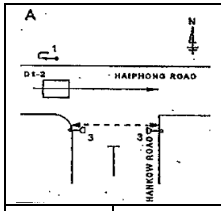
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				11				
1A	A	3.50	1	2			N	4070		891		891	0.00	4070			4070	0.219	0.219		60	60	0.438	45
1B	A	3.40	1	2			N	4050		411		411	0.00	4050			4050	0.101			28	60	0.203	21
2A	B	3.50	2	1	15		N	1965	68			68	1.00	1786			1786	0.038	0.178		10	49	0.093	8
2B	B	3.20	2	1				2075		369		369	0.00	2075			2075	0.178			49	49	0.435	44

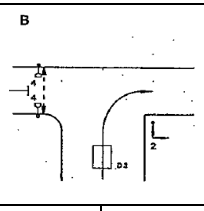
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2	
No. of stage using for calculation		N =	2	
Cycle time		C =	120	sec
Sum(y)		Y =	0.254	
Loss time		L =	8	sec
Total Flow		=	638	pcu
Co	= (1.5*L+5)/(1-Y)	=	22.8	sec
Cm	= L/(1-Y)	=	10.7	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	230.4	%
Cp	= 0.9*L/(0.9-Y)	=	11.1	sec
Ymax	= 1-L/C	=	0.933	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	230	%





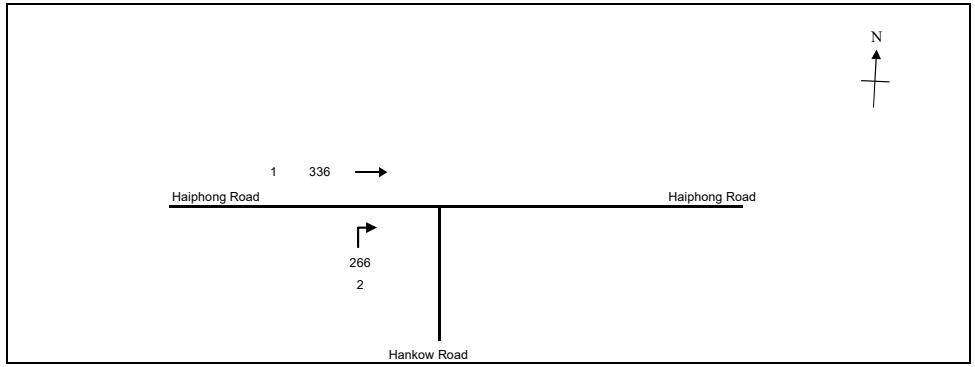
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	31	3	5	OK
4p	6	5	3	7	71	3	7	OK

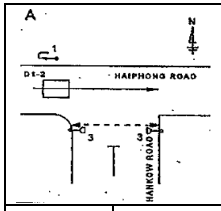
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		321		321	0.00	4010			4010	0.080	0.080		35	35	0.274	23
2	B	4.00	2	1	14		N	2015			317	317	1.00	1820			1820	0.174	0.174		77	77	0.271	23

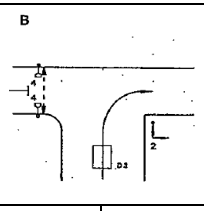
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2	
No. of stage using for calculation		N =	2	
Cycle time		C =	120	sec
Sum(y)		Y =	0.230	
Loss time		L =	8	sec
Total Flow		=	602	pcu
Co	= (1.5*L+5)/(1-Y)	=	22.1	sec
Cm	= L/(1-Y)	=	10.4	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	265.3	%
Cp	= 0.9*L/(0.9-Y)	=	10.7	sec
Ymax	= 1-L/C	=	0.933	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	265	%





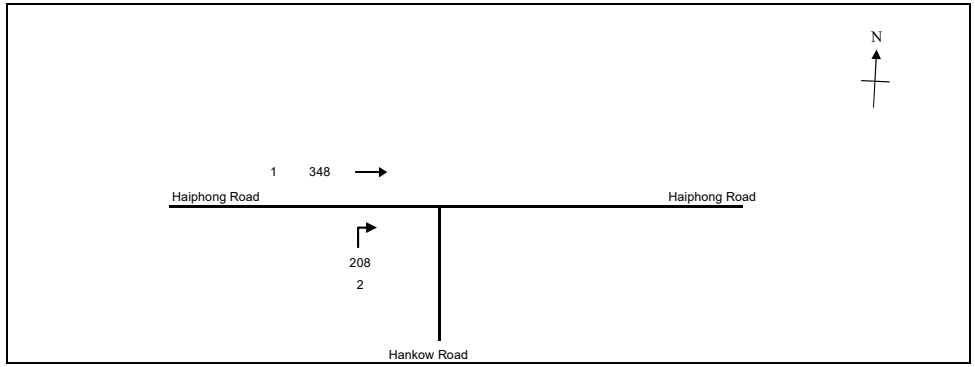
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	37	3	5	OK
4p	6	5	3	7	65	3	7	OK

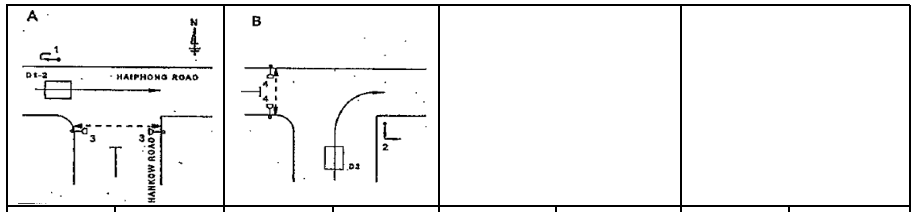
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		336		336	0.00	4010			4010	0.084	0.084		41	41	0.246	22
2	B	4.00	2	1	14		N	2015			266	266	1.00	1820			1820	0.146	0.146		71	71	0.247	22

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.201
Loss time		L =	8 sec
Total Flow		=	556 pcu
Co	= (1.5*L+5)/(1-Y)	=	21.3 sec
Cm	= L/(1-Y)	=	10.0 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	318.2 %
Cp	= 0.9*L/(0.9-Y)	=	10.3 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	318 %



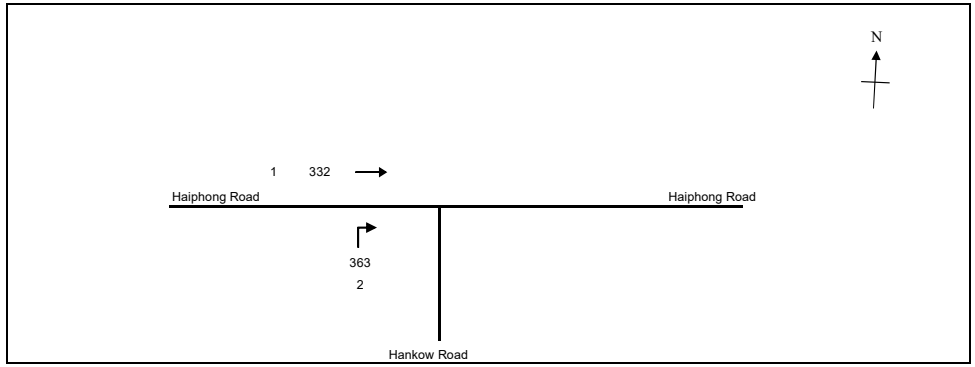
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	44	3	5	OK
4p	6	5	3	7	58	3	7	OK

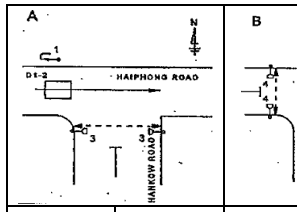
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		348		348	0.00	4010			4010	0.087	0.087		48	48	0.217	21
2	B	4.00	2	1	14		N	2015			208	208	1.00	1820			1820	0.114	0.114		64	64	0.214	19

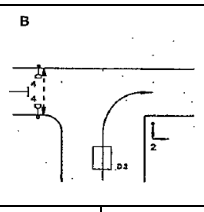
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2	
No. of stage using for calculation		N =	2	
Cycle time		C =	120	sec
Sum(y)		Y =	0.282	
Loss time		L =	8	sec
Total Flow		=	696	pcu
Co	= (1.5*L+5)/(1-Y)	=	23.7	sec
Cm	= L/(1-Y)	=	11.1	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	197.4	%
Cp	= 0.9*L/(0.9-Y)	=	11.7	sec
Ymax	= 1-L/C	=	0.933	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	197	%





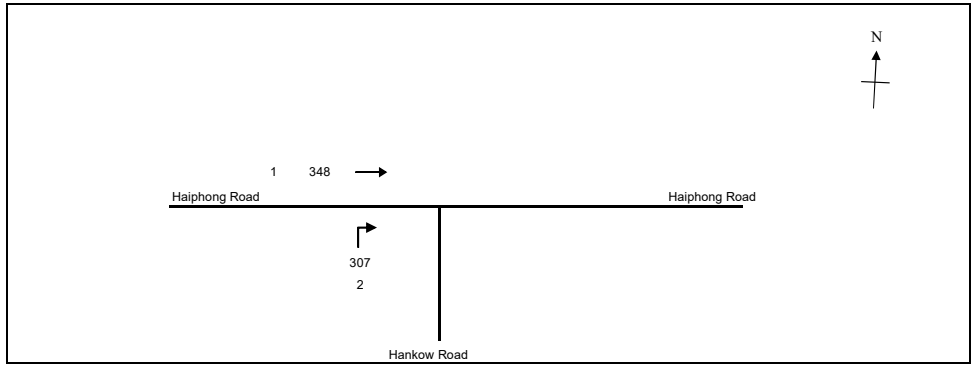
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	29	3	5	OK
4p	6	5	3	7	73	3	7	OK

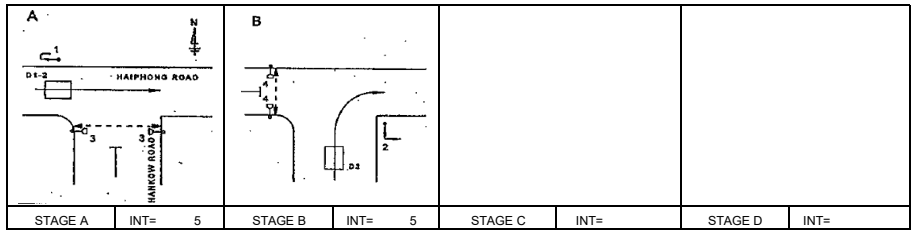
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		332		332	0.00	4010			4010	0.083	0.083		33	33	0.301	24
2	B	4.00	2	1	14		N	2015			363	363	1.00	1820			1820	0.200	0.200		79	79	0.303	25

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.256
Loss time		L =	8 sec
Total Flow		=	656 pcu
Co	= (1.5*L+5)/(1-Y)	=	22.8 sec
Cm	= L/(1-Y)	=	10.7 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	228.5 %
Cp	= 0.9*L/(0.9-Y)	=	11.2 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	228 %



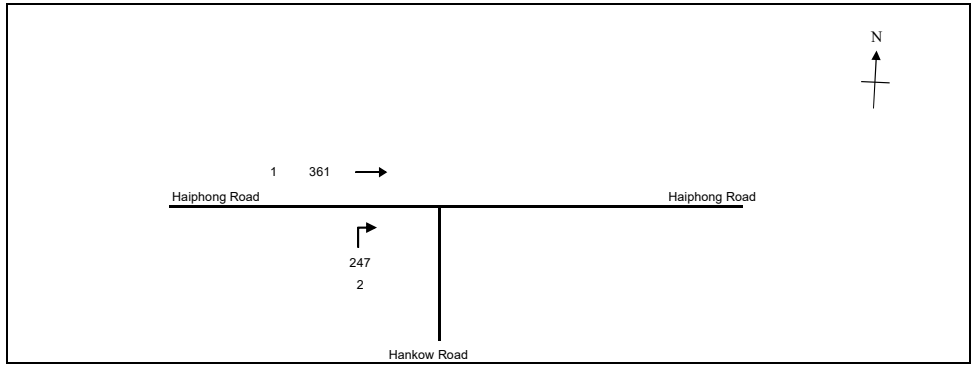
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	34	3	5	OK
4p	6	5	3	7	68	3	7	OK

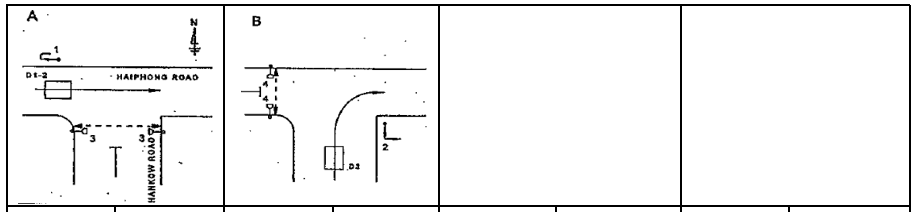
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		348		348	0.00	4010			4010	0.087	0.087		38	38	0.274	24
2	B	4.00	2	1	14		N	2015			307	307	1.00	1820			1820	0.169	0.169		74	74	0.274	24

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.226
Loss time		L =	8 sec
Total Flow		=	607 pcu
Co	= (1.5*L+5)/(1-Y)	=	22.0 sec
Cm	= L/(1-Y)	=	10.3 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	272.4 %
Cp	= 0.9*L/(0.9-Y)	=	10.7 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	272 %



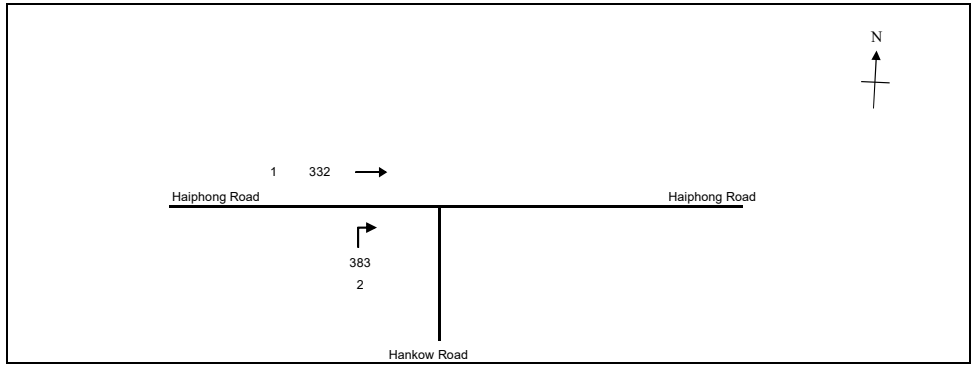
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	41	3	5	OK
4p	6	5	3	7	61	3	7	OK

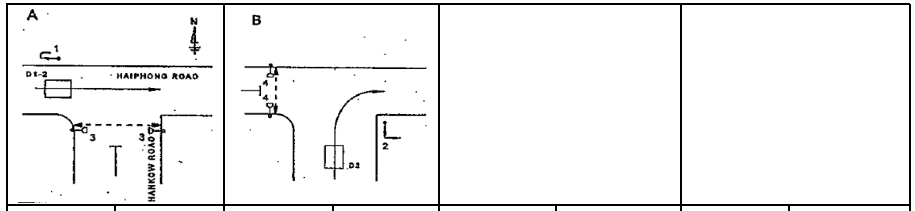
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		361		361	0.00	4010			4010	0.090	0.090		45	45	0.240	23
2	B	4.00	2	1	14		N	2015			247	247	1.00	1820			1820	0.136	0.136		67	67	0.243	22

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.293
Loss time		L =	8 sec
Total Flow		=	716 pcu
Co	= (1.5*L+5)/(1-Y)	=	24.1 sec
Cm	= L/(1-Y)	=	11.3 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	186.2 %
Cp	= 0.9*L/(0.9-Y)	=	11.9 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	186 %



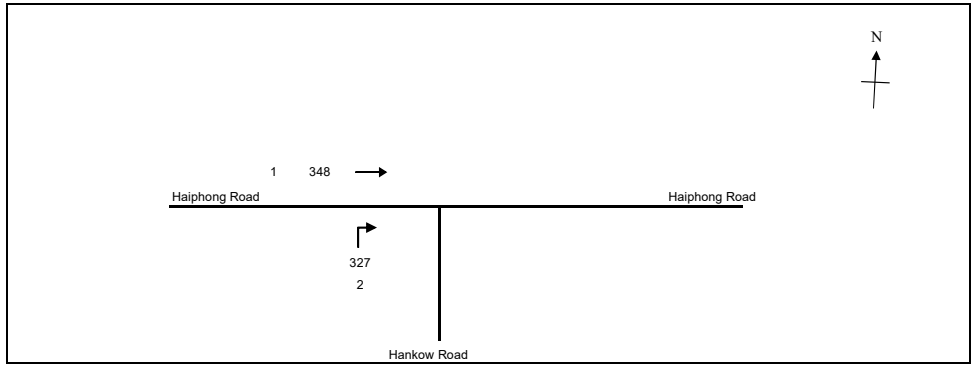
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	28	3	5	OK
4p	6	5	3	7	74	3	7	OK

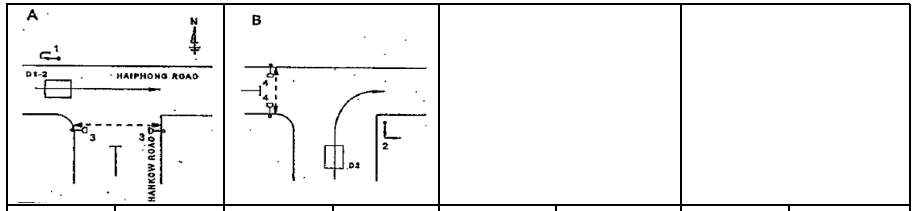
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		332		332	0.00	4010			4010	0.083	0.083		32	32	0.311	24
2	B	4.00	2	1	14		N	2015			383	383	1.00	1820			1820	0.211	0.211		80	80	0.316	26

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.267
Loss time		L =	8 sec
Total Flow		=	676 pcu
Co	= (1.5*L+5)/(1-Y)	=	23.2 sec
Cm	= L/(1-Y)	=	10.9 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	214.9 %
Cp	= 0.9*L/(0.9-Y)	=	11.4 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	215 %



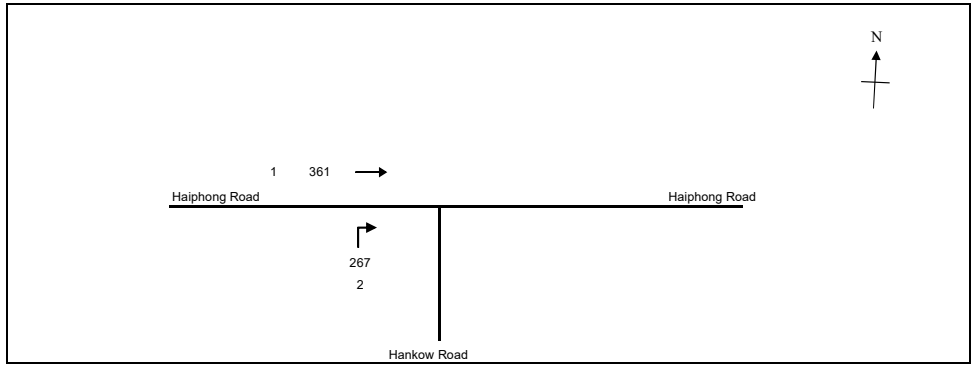
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	32	3	5	OK
4p	6	5	3	7	70	3	7	OK

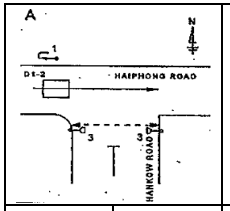
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		348		348	0.00	4010			4010	0.087	0.087		36	36	0.290	24
2	B	4.00	2	1	14		N	2015			327	327	1.00	1820			1820	0.180	0.180		76	76	0.284	24

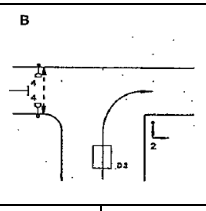
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J3
Hankow Road / Haiphong Road	2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2	
No. of stage using for calculation		N =	2	
Cycle time		C =	120	sec
Sum(y)		Y =	0.237	
Loss time		L =	8	sec
Total Flow		=	627	pcu
Co	= (1.5*L+5)/(1-Y)	=	22.3	sec
Cm	= L/(1-Y)	=	10.5	sec
Yult		=	0.840	
R.C.ult	= (Yult-Y)/Y*100%	=	255.1	%
Cp	= 0.9*L/(0.9-Y)	=	10.9	sec
Ymax	= 1-L/C	=	0.933	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	255	%





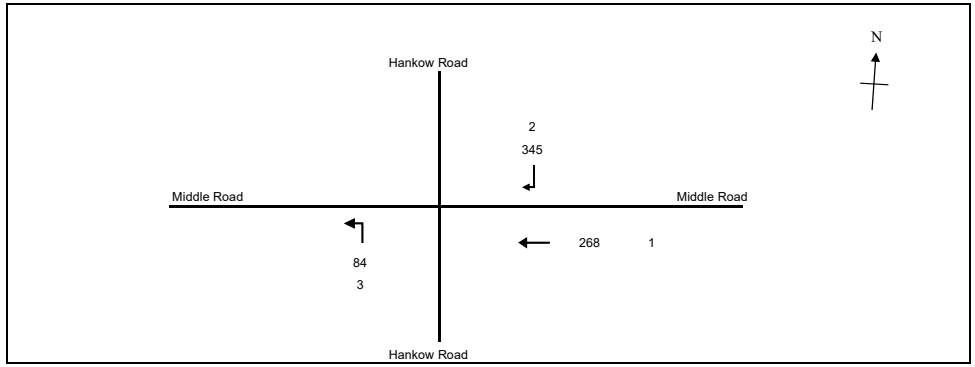
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	4	5	3	5	39	3	5	OK
4p	6	5	3	7	63	3	7	OK

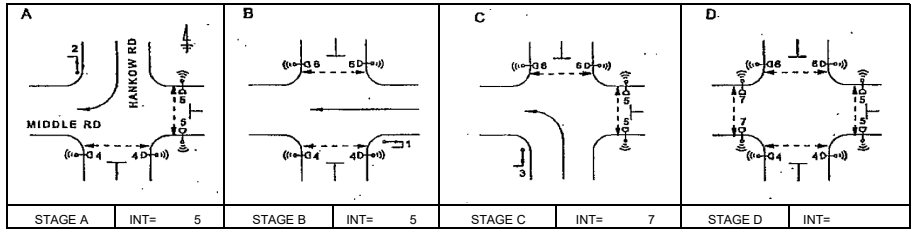
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A	3.20	1	2			N	4010		361		361	0.00	4010			4010	0.090	0.090		43	43	0.251	23
2	B	4.00	2	1	14		N	2015			267	267	1.00	1820			1820	0.147	0.147		69	69	0.255	23

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.180
Loss time		L =	35 sec
Total Flow		=	697 pcu
Co	= (1.5*L+5)/(1-Y)	=	70.1 sec
Cm	= L/(1-Y)	=	42.7 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	254.9 %
Cp	= 0.9*L/(0.9-Y)	=	43.7 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	255 %



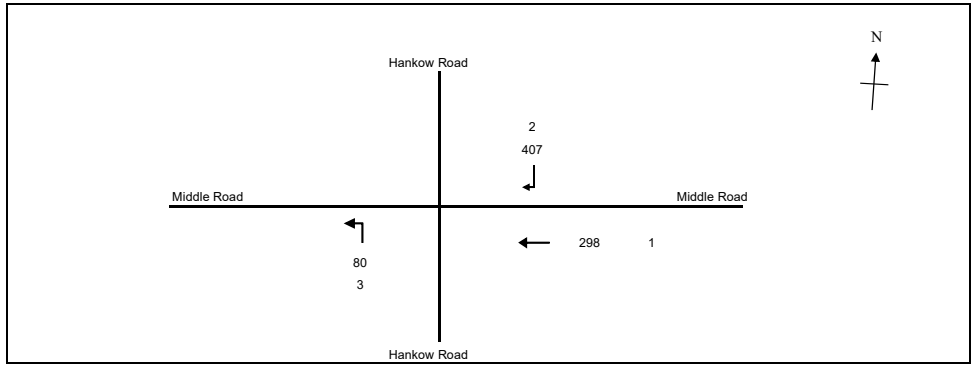
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	92	1	11	OK
5p	10	6	3	11	72	3	11	OK
6p	8	5	3	9	61	3	9	OK
7p	11	6	3	12	6	3	12	OK

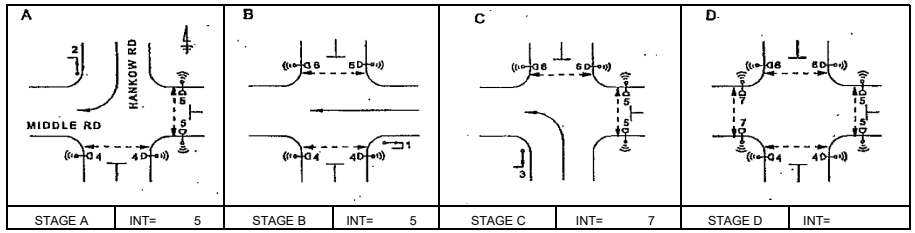
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			345	345	1.00	3739			3739	0.092	0.092		44	44	0.251	22
1	B	3.30	2	2			N	4030		268		268	0.00	4030		115	4145	0.065	0.065		31	31	0.250	20
3	C	2.60	3	2	16			4030	84			84	1.00	3685			3685	0.023	0.023		11	11	0.250	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.202
Loss time		L =	35 sec
Total Flow		=	784 pcu
Co	= (1.5*L+5)/(1-Y)	=	72.1 sec
Cm	= L/(1-Y)	=	43.9 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	215.1 %
Cp	= 0.9*L/(0.9-Y)	=	45.1 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	215 %



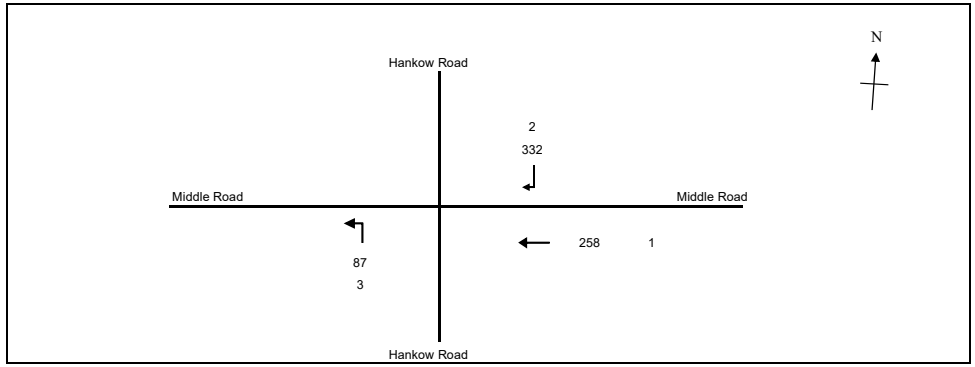
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	93	1	11	OK
5p	10	6	3	11	72	3	11	OK
6p	8	5	3	9	58	3	9	OK
7p	11	6	3	12	6	3	12	OK

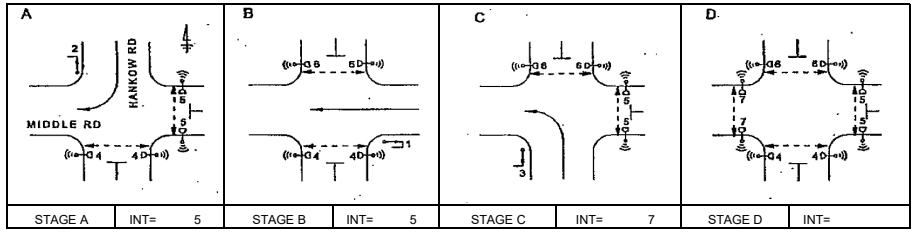
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			407	407	1.00	3739			3739	0.109	0.109		46	46	0.284	25
1	B	3.30	2	2			N	4030		298		298	0.00	4030		115	4145	0.072	0.072		30	30	0.287	22
3	C	2.60	3	2	16			4030	80			80	1.00	3685			3685	0.022	0.022		9	9	0.289	7
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.175
Loss time		L =	35 sec
Total Flow		=	678 pcu
Co	= (1.5*L+5)/(1-Y)	=	69.7 sec
Cm	= L/(1-Y)	=	42.4 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	264.7 %
Cp	= 0.9*L/(0.9-Y)	=	43.4 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	265 %



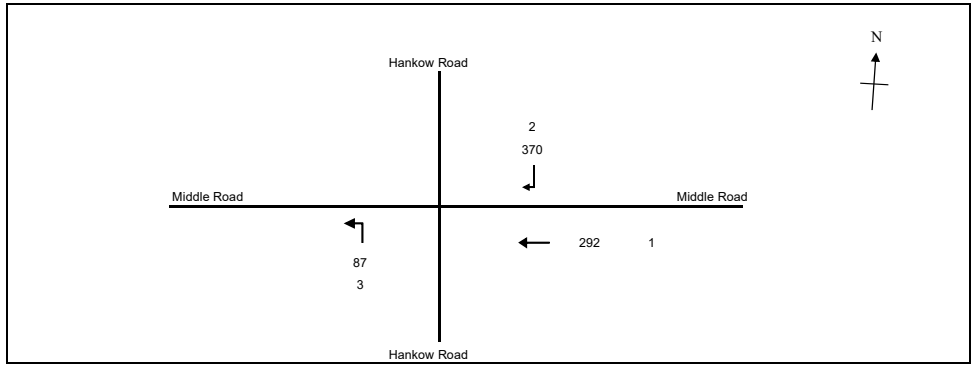
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	90	1	11	OK
5p	10	6	3	11	72	3	11	OK
6p	8	5	3	9	61	3	9	OK
7p	11	6	3	12	6	3	12	OK

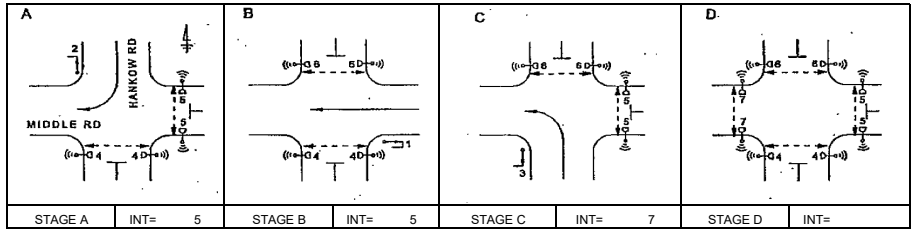
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			332	332	1.00	3739			3739	0.089	0.089		43	43	0.248	21
1	B	3.30	2	2			N	4030		258		258	0.00	4030		115	4145	0.062	0.062		30	30	0.249	19
3	C	2.60	3	2	16			4030	87			87	1.00	3685			3685	0.024	0.024		12	12	0.237	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.193
Loss time		L =	35 sec
Total Flow		=	749 pcu
Co	= (1.5*L+5)/(1-Y)	=	71.3 sec
Cm	= L/(1-Y)	=	43.4 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	230.1 %
Cp	= 0.9*L/(0.9-Y)	=	44.6 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	230 %



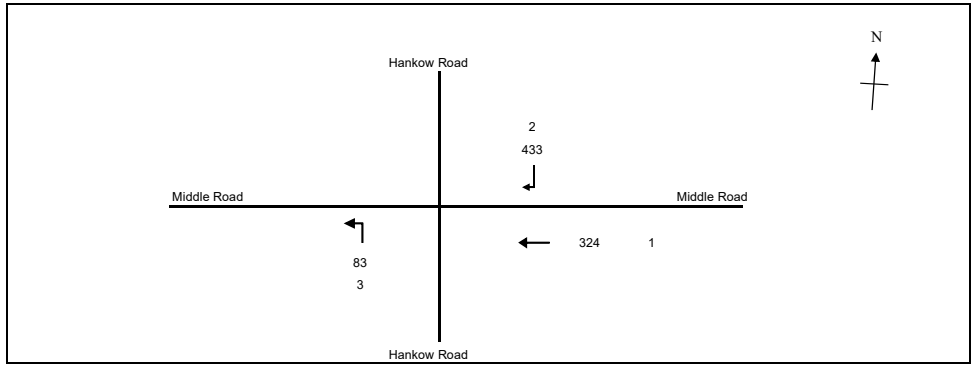
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	92	1	11	OK
5p	10	6	3	11	71	3	11	OK
6p	8	5	3	9	60	3	9	OK
7p	11	6	3	12	6	3	12	OK

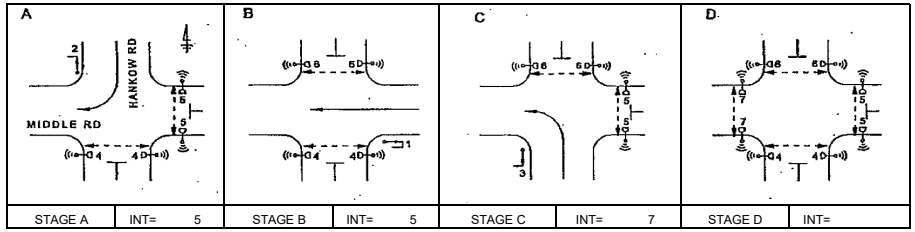
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			370	370	1.00	3739			3739	0.099	0.099		44	44	0.270	23
1	B	3.30	2	2			N	4030		292		292	0.00	4030		115	4145	0.071	0.071		31	31	0.273	22
3	C	2.60	3	2	16			4030	87			87	1.00	3685			3685	0.024	0.024		10	10	0.284	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.217
Loss time		L =	35 sec
Total Flow		=	840 pcu
Co	= (1.5*L+5)/(1-Y)	=	73.4 sec
Cm	= L/(1-Y)	=	44.7 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	194.4 %
Cp	= 0.9*L/(0.9-Y)	=	46.1 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	194 %



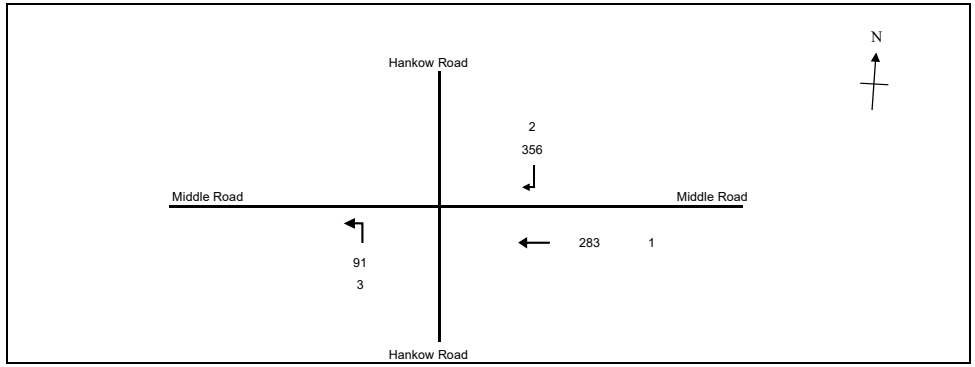
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	93	1	11	OK
5p	10	6	3	11	71	3	11	OK
6p	8	5	3	9	59	3	9	OK
7p	11	6	3	12	6	3	12	OK

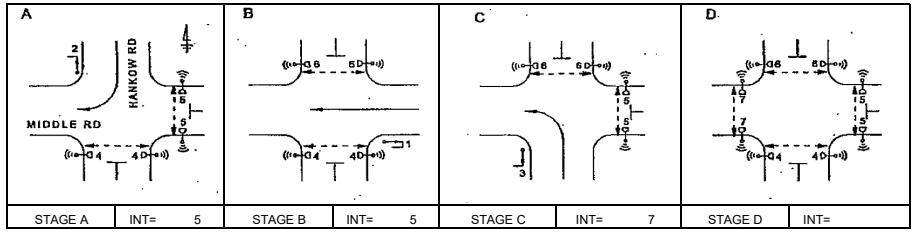
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			433	433	1.00	3739			3739	0.116	0.116		45	45	0.309	27
1	B	3.30	2	2			N	4030		324		324	0.00	4030		115	4145	0.078	0.078		31	31	0.303	24
3	C	2.60	3	2	16			4030	83			83	1.00	3685			3685	0.022	0.022		9	9	0.300	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.188
Loss time		L =	35 sec
Total Flow		=	730 pcu
Co	= (1.5*L+5)/(1-Y)	=	70.8 sec
Cm	= L/(1-Y)	=	43.1 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	239.0 %
Cp	= 0.9*L/(0.9-Y)	=	44.2 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	239 %



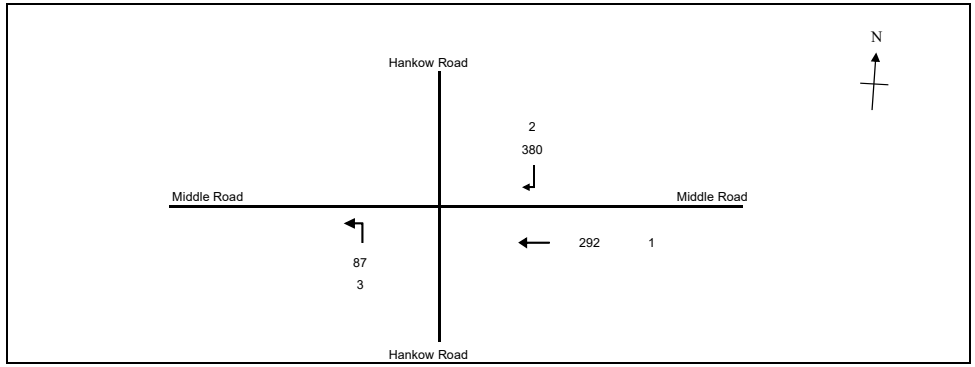
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	91	1	11	OK
5p	10	6	3	11	71	3	11	OK
6p	8	5	3	9	61	3	9	OK
7p	11	6	3	12	6	3	12	OK

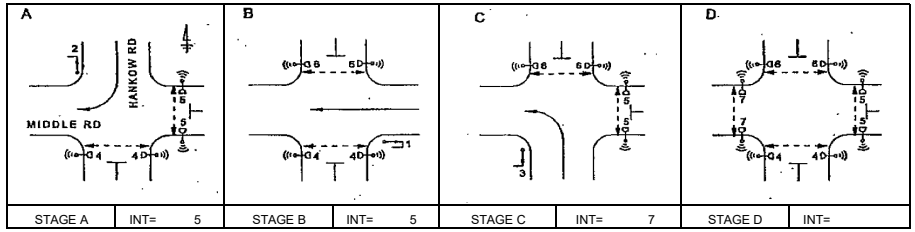
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			356	356	1.00	3739			3739	0.095	0.095		43	43	0.266	23
1	B	3.30	2	2			N	4030		283		283	0.00	4030		115	4145	0.068	0.068		31	31	0.265	21
3	C	2.60	3	2	16			4030	91			91	1.00	3685			3685	0.025	0.025		11	11	0.268	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.196
Loss time		L =	35 sec
Total Flow		=	759 pcu
Co	= (1.5*L+5)/(1-Y)	=	71.5 sec
Cm	= L/(1-Y)	=	43.5 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	225.6 %
Cp	= 0.9*L/(0.9-Y)	=	44.7 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	226 %



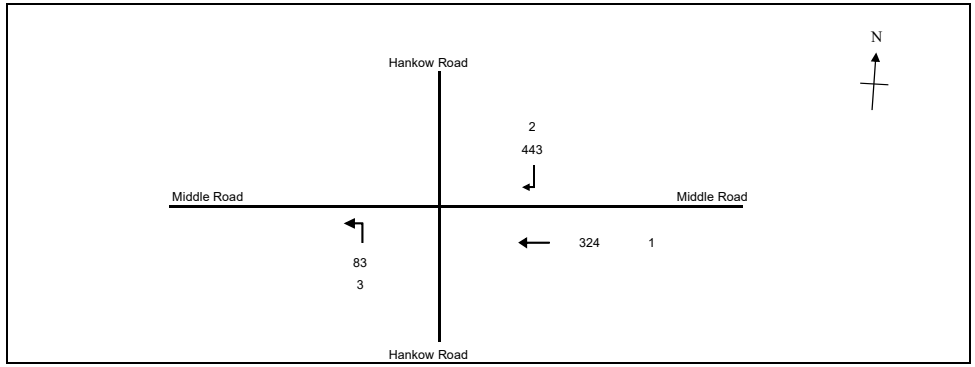
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	92	1	11	OK
5p	10	6	3	11	71	3	11	OK
6p	8	5	3	9	60	3	9	OK
7p	11	6	3	12	6	3	12	OK

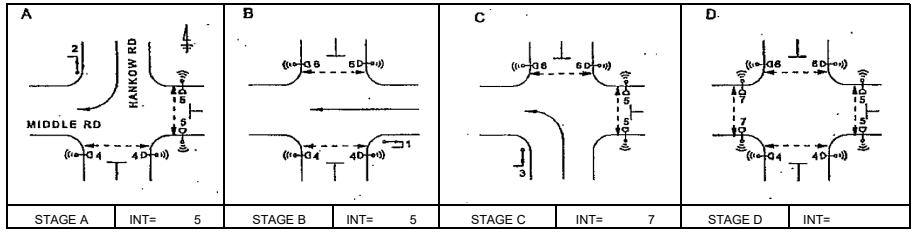
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			380	380	1.00	3739			3739	0.102	0.102		44	44	0.277	24
1	B	3.30	2	2			N	4030		292		292	0.00	4030		115	4145	0.071	0.071		31	31	0.273	22
3	C	2.60	3	2	16			4030	87			87	1.00	3685			3685	0.024	0.024		10	10	0.284	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.219
Loss time		L =	35 sec
Total Flow		=	850 pcu
Co	= (1.5*L+5)/(1-Y)	=	73.6 sec
Cm	= L/(1-Y)	=	44.8 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	190.8 %
Cp	= 0.9*L/(0.9-Y)	=	46.3 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	191 %



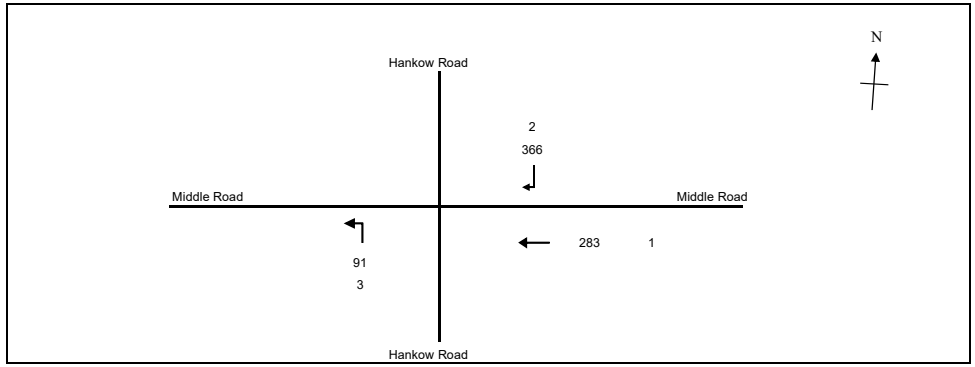
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	93	1	11	OK
5p	10	6	3	11	72	3	11	OK
6p	8	5	3	9	58	3	9	OK
7p	11	6	3	12	6	3	12	OK

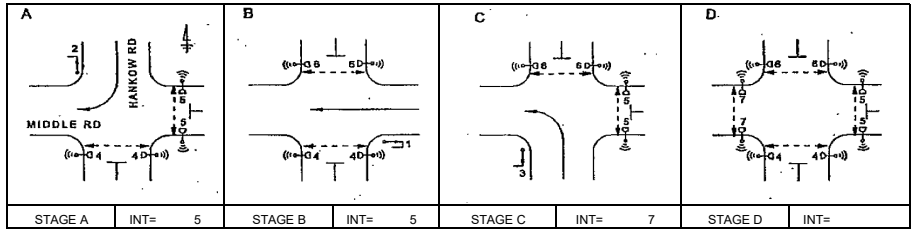
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			443	443	1.00	3739			3739	0.118	0.118		46	46	0.309	27
1	B	3.30	2	2			N	4030		324		324	0.00	4030		115	4145	0.078	0.078		30	30	0.313	24
3	C	2.60	3	2	16			4030	83			83	1.00	3685			3685	0.022	0.022		9	9	0.300	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J4
Hankow Road / Middle Road	2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	4
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.191
Loss time		L =	35 sec
Total Flow		=	740 pcu
Co	= (1.5*L+5)/(1-Y)	=	71.1 sec
Cm	= L/(1-Y)	=	43.3 sec
Yult		=	0.638
R.C.ult	= (Yult-Y)/Y*100%	=	234.2 %
Cp	= 0.9*L/(0.9-Y)	=	44.4 sec
Ymax	= 1-L/C	=	0.708
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	234 %



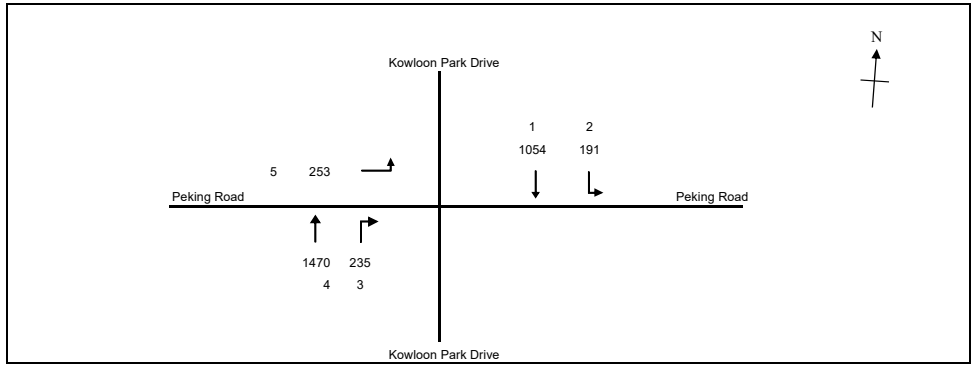
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 7	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
4p	10	6	1	11	91	1	11	OK
5p	10	6	3	11	72	3	11	OK
6p	8	5	3	9	60	3	9	OK
7p	11	6	3	12	6	3	12	OK

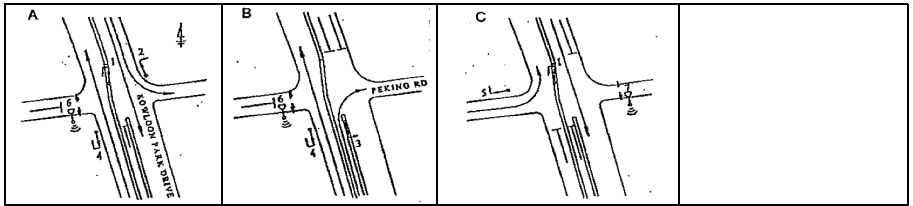
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				14				
2	A	3.60	1	2	16		N	4090			366	366	1.00	3739			3739	0.098	0.098		44	44	0.267	23
1	B	3.30	2	2			N	4030		283		283	0.00	4030		115	4145	0.068	0.068		30	30	0.273	21
3	C	2.60	3	2	16			4030	91			91	1.00	3685			3685	0.025	0.025		11	11	0.268	8
PED	D		4																	21				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.438
Loss time		L =	7 sec
Total Flow		=	3203 pcu
Co	= (1.5*L+5)/(1-Y)	=	27.6 sec
Cm	= L/(1-Y)	=	12.5 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	93.5 %
Cp	= 0.9*L/(0.9-Y)	=	13.6 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	93 %



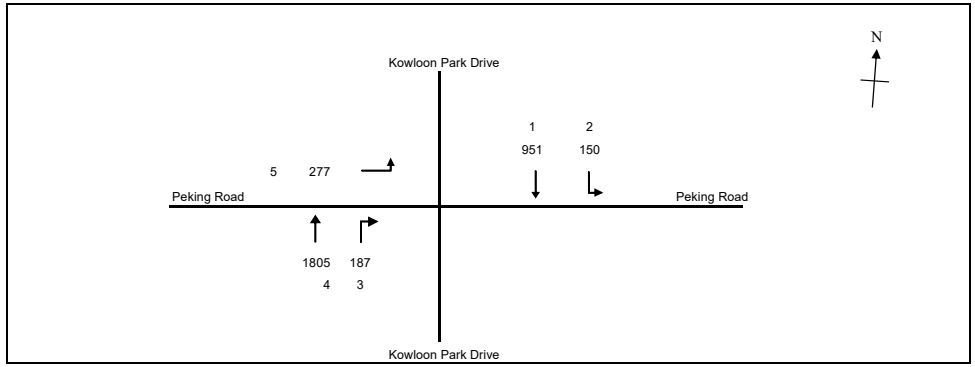
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	85	3	9	OK
7p	5.5	5	7	6	10	7	6	OK

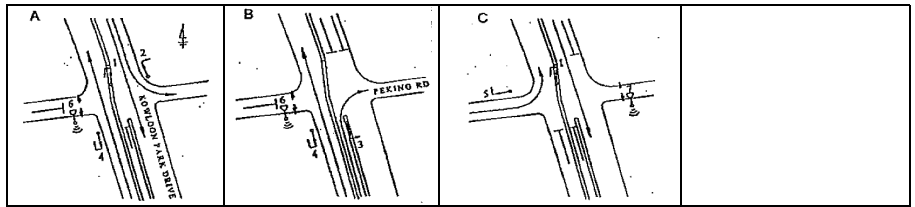
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		1054		1054	0.00	4170			4170	0.253			65	74	0.411	41
2	A	3.00	2	1	8		N	1915	191			191	1.00	1613			1613	0.119			31	51	0.280	22
3	B	3.40	3	1	15			2095			235	235	1.00	1905			1905	0.123			32	38	0.387	32
4	A,B	3.30	4	2			N	4030		1470		1470	0.00	4030			4030	0.365	0.365		94	94	0.466	32
5	C	3.30	5	2	9		N	4030	253			253	1.00	3454			3454	0.073	0.073		19	19	0.462	21

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road		2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.528
Loss time		L =	7 sec
Total Flow		=	3371 pcu
Co	= (1.5*L+5)/(1-Y)	=	32.9 sec
Cm	= L/(1-Y)	=	14.8 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	60.5 %
Cp	= 0.9*L/(0.9-Y)	=	16.9 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	60 %



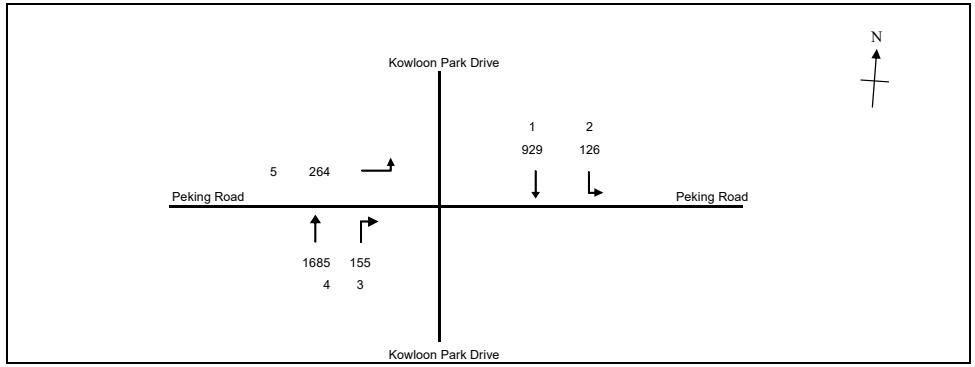
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	87	3	9	OK
7p	5.5	5	7	6	8	7	6	OK

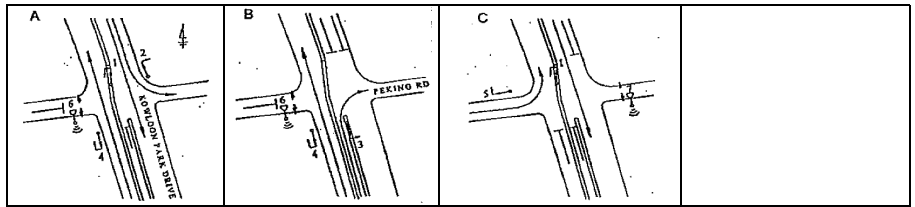
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		951		951	0.00	4170			4170	0.228			49	65	0.419	43
2	A	3.00	2	1	8		N	1915	150			150	1.00	1613			1613	0.093			20	44	0.252	19
3	B	3.40	3	1	15			2095			187	187	1.00	1905			1905	0.098			21	47	0.253	23
4	A,B	3.30	4	2			N	4030		1805		1805	0.00	4030			4030	0.448	0.448		96	96	0.560	36
5	C	3.30	5	2	9		N	4030	277			277	1.00	3454			3454	0.080	0.080		17	17	0.567	24

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.495
Loss time		L =	7 sec
Total Flow		=	3159 pcu
Co	= (1.5*L+5)/(1-Y)	=	30.7 sec
Cm	= L/(1-Y)	=	13.8 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	71.4 %
Cp	= 0.9*L/(0.9-Y)	=	15.5 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	71 %



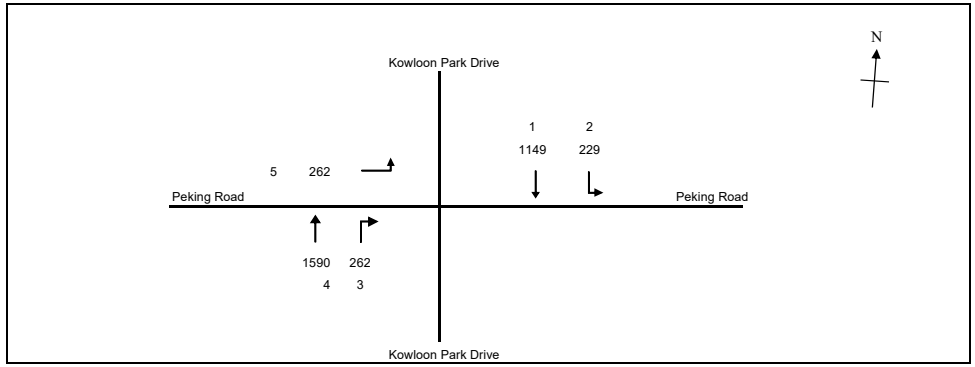
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	87	3	9	OK
7p	5.5	5	7	6	8	7	6	OK

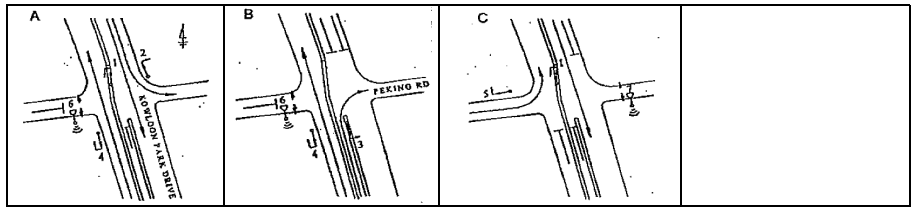
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		929		929	0.00	4170			4170	0.223			51	65	0.409	42
2	A	3.00	2	1	8		N	1915	126			126	1.00	1613			1613	0.078			18	44	0.212	16
3	B	3.40	3	1	15			2095			155	155	1.00	1905			1905	0.081			19	47	0.209	19
4	A,B	3.30	4	2			N	4030		1685		1685	0.00	4030			4030	0.418	0.418		96	96	0.523	34
5	C	3.30	5	2	9		N	4030	264			264	1.00	3454			3454	0.077	0.077		17	17	0.540	23

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road		2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.470
Loss time		L =	7 sec
Total Flow		=	3492 pcu
Co	= (1.5*L+5)/(1-Y)	=	29.3 sec
Cm	= L/(1-Y)	=	13.2 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	80.2 %
Cp	= 0.9*L/(0.9-Y)	=	14.7 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	80 %



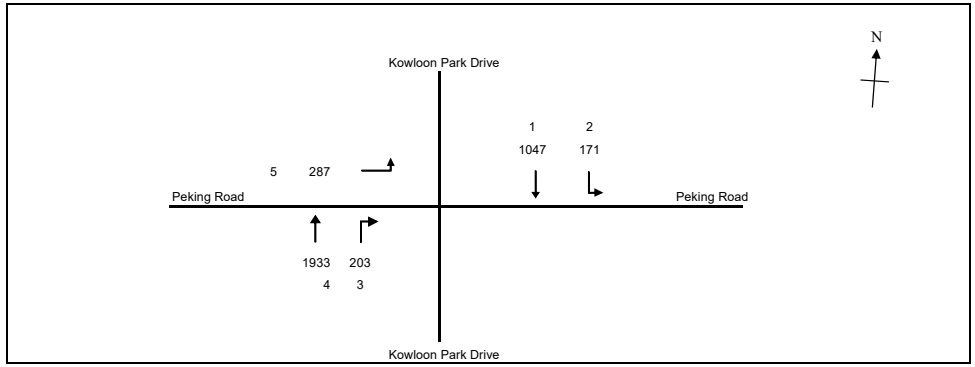
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	86	3	9	OK
7p	5.5	5	7	6	9	7	6	OK

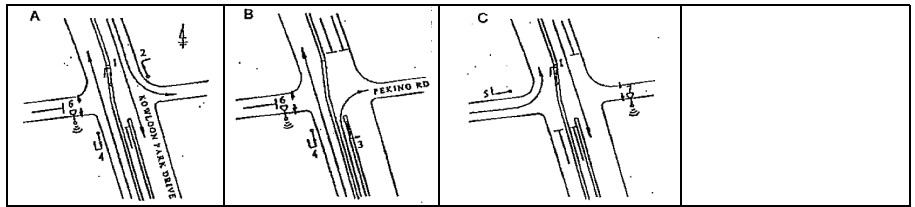
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		1149		1149	0.00	4170			4170	0.276			66	74	0.449	44
2	A	3.00	2	1	8		N	1915	229			229	1.00	1613			1613	0.142			34	52	0.330	26
3	B	3.40	3	1	15			2095			262	262	1.00	1905			1905	0.138			33	38	0.431	36
4	A,B	3.30	4	2			N	4030		1590		1590	0.00	4030			4030	0.394	0.394		95	95	0.498	33
5	C	3.30	5	2	9		N	4030	262			262	1.00	3454			3454	0.076	0.076		18	18	0.505	22

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road	2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.563
Loss time		L =	7 sec
Total Flow		=	3641 pcu
Co	= (1.5*L+5)/(1-Y)	=	35.5 sec
Cm	= L/(1-Y)	=	16.0 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	50.6 %
Cp	= 0.9*L/(0.9-Y)	=	18.7 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	51 %



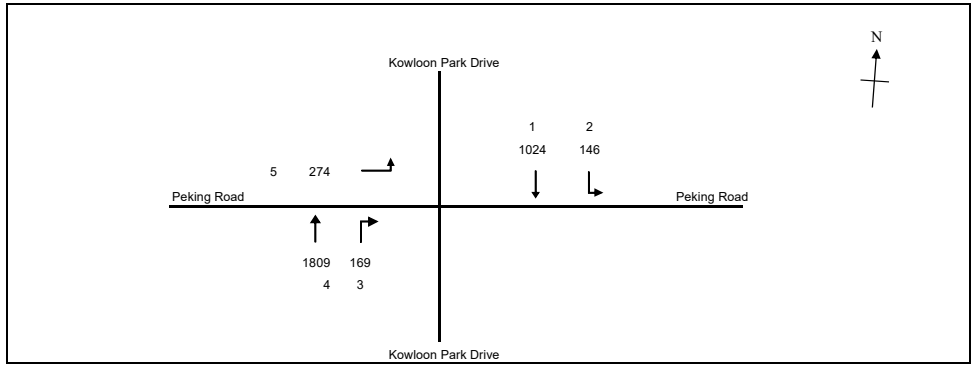
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	87	3	9	OK
7p	5.5	5	7	6	8	7	6	OK

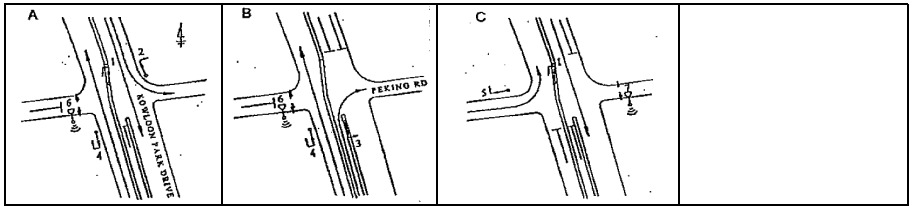
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		1047		1047	0.00	4170			4170	0.251			50	67	0.453	47
2	A	3.00	2	1	8		N	1915	171			171	1.00	1613			1613	0.106			21	46	0.279	21
3	B	3.40	3	1	15			2095			203	203	1.00	1905			1905	0.107			21	46	0.281	25
4	A,B	3.30	4	2			N	4030		1933		1933	0.00	4030			4030	0.480	0.480		96	96	0.600	39
5	C	3.30	5	2	9		N	4030	287			287	1.00	3454			3454	0.083	0.083		17	17	0.587	25

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road		2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.528
Loss time		L =	7 sec
Total Flow		=	3421 pcu
Co	= (1.5*L+5)/(1-Y)	=	32.8 sec
Cm	= L/(1-Y)	=	14.8 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	60.5 %
Cp	= 0.9*L/(0.9-Y)	=	16.9 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	61 %



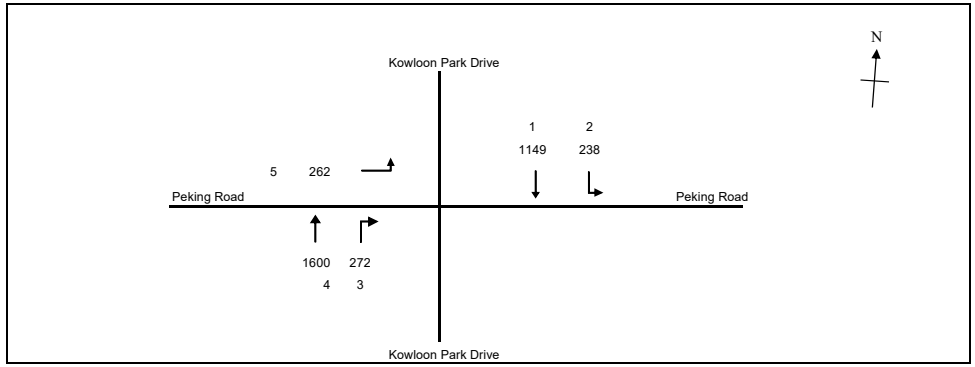
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	87	3	9	OK
7p	5.5	5	7	6	8	7	6	OK

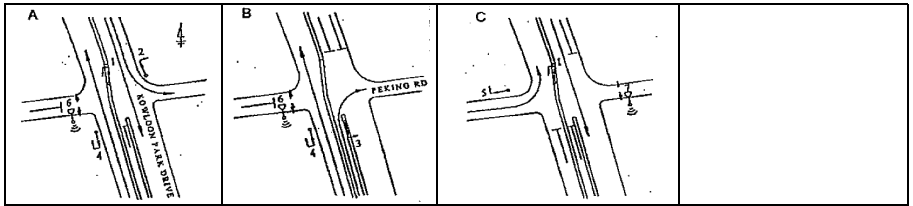
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		1024		1024	0.00	4170			4170	0.246			53	67	0.443	46
2	A	3.00	2	1	8		N	1915	146			146	1.00	1613			1613	0.090			19	46	0.238	18
3	B	3.40	3	1	15			2095			169	169	1.00	1905			1905	0.089			19	46	0.234	21
4	A,B	3.30	4	2			N	4030		1809		1809	0.00	4030			4030	0.449	0.449		96	96	0.561	36
5	C	3.30	5	2	9		N	4030	274			274	1.00	3454			3454	0.079	0.079		17	17	0.559	23

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road		2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.473
Loss time		L =	7 sec
Total Flow		=	3521 pcu
Co	= (1.5*L+5)/(1-Y)	=	29.4 sec
Cm	= L/(1-Y)	=	13.3 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	79.3 %
Cp	= 0.9*L/(0.9-Y)	=	14.7 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	79 %



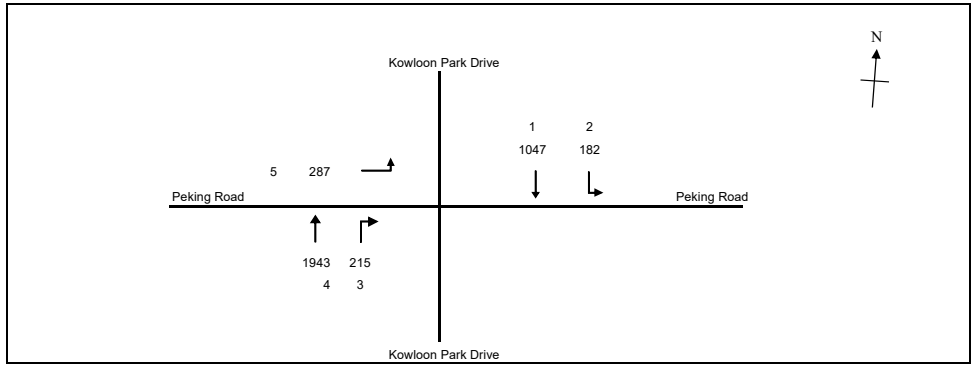
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	86	3	9	OK
7p	5.5	5	7	6	9	7	6	OK

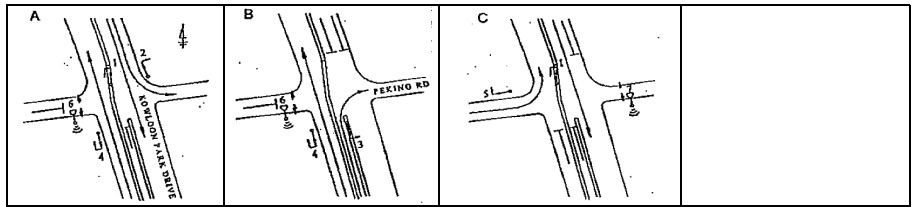
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		1149		1149	0.00	4170			4170	0.276			66	74	0.449	44
2	A	3.00	2	1	8		N	1915	238			238	1.00	1613			1613	0.148			35	52	0.343	27
3	B	3.40	3	1	15			2095			272	272	1.00	1905			1905	0.143			34	38	0.447	37
4	A,B	3.30	4	2			N	4030		1600		1600	0.00	4030			4030	0.397	0.397		95	95	0.501	33
5	C	3.30	5	2	9		N	4030	262			262	1.00	3454			3454	0.076	0.076		18	18	0.505	22

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road		2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.565
Loss time		L =	7 sec
Total Flow		=	3674 pcu
Co	= (1.5*L+5)/(1-Y)	=	35.7 sec
Cm	= L/(1-Y)	=	16.1 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	49.9 %
Cp	= 0.9*L/(0.9-Y)	=	18.8 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	50 %



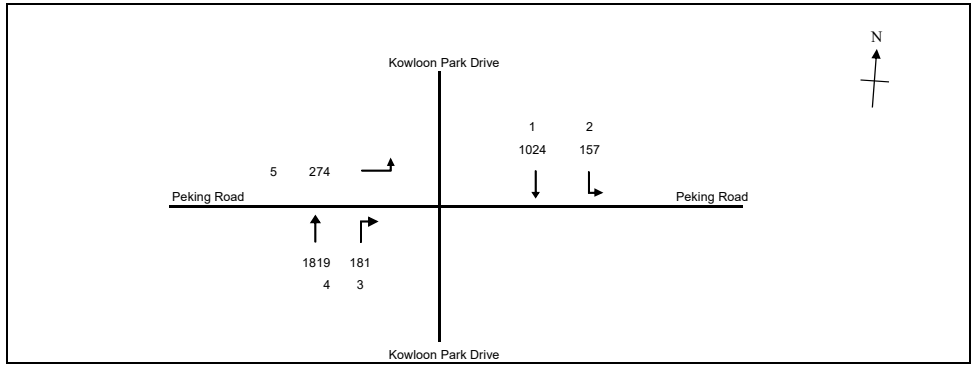
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	87	3	9	OK
7p	5.5	5	7	6	8	7	6	OK

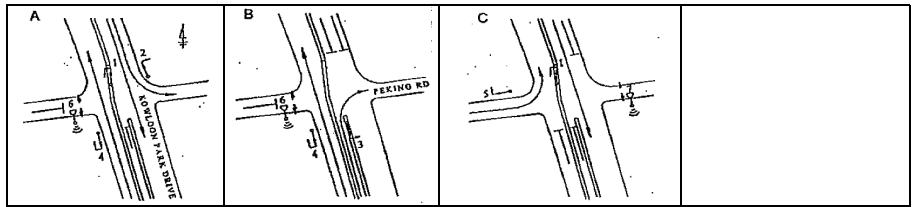
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				7				
1	A,C	3.30	1	2				4170		1047		1047	0.00	4170			4170	0.251			50	67	0.453	47
2	A	3.00	2	1	8		N	1915	182			182	1.00	1613			1613	0.113			23	46	0.297	23
3	B	3.40	3	1	15			2095			215	215	1.00	1905			1905	0.113			23	46	0.298	27
4	A,B	3.30	4	2			N	4030		1943		1943	0.00	4030			4030	0.482	0.482		96	96	0.603	39
5	C	3.30	5	2	9		N	4030	287			287	1.00	3454			3454	0.083	0.083		17	17	0.587	25

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J5
Kowloon Park Drive / Peking Road		2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.530
Loss time		L =	7 sec
Total Flow		=	3454 pcu
Co	= (1.5*L+5)/(1-Y)	=	33.0 sec
Cm	= L/(1-Y)	=	14.9 sec
Yult		=	0.848
R.C.ult	= (Yult-Y)/Y*100%	=	59.8 %
Cp	= 0.9*L/(0.9-Y)	=	17.0 sec
Ymax	= 1-L/C	=	0.942
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	60 %



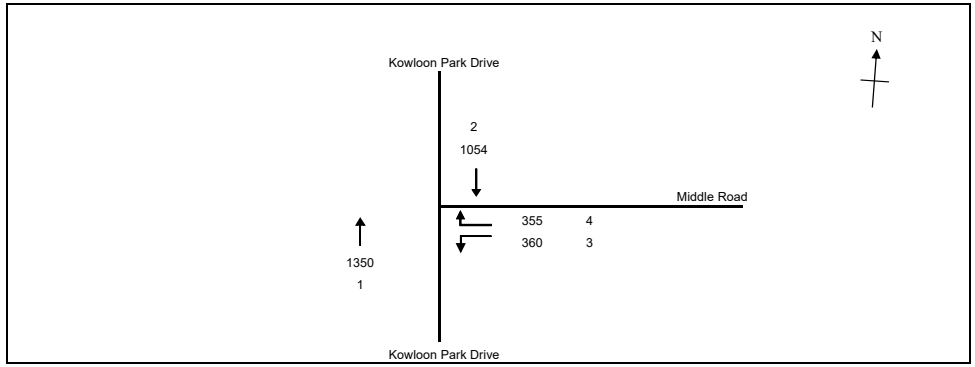
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
6p	8	5	3	9	87	3	9	OK
7p	5.5	5	7	6	8	7	6	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right 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.
																				7				
1	A,C	3.30	1	2				4170		1024		1024	0.00	4170			4170	0.246			52	68	0.436	45
2	A	3.00	2	1	8		N	1915	157			157	1.00	1613			1613	0.097			21	47	0.250	19
3	B	3.40	3	1	15			2095			181	181	1.00	1905			1905	0.095			20	44	0.257	23
4	A,B	3.30	4	2			N	4030		1819		1819	0.00	4030			4030	0.451	0.451		96	96	0.564	36
5	C	3.30	5	2	9		N	4030	274			274	1.00	3454			3454	0.079	0.079		17	17	0.559	23

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.353
Loss time		L =	8 sec
Total Flow		=	3119 pcu
Co	= (1.5*L+5)/(1-Y)	=	26.3 sec
Cm	= L/(1-Y)	=	12.4 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	137.9 %
Cp	= 0.9*L/(0.9-Y)	=	13.2 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	138 %

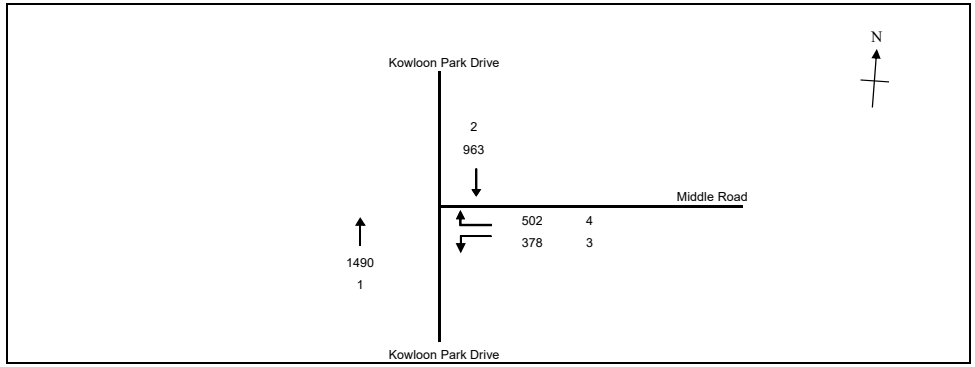
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	42	2	8	OK
6p	7	5	2	8	24	2	8	OK
7p	11	12	4	11	19	4	11	OK

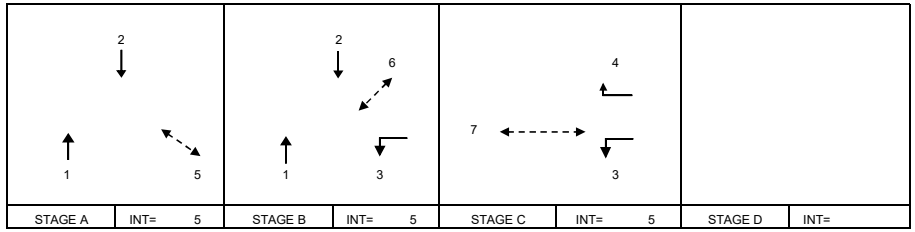
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1350		1350	0.00	6115			6115	0.221			70	82	0.323	29
2	A,B	3.50	1	2			N	4070		1054		1054	0.00	4070			4070	0.259	0.259		82	82	0.379	33
3	B,C	3.80	2	1	12		N	1995	360			360	1.00	1773			1773	0.203			64	64	0.381	34
4	C	3.30	3	2	14			4170			355	355	1.00	3766			3766	0.094	0.094		30	30	0.377	27

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road		2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.377
Loss time		L =	8 sec
Total Flow		=	3333 pcu
Co	= (1.5*L+5)/(1-Y)	=	27.3 sec
Cm	= L/(1-Y)	=	12.8 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	122.9 %
Cp	= 0.9*L/(0.9-Y)	=	13.8 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	123 %



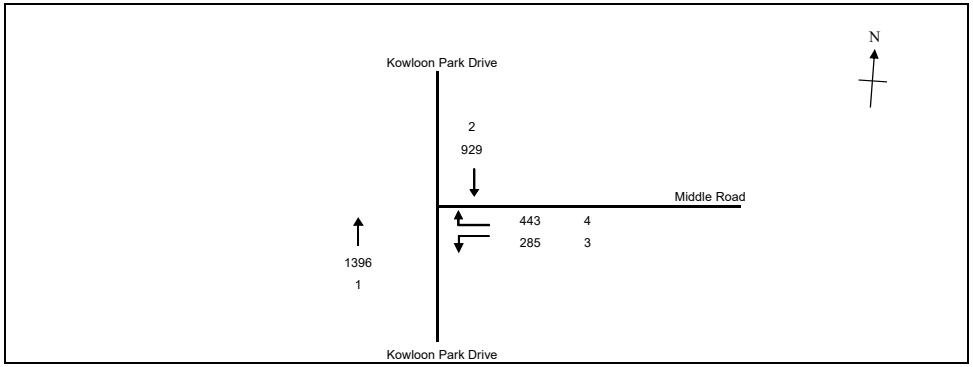
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	43	2	8	OK
6p	7	5	2	8	13	2	8	OK
7p	11	12	4	11	29	4	11	OK

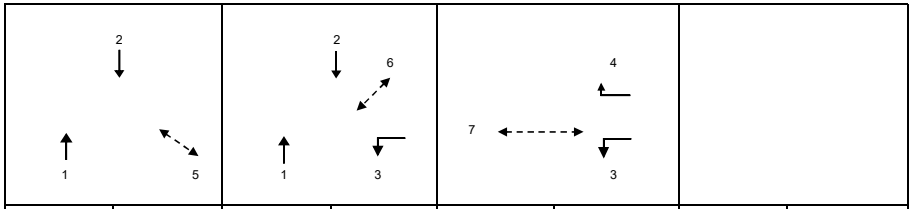
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1490		1490	0.00	6115			6115	0.244			72	72	0.406	40
2	A,B	3.50	1	2			N	4070		963		963	0.00	4070			4070	0.237	0.244		70	72	0.394	39
3	B,C	3.80	2	1	12		N	1995	378			378	1.00	1773			1773	0.213			63	63	0.406	36
4	C	3.30	3	2	14			4170			502	502	1.00	3766			3766	0.133	0.133		40	40	0.400	33

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.346
Loss time		L =	8 sec
Total Flow		=	3053 pcu
Co	= (1.5*L+5)/(1-Y)	=	26.0 sec
Cm	= L/(1-Y)	=	12.2 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	142.8 %
Cp	= 0.9*L/(0.9-Y)	=	13.0 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	143 %



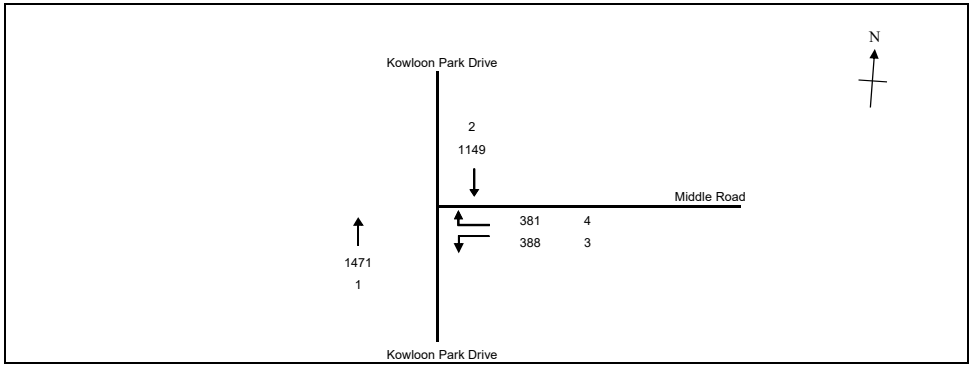
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	54	2	8	OK
6p	7	5	2	8	4	2	8	not OK
7p	11	12	4	11	27	4	11	OK

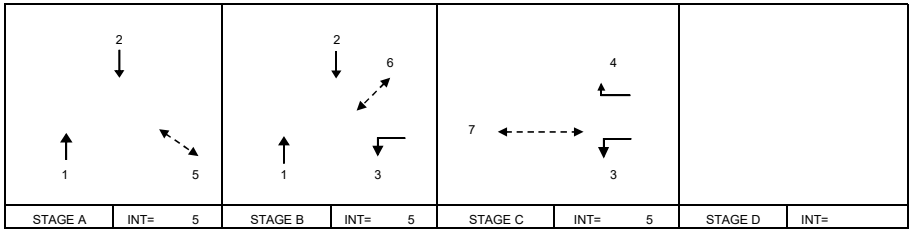
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1396		1396	0.00	6115			6115	0.228			74	74	0.370	36
2	A,B	3.50	1	2			N	4070		929		929	0.00	4070			4070	0.228	0.228		74	74	0.370	36
3	B,C	3.80	2	1	12		N	1995	285			285	1.00	1773			1773	0.161			52	52	0.370	32
4	C	3.30	3	2	14			4170			443	443	1.00	3766			3766	0.118	0.118		38	38	0.372	30

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.383
Loss time		L =	8 sec
Total Flow		=	3389 pcu
Co	= (1.5*L+5)/(1-Y)	=	27.6 sec
Cm	= L/(1-Y)	=	13.0 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	119.1 %
Cp	= 0.9*L/(0.9-Y)	=	13.9 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	119 %



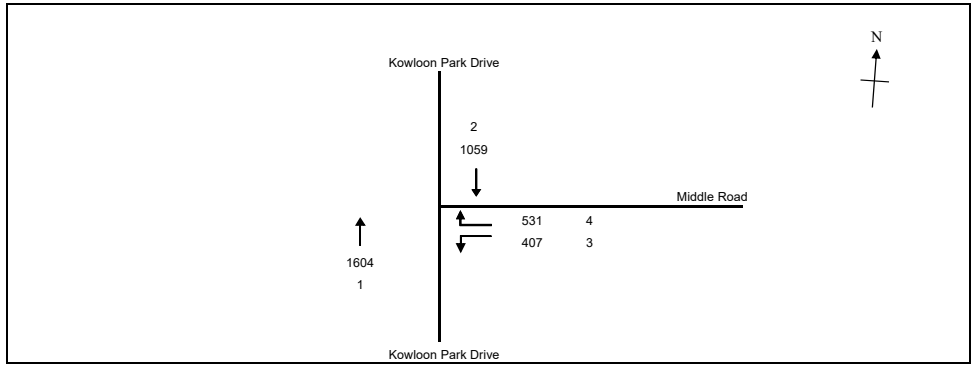
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	42	2	8	OK
6p	7	5	2	8	24	2	8	OK
7p	11	12	4	11	19	4	11	OK

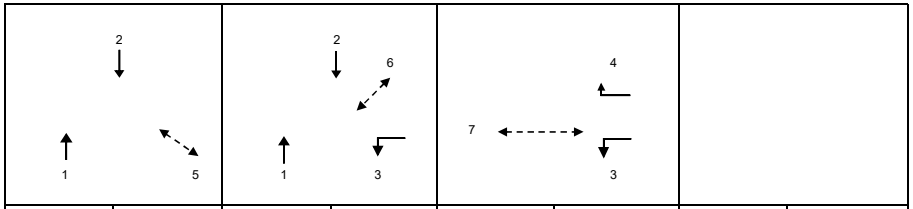
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1471		1471	0.00	6115			6115	0.241			70	82	0.352	31
2	A,B	3.50	1	2			N	4070		1149		1149	0.00	4070			4070	0.282	0.282		82	82	0.413	36
3	B,C	3.80	2	1	12		N	1995	388			388	1.00	1773			1773	0.219			64	64	0.410	36
4	C	3.30	3	2	14			4170			381	381	1.00	3766			3766	0.101	0.101		30	30	0.404	29

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.403
Loss time		L =	8 sec
Total Flow		=	3602 pcu
Co	= (1.5*L+5)/(1-Y)	=	28.5 sec
Cm	= L/(1-Y)	=	13.4 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	108.2 %
Cp	= 0.9*L/(0.9-Y)	=	14.5 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	108 %



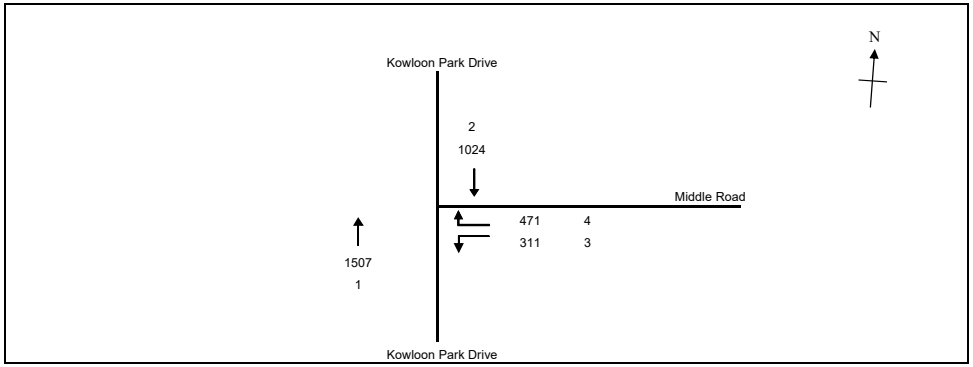
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	42	2	8	OK
6p	7	5	2	8	15	2	8	OK
7p	11	12	4	11	28	4	11	OK

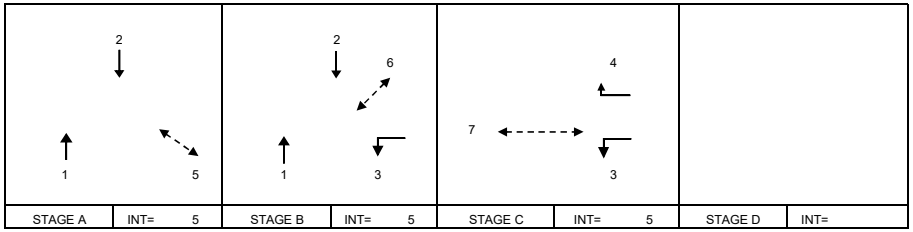
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1604		1604	0.00	6115			6115	0.262			73	73	0.431	42
2	A,B	3.50	1	2			N	4070		1059		1059	0.00	4070			4070	0.260	0.262		72	73	0.428	41
3	B,C	3.80	2	1	12		N	1995	407			407	1.00	1773			1773	0.230			64	64	0.431	38
4	C	3.30	3	2	14			4170			531	531	1.00	3766			3766	0.141	0.141		39	39	0.434	36

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.377
Loss time		L =	8 sec
Total Flow		=	3312 pcu
Co	= (1.5*L+5)/(1-Y)	=	27.3 sec
Cm	= L/(1-Y)	=	12.8 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	123.1 %
Cp	= 0.9*L/(0.9-Y)	=	13.8 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	123 %



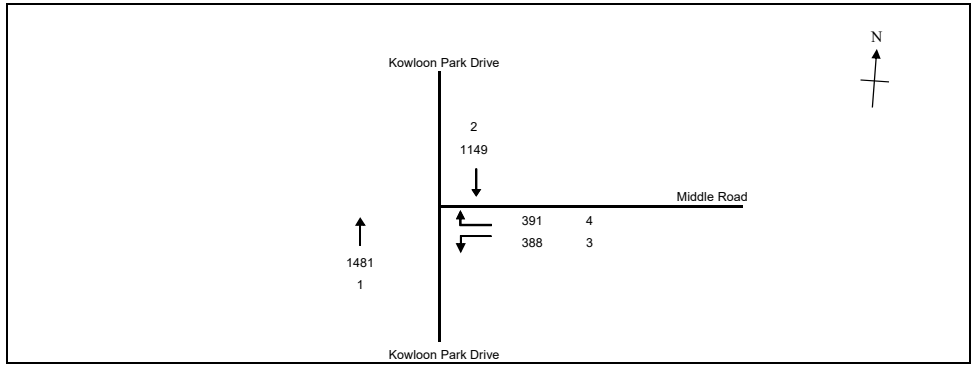
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	54	2	8	OK
6p	7	5	2	8	5	2	8	OK
7p	11	12	4	11	26	4	11	OK

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right 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.
																				8				
1	A,B	3.30	1	3			N	6115		1507		1507	0.00	6115			6115	0.246			73	75	0.394	38
2	A,B	3.50	1	2			N	4070		1024		1024	0.00	4070			4070	0.252	0.252		75	75	0.402	38
3	B,C	3.80	2	1	12		N	1995	311			311	1.00	1773			1773	0.175			52	52	0.404	35
4	C	3.30	3	2	14			4170			471	471	1.00	3766			3766	0.125	0.125		37	37	0.405	33

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.386
Loss time		L =	8 sec
Total Flow		=	3409 pcu
Co	= (1.5*L+5)/(1-Y)	=	27.7 sec
Cm	= L/(1-Y)	=	13.0 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	117.6 %
Cp	= 0.9*L/(0.9-Y)	=	14.0 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	118 %

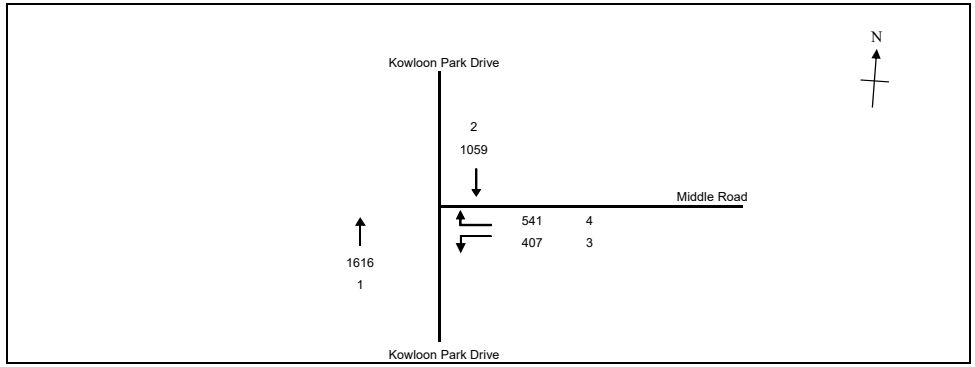
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	43	2	8	OK
6p	7	5	2	8	23	2	8	OK
7p	11	12	4	11	19	4	11	OK

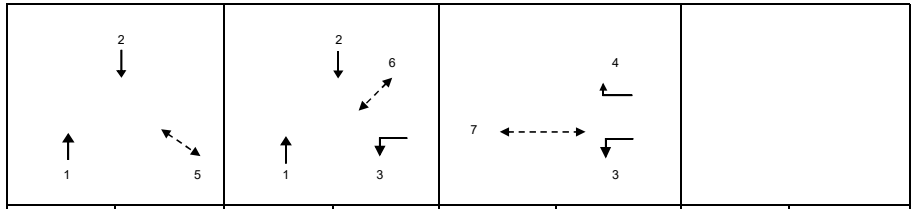
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1481		1481	0.00	6115			6115	0.242			70	82	0.354	31
2	A,B	3.50	1	2			N	4070		1149		1149	0.00	4070			4070	0.282	0.282		82	82	0.413	36
3	B,C	3.80	2	1	12		N	1995	388			388	1.00	1773			1773	0.219			63	63	0.417	37
4	C	3.30	3	2	14			4170			391	391	1.00	3766			3766	0.104	0.104		30	30	0.415	29

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road		2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.408
Loss time		L =	8 sec
Total Flow		=	3624 pcu
Co	= (1.5*L+5)/(1-Y)	=	28.7 sec
Cm	= L/(1-Y)	=	13.5 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	105.9 %
Cp	= 0.9*L/(0.9-Y)	=	14.6 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	106 %



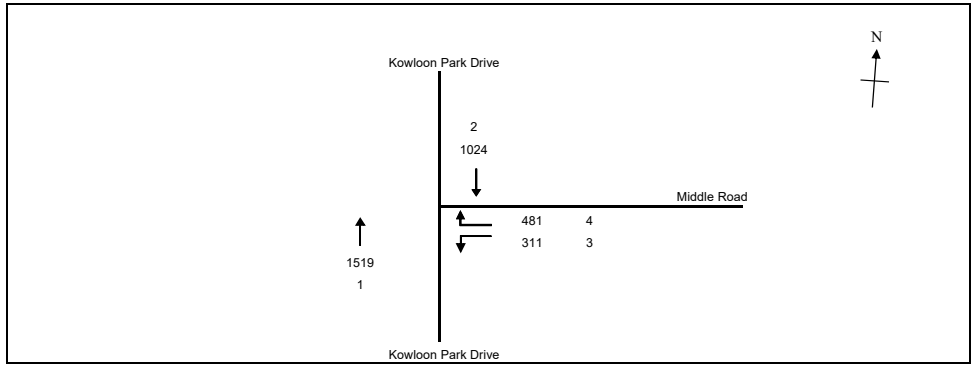
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	43	2	8	OK
6p	7	5	2	8	14	2	8	OK
7p	11	12	4	11	28	4	11	OK

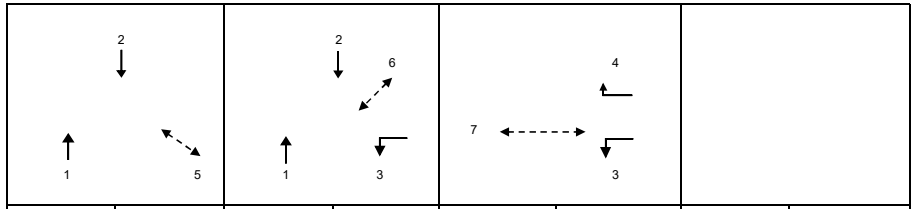
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1616		1616	0.00	6115			6115	0.264			73	73	0.434	42
2	A,B	3.50	1	2			N	4070		1059		1059	0.00	4070			4070	0.260	0.264		71	73	0.428	41
3	B,C	3.80	2	1	12		N	1995	407			407	1.00	1773			1773	0.230			63	63	0.438	39
4	C	3.30	3	2	14			4170			541	541	1.00	3766			3766	0.144	0.144		39	39	0.442	37

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J6
Kowloon Park Drive / Middle Road	2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	3
No. of stage using for calculation		N =	3
Cycle time		C =	120 sec
Sum(y)		Y =	0.379
Loss time		L =	8 sec
Total Flow		=	3334 pcu
Co	= (1.5*L+5)/(1-Y)	=	27.4 sec
Cm	= L/(1-Y)	=	12.9 sec
Yult		=	0.840
R.C.ult	= (Yult-Y)/Y*100%	=	121.5 %
Cp	= 0.9*L/(0.9-Y)	=	13.8 sec
Ymax	= 1-L/C	=	0.933
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	122 %



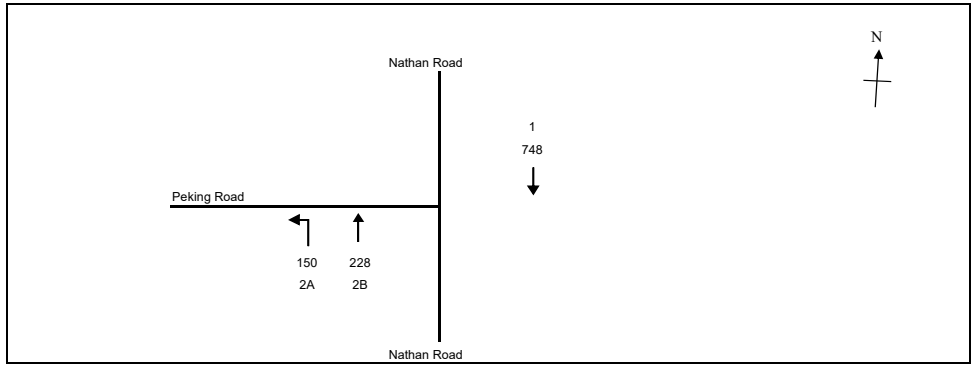
STAGE A	INT= 5	STAGE B	INT= 5	STAGE C	INT= 5	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5p	7	5	2	8	54	2	8	OK
6p	7	5	2	8	4	2	8	not OK
7p	11	12	4	11	27	4	11	OK

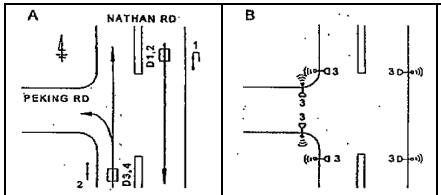
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				8				
1	A,B	3.30	1	3			N	6115		1519		1519	0.00	6115			6115	0.248			73	74	0.403	39
2	A,B	3.50	1	2			N	4070		1024		1024	0.00	4070			4070	0.252	0.252		74	74	0.408	39
3	B,C	3.80	2	1	12		N	1995	311			311	1.00	1773			1773	0.175			52	52	0.404	35
4	C	3.30	3	2	14			4170			481	481	1.00	3766			3766	0.128	0.128		38	38	0.403	33

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.185
Loss time		L =	44 sec
Total Flow		=	1125 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.1 sec
Cm	= L/(1-Y)	=	54.0 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	208.8 %
Cp	= 0.9*L/(0.9-Y)	=	55.4 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	209 %



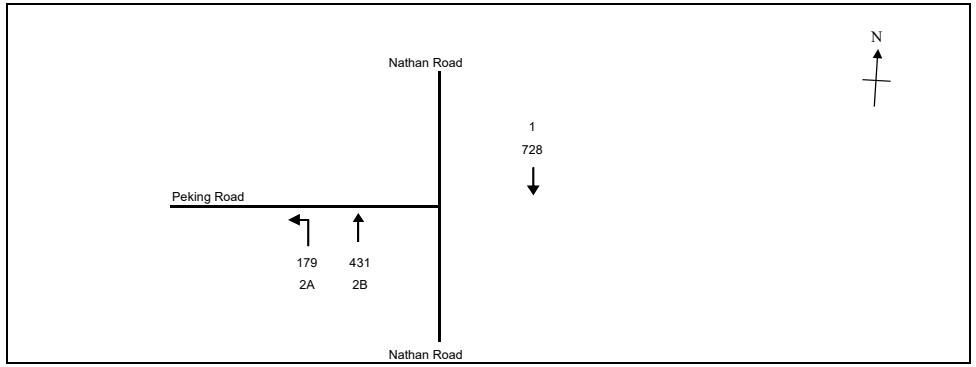
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

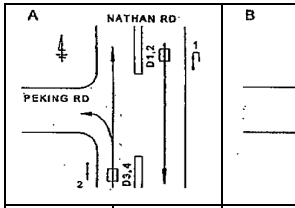
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		748		748	0.00	4050			4050	0.185	0.185		76	76	0.291	27
2A,2B	A	3.40	1	1	13		N	1955	150	23		173	0.87	1777			1777	0.098			40	76	0.154	13
2B	A	3.40	1	1				2095		204		204	0.00	2095			2095	0.098			40	76	0.154	15
PED	B		2																	35				

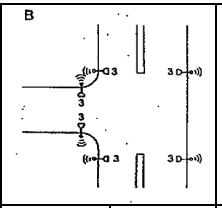
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.180
Loss time		L =	44 sec
Total Flow		=	1338 pcu
Co	= (1.5*L+5)/(1-Y)	=	86.5 sec
Cm	= L/(1-Y)	=	53.6 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	217.3 %
Cp	= 0.9*L/(0.9-Y)	=	55.0 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	217 %





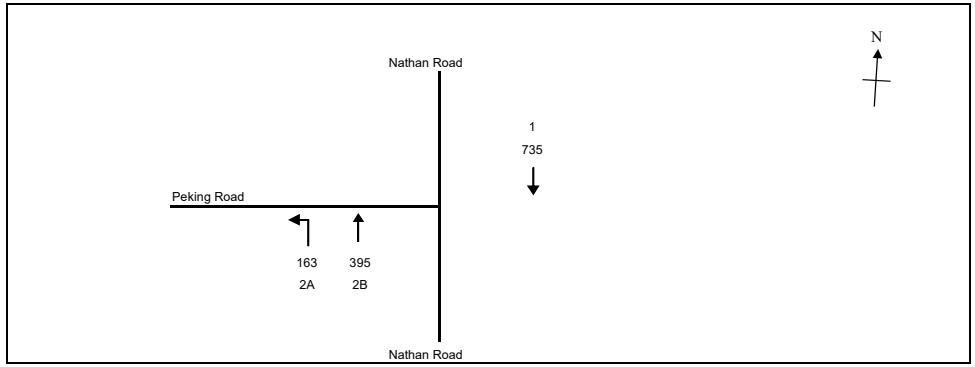
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

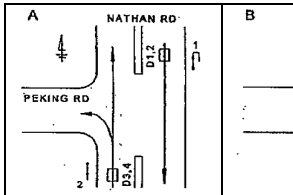
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		728		728	0.00	4050			4050	0.180	0.180		76	76	0.284	27
2A,2B	A	3.40	1	1	13		N	1955	179	105		284	0.63	1822			1822	0.156			66	76	0.246	21
2B	A	3.40	1	1				2095		326		326	0.00	2095			2095	0.156			66	76	0.246	24
PED	B		2																	35				

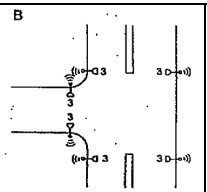
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.182
Loss time		L =	44 sec
Total Flow		=	1293 pcu
Co	= (1.5*L+5)/(1-Y)	=	86.8 sec
Cm	= L/(1-Y)	=	53.8 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	213.9 %
Cp	= 0.9*L/(0.9-Y)	=	55.1 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	214 %





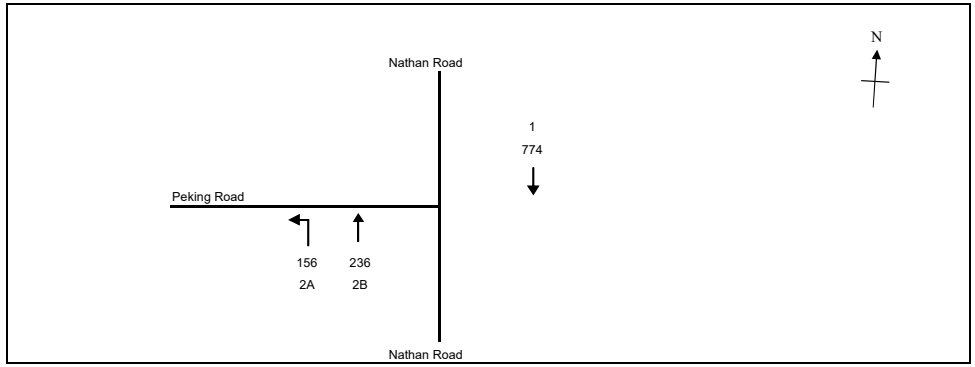
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

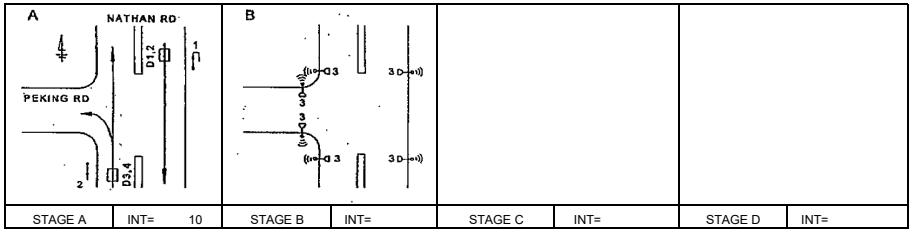
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		735		735	0.00	4050			4050	0.182	0.182		76	76	0.287	27
2A,2B	A	3.40	1	1	13		N	1955	163	97		260	0.63	1823			1823	0.142			60	76	0.225	19
2B	A	3.40	1	1				2095		298		298	0.00	2095			2095	0.142			60	76	0.225	22
PED	B		2																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.191
Loss time		L =	44 sec
Total Flow		=	1165 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.8 sec
Cm	= L/(1-Y)	=	54.4 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	198.2 %
Cp	= 0.9*L/(0.9-Y)	=	55.9 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	198 %



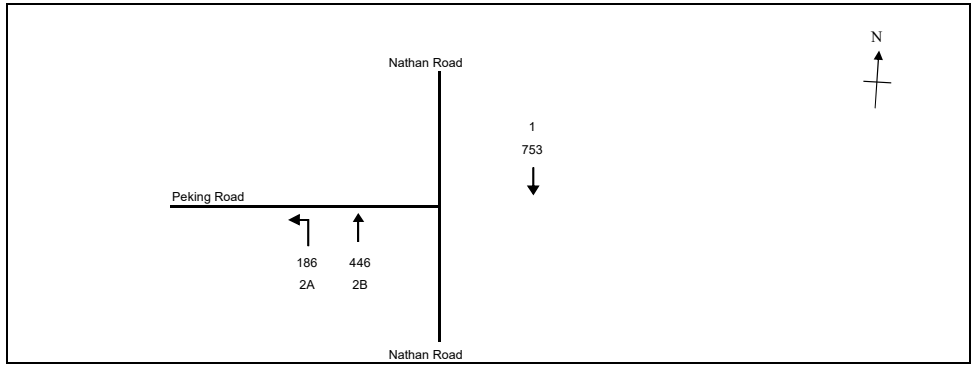
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

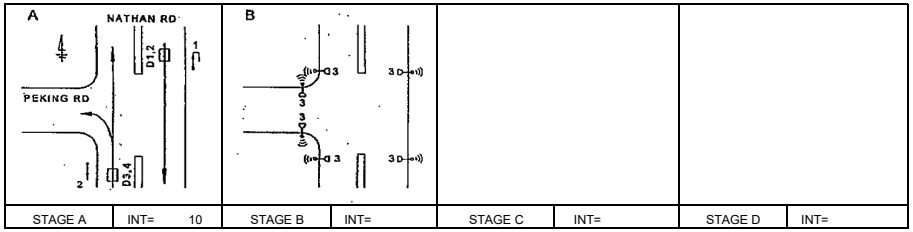
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		774		774	0.00	4050			4050	0.191	0.191		76	76	0.302	28
2A,2B	A	3.40	1	1	13		N	1955	156	24		180	0.87	1777			1777	0.101			40	76	0.160	13
2B	A	3.40	1	1				2095		212		212	0.00	2095			2095	0.101			40	76	0.160	16
PED	B		2																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.186
Loss time		L =	44 sec
Total Flow		=	1385 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.2 sec
Cm	= L/(1-Y)	=	54.1 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	206.4 %
Cp	= 0.9*L/(0.9-Y)	=	55.5 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	206 %



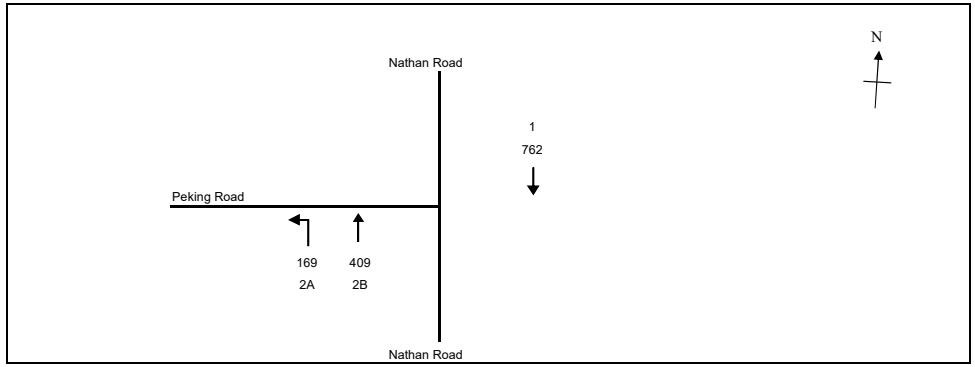
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

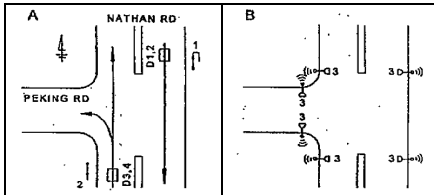
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		753		753	0.00	4050			4050	0.186	0.186		76	76	0.294	28
2A,2B	A	3.40	1	1	13		N	1955	186	108		294	0.63	1822			1822	0.161			66	76	0.255	22
2B	A	3.40	1	1				2095		338		338	0.00	2095			2095	0.161			66	76	0.255	25
PED	B		2																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.188
Loss time		L =	44 sec
Total Flow		=	1339 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.4 sec
Cm	= L/(1-Y)	=	54.2 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	203.1 %
Cp	= 0.9*L/(0.9-Y)	=	55.6 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	203 %



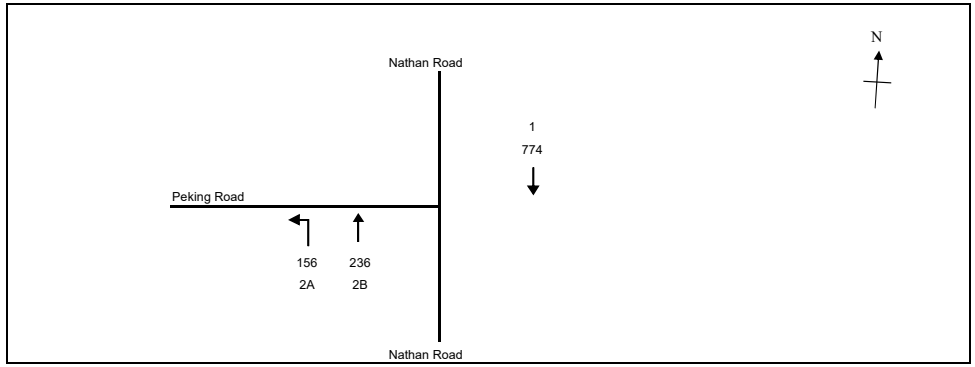
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

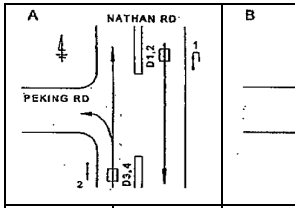
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		762		762	0.00	4050			4050	0.188	0.188		76	76	0.297	28
2A,2B	A	3.40	1	1	13		N	1955	169	100		269	0.63	1823			1823	0.147			60	76	0.233	20
2B	A	3.40	1	1				2095		309		309	0.00	2095			2095	0.147			60	76	0.233	23
PED	B		2																	35				

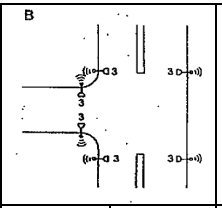
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.191
Loss time		L =	44 sec
Total Flow		=	1165 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.8 sec
Cm	= L/(1-Y)	=	54.4 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	198.2 %
Cp	= 0.9*L/(0.9-Y)	=	55.9 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	198 %





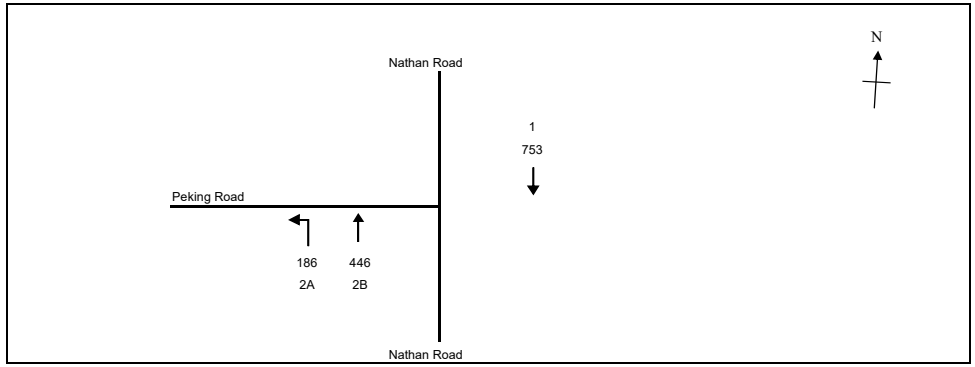
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

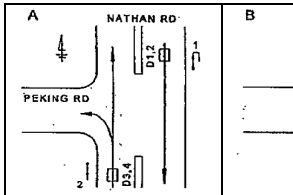
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		774		774	0.00	4050			4050	0.191	0.191		76	76	0.302	28
2A,2B	A	3.40	1	1	13		N	1955	156	24		180	0.87	1777			1777	0.101			40	76	0.160	13
2B	A	3.40	1	1			N	2095		212		212	0.00	2095			2095	0.101			40	76	0.160	16
PED	B		2																	35				

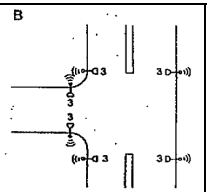
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.186
Loss time		L =	44 sec
Total Flow		=	1385 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.2 sec
Cm	= L/(1-Y)	=	54.1 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	206.4 %
Cp	= 0.9*L/(0.9-Y)	=	55.5 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	206 %





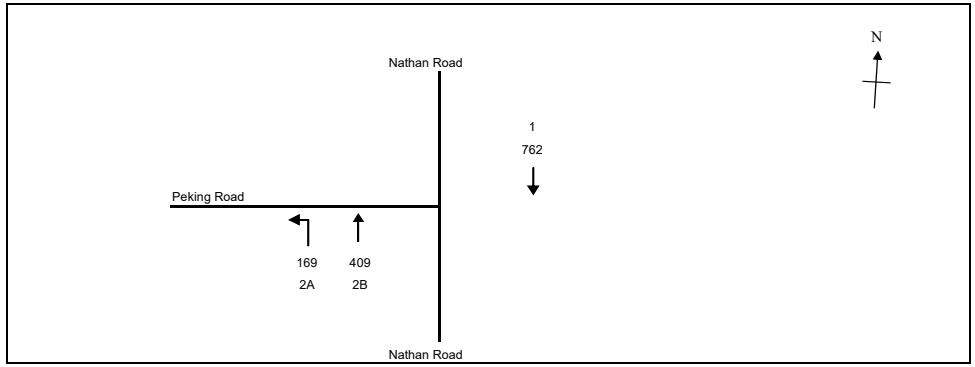
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

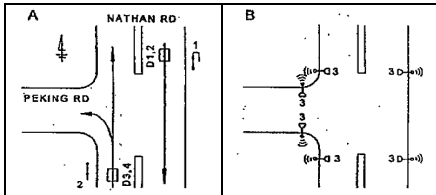
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		753		753	0.00	4050			4050	0.186	0.186		76	76	0.294	28
2A,2B	A	3.40	1	1	13		N	1955	186	108		294	0.63	1822			1822	0.161			66	76	0.255	22
2B	A	3.40	1	1				2095		338		338	0.00	2095			2095	0.161			66	76	0.255	25
PED	B		2																	35				

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J7
Nathan Road / Peking Road	2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	1
Cycle time		C =	120 sec
Sum(y)		Y =	0.188
Loss time		L =	44 sec
Total Flow		=	1339 pcu
Co	= (1.5*L+5)/(1-Y)	=	87.4 sec
Cm	= L/(1-Y)	=	54.2 sec
Yult		=	0.570
R.C.ult	= (Yult-Y)/Y*100%	=	203.1 %
Cp	= 0.9*L/(0.9-Y)	=	55.6 sec
Ymax	= 1-L/C	=	0.633
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	203 %



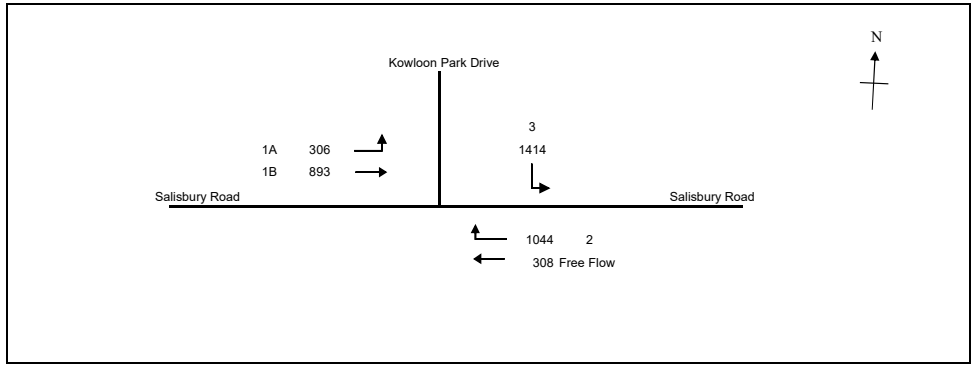
STAGE A	INT= 10	STAGE B	INT=	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3p	8.5	9	1	8	26	1	8	OK

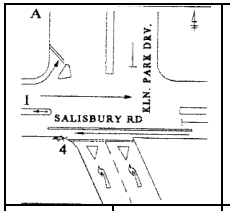
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				9				
1	A	3.40	1	2			N	4050		762		762	0.00	4050			4050	0.188	0.188		76	76	0.297	28
2A,2B	A	3.40	1	1	13		N	1955	169	100		269	0.63	1823			1823	0.147			60	76	0.233	20
2B	A	3.40	1	1				2095		309		309	0.00	2095			2095	0.147			60	76	0.233	23
PED	B		2																	35				

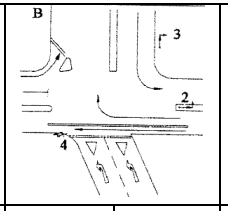
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive	2025 Existing AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.553
Loss time		L =	10 sec
Total Flow		=	3656 pcu
Co	= (1.5*L+5)/(1-Y)	=	44.7 sec
Cm	= L/(1-Y)	=	22.4 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	49.2 %
Cp	= 0.9*L/(0.9-Y)	=	25.9 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	49 %





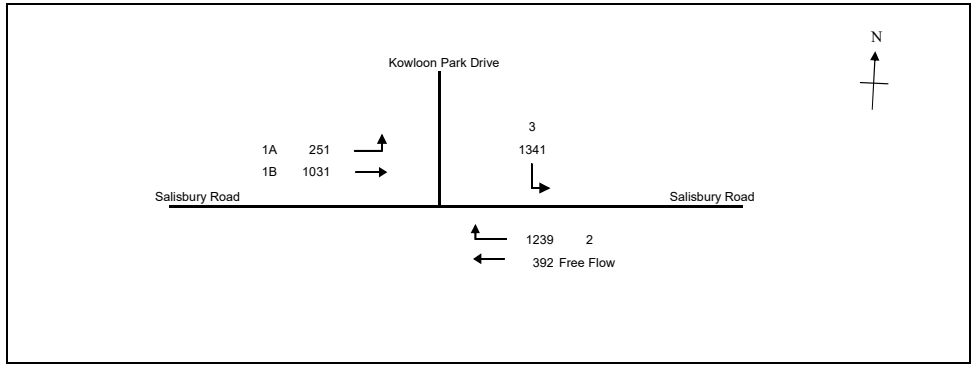
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

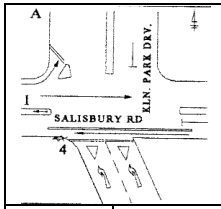
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	306	0		306	1.00	1809			1809	0.169	0.169		34	34	0.596	44
1B	A	3.30	1	3				6255		893		893	0.00	6255			6255	0.143			28	34	0.504	43
2	B	3.30	2	2	20			4170			1044	1044	1.00	3879			3879	0.269			54	76	0.425	38
3	B	3.40	2	2	15		N	4050	1414			1414	1.00	3682			3682	0.384	0.384		76	76	0.606	52

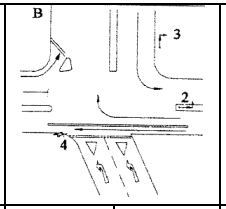
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive		2025 Existing PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.523
Loss time		L =	10 sec
Total Flow		=	3863 pcu
Co	= (1.5*L+5)/(1-Y)	=	41.9 sec
Cm	= L/(1-Y)	=	21.0 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	57.7 %
Cp	= 0.9*L/(0.9-Y)	=	23.9 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	58 %





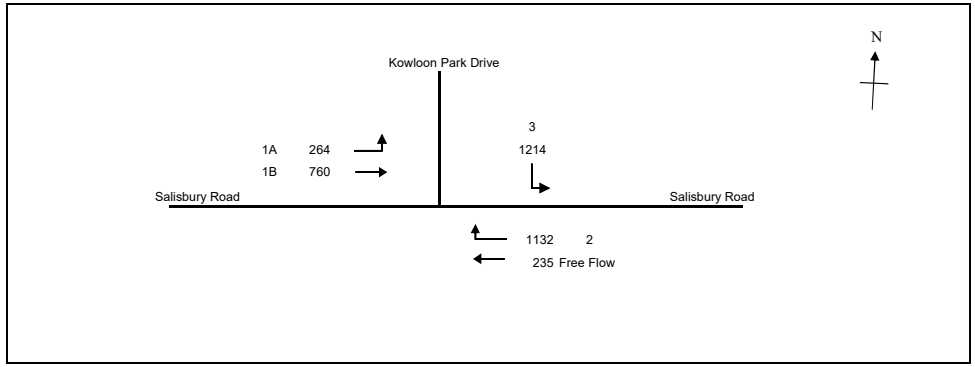
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

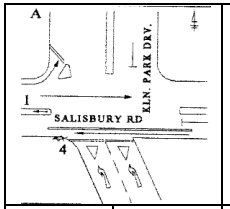
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	251	39		290	0.87	1826			1826	0.159	0.159		33	33	0.577	42
1B	A	3.30	1	3				6255		993		993	0.00	6255			6255	0.159			33	33	0.577	48
2	B	3.30	2	2	20			4170			1239	1239	1.00	3879			3879	0.319			67	77	0.498	44
3	B	3.40	2	2	15		N	4050	1341			1341	1.00	3682			3682	0.364	0.364		77	77	0.568	48

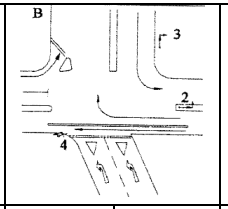
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive	2025 Existing Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.476
Loss time		L =	10 sec
Total Flow		=	3370 pcu
Co	= (1.5*L+5)/(1-Y)	=	38.1 sec
Cm	= L/(1-Y)	=	19.1 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	73.4 %
Cp	= 0.9*L/(0.9-Y)	=	21.2 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	73 %





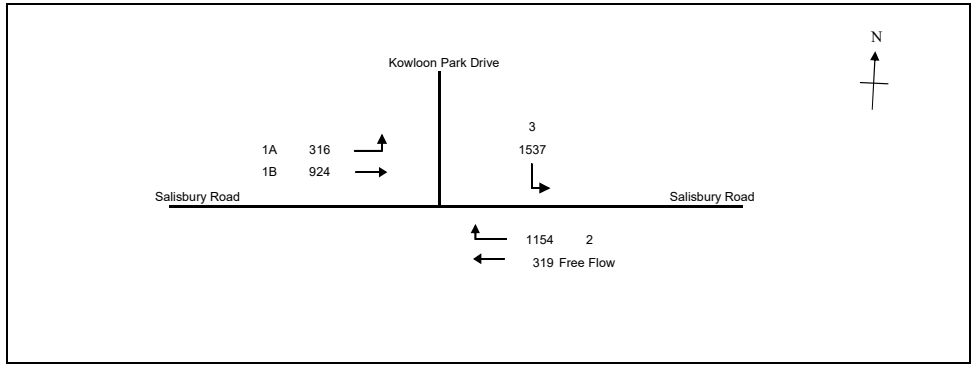
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

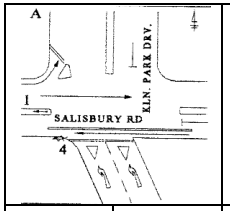
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	264	0		264	1.00	1809			1809	0.146	0.146		34	34	0.516	38
1B	A	3.30	1	3				6255		760		760	0.00	6255			6255	0.121			28	34	0.429	36
2	B	3.30	2	2	20			4170			1132	1132	1.00	3879			3879	0.292			67	76	0.461	42
3	B	3.40	2	2	15		N	4050	1214			1214	1.00	3682			3682	0.330	0.330		76	76	0.520	44

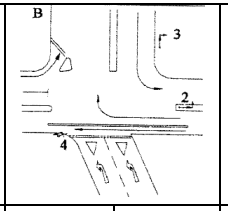
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive		2032 Reference AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.592
Loss time		L =	10 sec
Total Flow		=	3932 pcu
Co	= (1.5*L+5)/(1-Y)	=	49.1 sec
Cm	= L/(1-Y)	=	24.5 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	39.3 %
Cp	= 0.9*L/(0.9-Y)	=	29.3 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	39 %





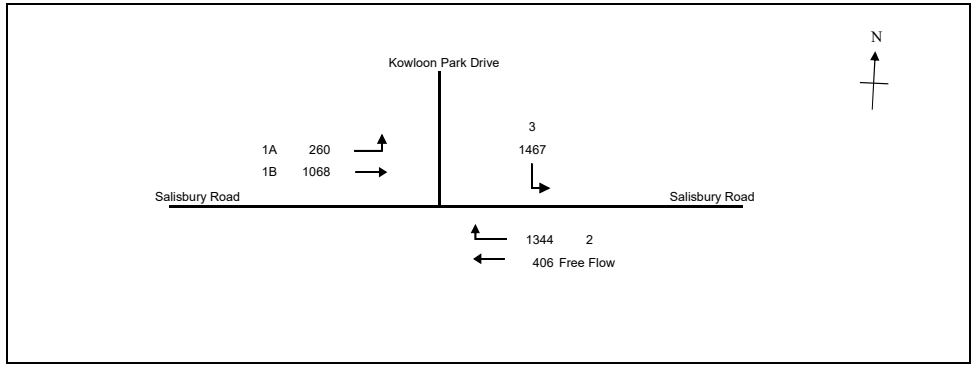
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

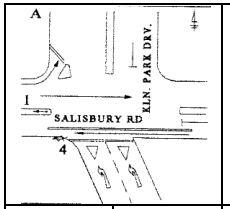
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	316	0		316	1.00	1809			1809	0.175	0.175		32	32	0.656	46
1B	A	3.30	1	3				6255		924		924	0.00	6255			6255	0.148			27	32	0.554	45
2	B	3.30	2	2	20			4170			1154	1154	1.00	3879			3879	0.298			55	78	0.458	40
3	B	3.40	2	2	15		N	4050	1537			1537	1.00	3682			3682	0.417	0.417		78	78	0.642	54

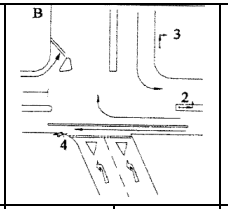
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive	2032 Reference PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2	
No. of stage using for calculation		N =	2	
Cycle time		C =	120	sec
Sum(y)		Y =	0.563	
Loss time		L =	10	sec
Total Flow		=	4139	pcu
Co	= (1.5*L+5)/(1-Y)	=	45.7	sec
Cm	= L/(1-Y)	=	22.9	sec
Yult		=	0.825	
R.C.ult	= (Yult-Y)/Y*100%	=	46.6	%
Cp	= 0.9*L/(0.9-Y)	=	26.7	sec
Ymax	= 1-L/C	=	0.917	
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	47	%





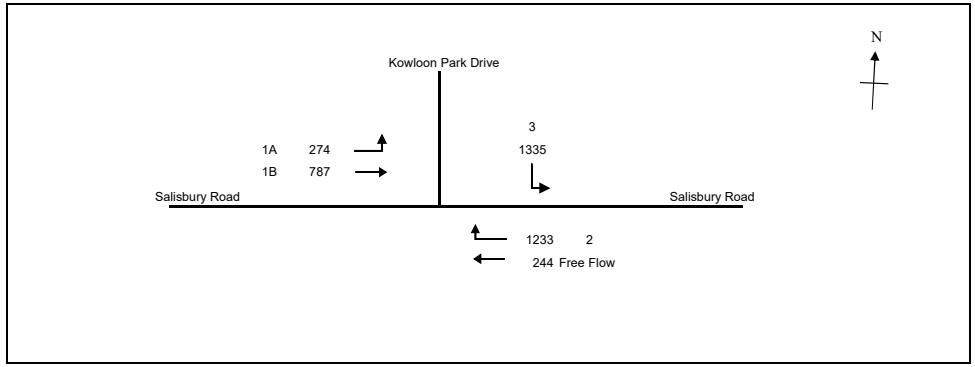
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

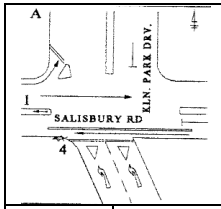
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	260	40		300	0.87	1826			1826	0.164	0.164		32	32	0.616	44
1B	A	3.30	1	3				6255		1028		1028	0.00	6255			6255	0.164			32	32	0.616	50
2	B	3.30	2	2	20			4170			1344	1344	1.00	3879			3879	0.346			68	78	0.533	47
3	B	3.40	2	2	15		N	4050	1467			1467	1.00	3682			3682	0.398	0.398		78	78	0.613	51

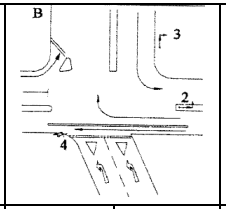
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive		2032 Reference Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.514
Loss time		L =	10 sec
Total Flow		=	3628 pcu
Co	= (1.5*L+5)/(1-Y)	=	41.1 sec
Cm	= L/(1-Y)	=	20.6 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	60.6 %
Cp	= 0.9*L/(0.9-Y)	=	23.3 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	61 %





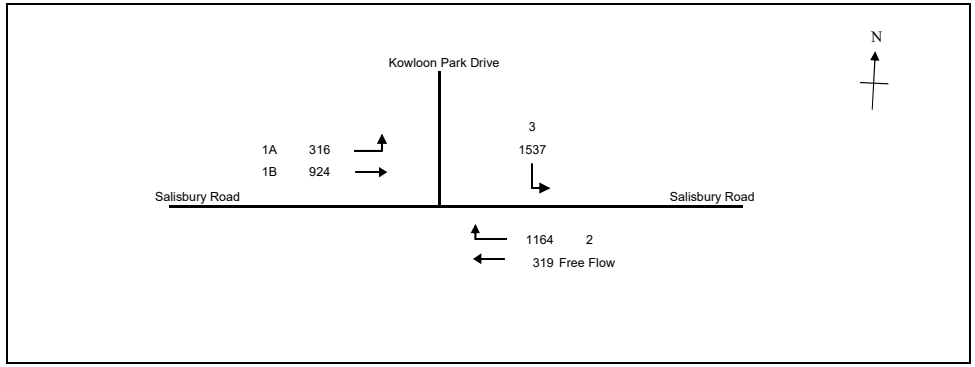
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

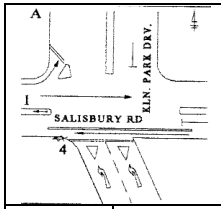
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	274	0		274	1.00	1809			1809	0.151	0.151		32	32	0.567	40
1B	A	3.30	1	3				6255		787		787	0.00	6255			6255	0.126			27	32	0.472	38
2	B	3.30	2	2	20			4170			1233	1233	1.00	3879			3879	0.318			68	78	0.489	43
3	B	3.40	2	2	15		N	4050	1335			1335	1.00	3682			3682	0.362	0.362		78	78	0.558	47

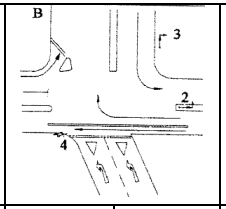
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive		2032 Design AM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.592
Loss time		L =	10 sec
Total Flow		=	3942 pcu
Co	= (1.5*L+5)/(1-Y)	=	49.1 sec
Cm	= L/(1-Y)	=	24.5 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	39.3 %
Cp	= 0.9*L/(0.9-Y)	=	29.3 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	39 %





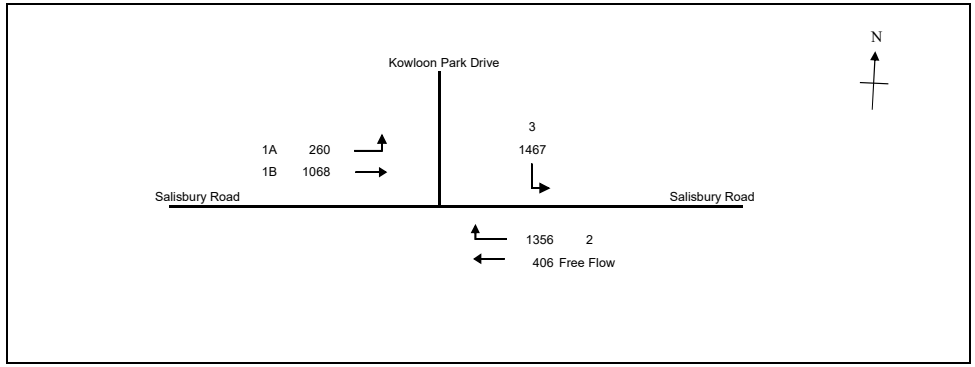
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

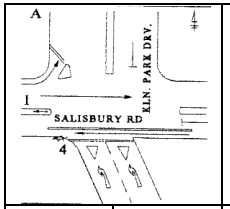
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	316	0		316	1.00	1809			1809	0.175	0.175		32	32	0.656	46
1B	A	3.30	1	3				6255		924		924	0.00	6255			6255	0.148			27	32	0.554	45
2	B	3.30	2	2	20			4170			1164	1164	1.00	3879			3879	0.300			56	78	0.462	41
3	B	3.40	2	2	15		N	4050	1537			1537	1.00	3682			3682	0.417	0.417		78	78	0.642	54

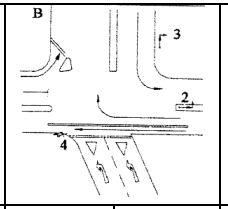
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui		PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive	2032 Design PM Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.563
Loss time		L =	10 sec
Total Flow		=	4151 pcu
Co	= (1.5*L+5)/(1-Y)	=	45.7 sec
Cm	= L/(1-Y)	=	22.9 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	46.6 %
Cp	= 0.9*L/(0.9-Y)	=	26.7 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	47 %





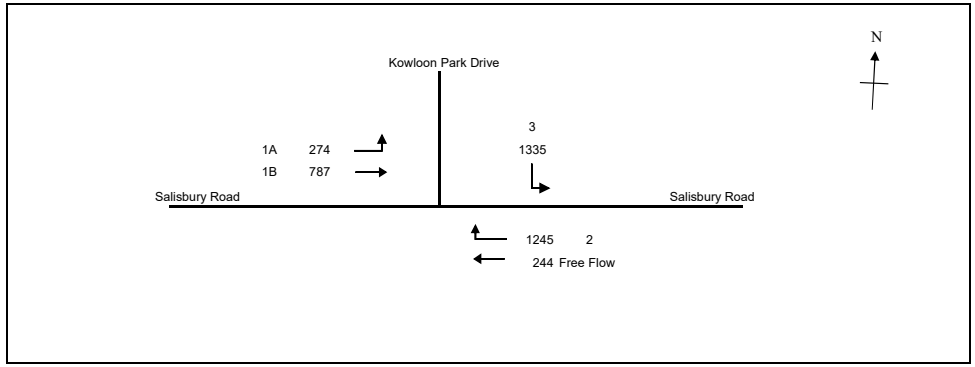
STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

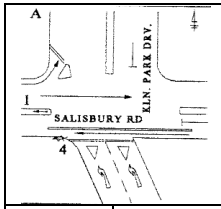
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	260	40		300	0.87	1826			1826	0.164	0.164		32	32	0.616	44
1B	A	3.30	1	3				6255		1028		1028	0.00	6255			6255	0.164			32	32	0.616	50
2	B	3.30	2	2	20			4170			1356	1356	1.00	3879			3879	0.349			68	78	0.538	47
3	B	3.40	2	2	15		N	4050	1467			1467	1.00	3682			3682	0.398	0.398		78	78	0.613	51

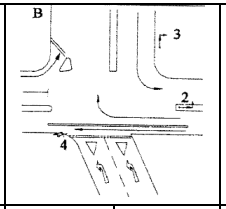
NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

OVE ARUP & PARTNERS		TRAFFIC SIGNAL CALCULATION		
S.16 Planning Application for Proposed Flat with Permitted Hotel, Office and Shop & Service/Eating Place at 43 - 49A Hankow Road in Tsim Sha Tsui			PROJECT NO: 294680-02	JUNCTION NO: J8
Salisbury Road / Kowloon Park Drive		2032 Design Weekend Peak	DATE : 28-May-25	FILENAME :



No. of stages per cycle		N =	2
No. of stage using for calculation		N =	2
Cycle time		C =	120 sec
Sum(y)		Y =	0.514
Loss time		L =	10 sec
Total Flow		=	3640 pcu
Co	= (1.5*L+5)/(1-Y)	=	41.1 sec
Cm	= L/(1-Y)	=	20.6 sec
Yult		=	0.825
R.C.ult	= (Yult-Y)/Y*100%	=	60.6 %
Cp	= 0.9*L/(0.9-Y)	=	23.3 sec
Ymax	= 1-L/C	=	0.917
R.C.(C)	= (0.9*Ymax-Y)/Y*100%	=	61 %





STAGE A	INT= 5	STAGE B	INT= 7	STAGE C	INT=	STAGE D	INT=

Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Flow Left pcu/h	Flow Straight pcu/h	Flow Right 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.
																				10				
1A,1B	A	3.30	1	1	20		N	1945	274	0		274	1.00	1809			1809	0.151	0.151		32	32	0.567	40
1B	A	3.30	1	3				6255		787		787	0.00	6255			6255	0.126			27	32	0.472	38
2	B	3.30	2	2	20			4170			1245	1245	1.00	3879			3879	0.321			69	78	0.494	44
3	B	3.40	2	2	15		N	4050	1335			1335	1.00	3682			3682	0.362	0.362		78	78	0.558	47

NOTE : 'O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 0.9m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

Appendix B

Car Lift Assessment

Car Lift Assessment for *Scenario B*

(assuming 2 basement floors)

Vertical Travelling Distance	=	6.60	Metres (to basement floor)
No. of Car Lifts (N)	=	2	
Travelling Speed of Car Lift	=	0.5	metre/second
Maximum Arrival Rate in Peak 15 minutes	=	6	vehicles

Car Lift Round Trip Time Estimate:			
Door Opening time at G/F	=	4.0	Seconds
Manoeuvring Time	=	35.0	Seconds
Safety Magin before door closes	=	4.0	Seconds
Door Closing time at G/F	=	4.0	Seconds
Travelling Time from G/F to B2/F	=	13.2	Seconds
Door opening time at B2/F	=	4.0	Seconds
Manoeuvring Time	=	35.0	Seconds
Safety Magin before door closes	=	4.0	Seconds
Door Closing time at B2/F	=	4.0	Seconds
Travelling Time from B2/F to G/F	=	13.2	Seconds
Total (Round Trip Time)	=	120.4	Seconds

Note:

1. Based on specifications provided by OTIS Elevator Co.

Average Servicing Time (1/μ)	=	120.4	Seconds
Average Servicing Rate (μ)	=	0.50	vehicles/minute
Average Servicing Rate (μ) per 15 minutes	=	7.48	vehicles/15 minutes
With 2 car lifts available, (M/M/N) model is used.			
No. of vehicles arrived at peak 15 minutes (r)	=	6	vehicles
q = r/μ	=	0.8027	

		P(x=n)	P(x=<n)	P(Queue)
Probability of No Car Lift and No Waiting Space In Use, P(0)		42.721%		
Probability of One Car Lift and No Waiting Space In Use, P(1)		34.291%	77.012%	22.988%
Probability of Two Car Lift and No Waiting Space In Use, P(2)		13.762%	90.774%	9.226%
Probability of Two Car Lift and One Waiting Space In Use, P(3)		5.523%	96.297%	3.703%
Probability of Two Car Lift and Two Waiting Spaces In Use, P(4)		2.217%	98.514%	1.486%
Probability of Two Car Lift and Three Waiting Spaces In Use, P(5)		0.890%	99.404%	0.596%
Probability of Two Car Lift and Four Waiting Spaces In Use, P(6)		0.357%	99.761%	0.239%
Probability of Two Car Lift and Five Waiting Spaces In Use, P(7)		0.143%	99.904%	0.096%
Probability of Two Car Lift and Six Waiting Spaces In Use, P(8)		0.058%	99.961%	0.039%
Probability of Two Car Lift and Seven Waiting Spaces In Use, P(9)		0.023%	99.985%	0.015%
Probability of Two Car Lift and Eight Waiting Spaces In Use, P(10)		0.009%	99.994%	0.006%
Probability of Two Car Lift and Nine Waiting Spaces In Use, P(11)		0.004%	99.998%	0.002%
Probability of Two Car Lift and Twn Waiting Spaces In Use, P(12)		0.001%	99.999%	0.001%
Probability of Two Car Lift and Eleven Waiting Spaces In Use, P(13)		0.001%	100.000%	0.000%
Probability of Two Car Lift and Twelve Waiting Spaces In Use, P(14)		0.000%	100.000%	0.000%
Probability of Two Car Lift and Thirteen Waiting Spaces In Use, P(15)		0.000%	100.000%	0.000%

Acceptance criteria

Probability of queueing outside building, P(Queue)	**<**	**5.0%**

No. of waiting spaces required	=	**1**