DeSPACE (International) Limited

Date: 10th July 2024 **BY HAND**

Secretary, Town Planning Board
15/F, North Point Government Offices
333 Java Road, North Point, Hong Kong

Dear Sir/Madam,

SECTION 16 APPLICATION
TOWN PLANNING ORDINANCE (CHAPTER 131)

****

PROPOSED RELIGIOUS INSTITUTION (REDEVELOPMENT OF BETHEL BIBLE SEMINARY (BBS) WITH IN-SITU PRESERVATION OF SUN HOK BUILDING) AT 45 - 47 GRAMPIAN ROAD (PART), KOWLOON CITY, KOWLOON, NEW KOWLOON INLAND LOT NO.1382 (PART)

Planning Application No. A/K18/347

Further Information (5) – Technical Clarifications

Reference is made to the captioned Section 16 planning application. In order to address Transport Department's comments regarding the captioned application, attached please the table of responses-to-comments (R to C) with the following attachments:

Appendix E – Updated Traffic Impact Assessment

Please be advised that this FI(5) should be exempted from the publication requirement and/or the recounting requirement in accordance with TPB PG-No. 32B since the updated TIA does not involve major changes in the assumptions and methodologies, findings and proposed mitigation measures and involves technical clarifications only.

Should you have any queries, please feel free to contact Mr. Endy CHENG at [redacted] or myself at [redacted].

Yours faithfully,
FOR AND ON BEHALF OF
DeSPACE (INTERNATIONAL) LIMITED

DeSPACE (International) Limited 構建(國際)有限公司

Greg Lam

Proposed "Religious Institution"
(Redevelopment of Bethel Bible Seminary with in-situ preservation of Sun Hok Building)
at 45-47 Grampian Road, Kowloon City, Kowloon
Town Planning Application No. A/K18/347

Response-to-Comment Table (Departmental Comments)

Departmental Comments	Responses
Memo dated 24 June 2024 refers: **(Commissioner For Transport: Mr. LI Hon-yeung, Simon; Tel: [redacted])**	
I refer to your memo dated 24.06.2024 and your subsequent emailed dated 25.6.2024 regarding the captioned. 2. Please be advised that I have the following further comments from traffic engineering point of view for the Applicant's consideration: Specific Comments: 1. Table 3.3 – The proposed number of MC parking space for Private Housing shall be 1. Please update the table;	Noted. One MC parking space for private housing is added in **Table 3.3 of the revised TIA report**.
2. Table 6.1 – Further to my previous comments on the under-estimation of the 15-minute pedestrian flows in the previous revision of TIA. It is noted that for some 15-minute peak pedestrian flows in Existing Scenario Year 2023, including but not limited to critical footpath sections 2, 7, 11, 14, 17…etc.,	Noted. The assessment is updated and revised accordingly.

has further decreased compared with the last revision resulting in further under-estimation of the peak pedestrian flows. Please critically review;	
3. Table 6.8 – There are two different sets of "expected peak hour pedestrian flow" figures for AM scenario, please clarify;	Typo. The table should include AM scenario, Noon scenario and PM scenario for the expected peak hour pedestrian flow. The wordings in **Table 6.8** are amended and shown in the revised TIA report.
4. Figures 3.12 and 6.1, Table 6.9 - the existing KMB bus stop for route 1, 7B at the footpath of Grampian Road northbound has not been taken into account in the assessment, please review the estimated pedestrian flows and assessment for critical footpath section 7;	Noted. The assessment is updated and revised accordingly.
5. Para. 4.8.4 – As the queue lengths of Junction G (i.e. Junction Road / Nga Tsin Wai Road) exceeds the allowable road segments, please revise this paragraph and add an additional paragraph to elaborate the constraints of carrying out improvement works under the project;	The queue length for reference case (i.e. without the proposed development) is the same as the queue length for design case. Therefore, the impact caused by the proposed development on the queue length is negligible. In addition, this section of Nga Tsin Wai Road is bounded by Grampian Road, Junction Road, Man Yuen Mansion and 49-49A Nga Tsin Wai Road, it cannot be elongated nor widened. Therefore, the applicant is unable to carry out any mitigation measures that can reduce the queue length.
6. Table 6.9, 6.10 – It is noted from the applicant's response to	As Section 11 is at the location opposite to the entrance of the

comment item no. 11 that “Students and staffs will mainly access the campus through the entrance at Grampian Road”. However, the forecast pedestrian flows generated and attracted by the Proposed Development for critical footpath section 7 are not included in Table 6.9. Furthermore, for footpaths in close proximity to the subject site, e.g. critical sections 7, 8, 11, the pedestrian flows for Design Scenario Year 2029 (from Table 6.10) are identical to those for Reference Case in Year 2029 (from Table 6.5), which is not realistic;	development, it is expected there will not be any pedestrian from the development pass through this section. For section 7 and 8 the assumption and calculation have been revised and are shown in the **Table 6.9 and 6.11 of the revised TIA report** accordingly.
7. Please clarify and mark the entrance(s) for pedestrians to the subject site on relevant drawings; and	Noted. The figures are updated and are shown in the revised TIA report.
8. Based on local district experience, local objection has been received towards previous proposal for provision of on-street parking spaces near No. 30 Inverness Road, the Applicant shall review the position of the proposed vehicular access so as to minimize the number of the affected on-street parking spaces.	Noted. After reviewing the location of the access, it is not feasible to relocate the access due to the site constraints. Anyway, according to the MLP and swept path analysis which are attached in the **SP-01 and SP-02 in Appendix A**, they demonstrate when vehicle enters and exists the proposed XYZ, it will only impact three existing meter parking which located at Dumbartion Road. Therefore, these three impacted meter parking has to be relocated. The details relocation of the meter parking is shown in the **Figure 1 in Appendix A**.

Appendix A

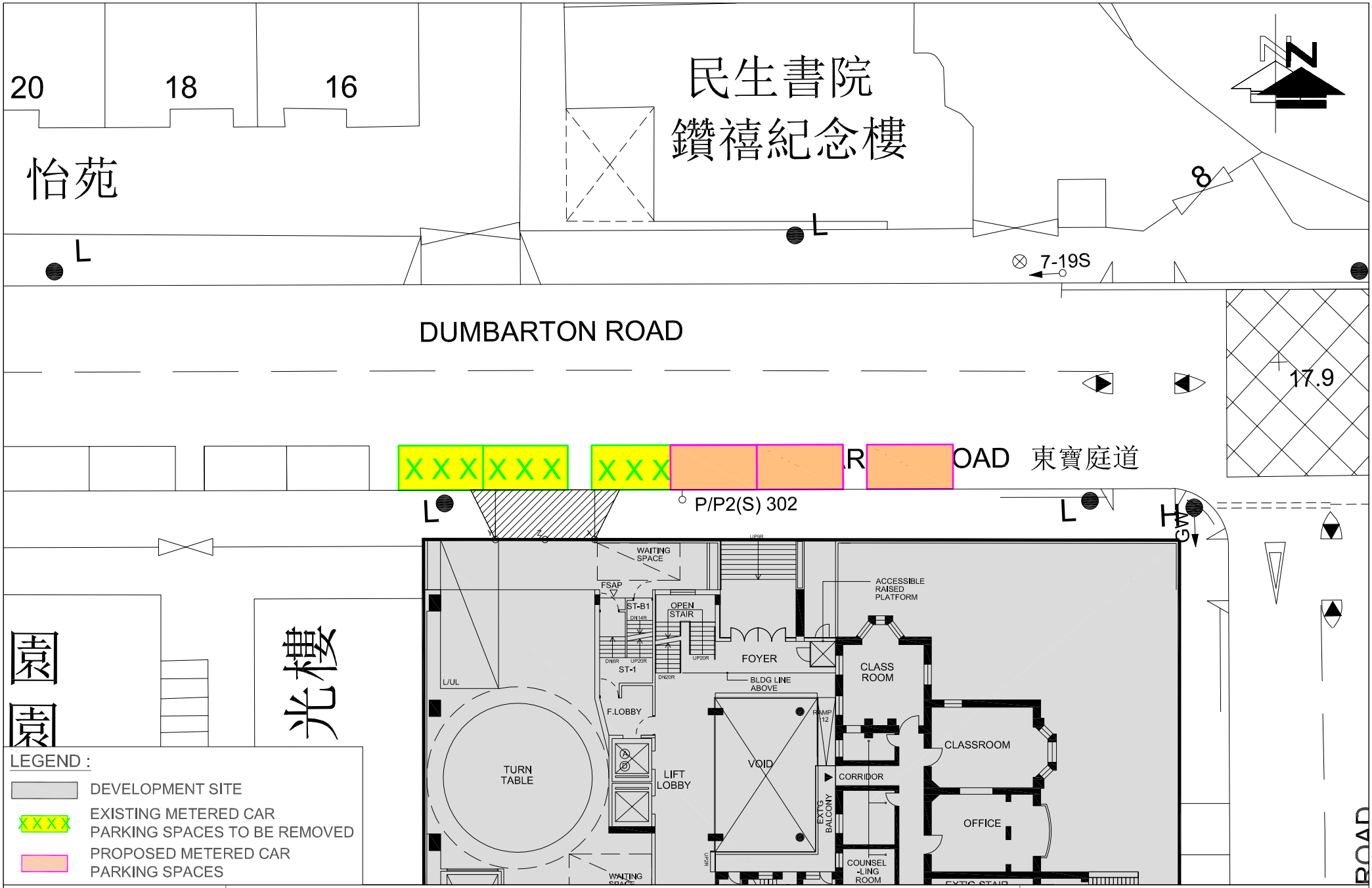
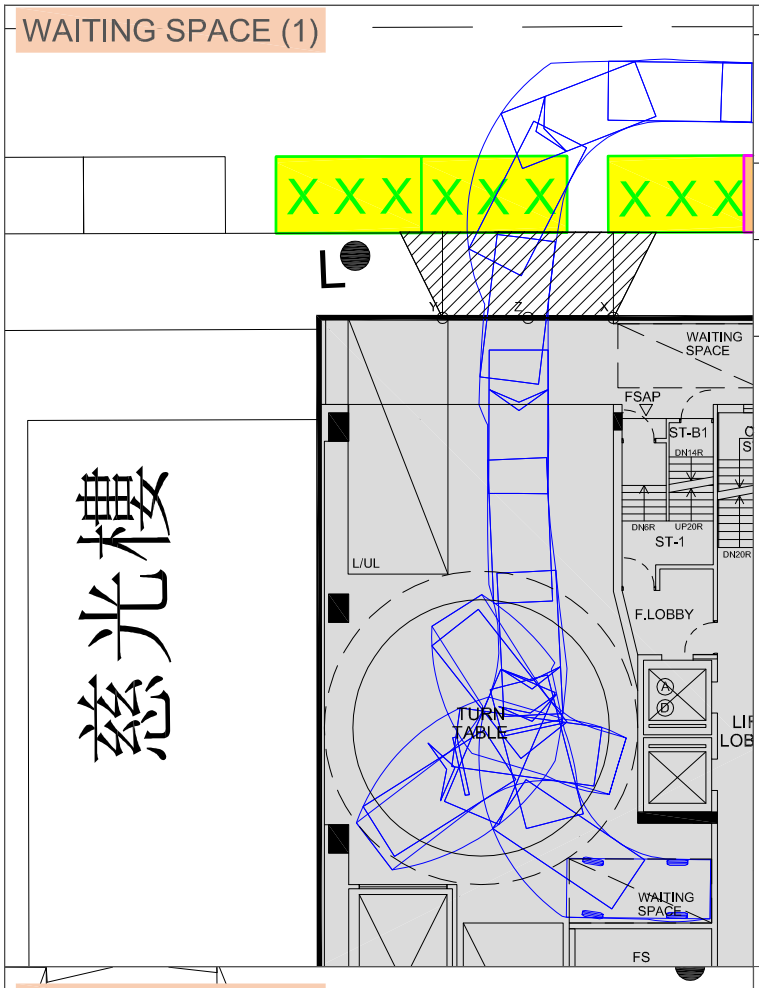
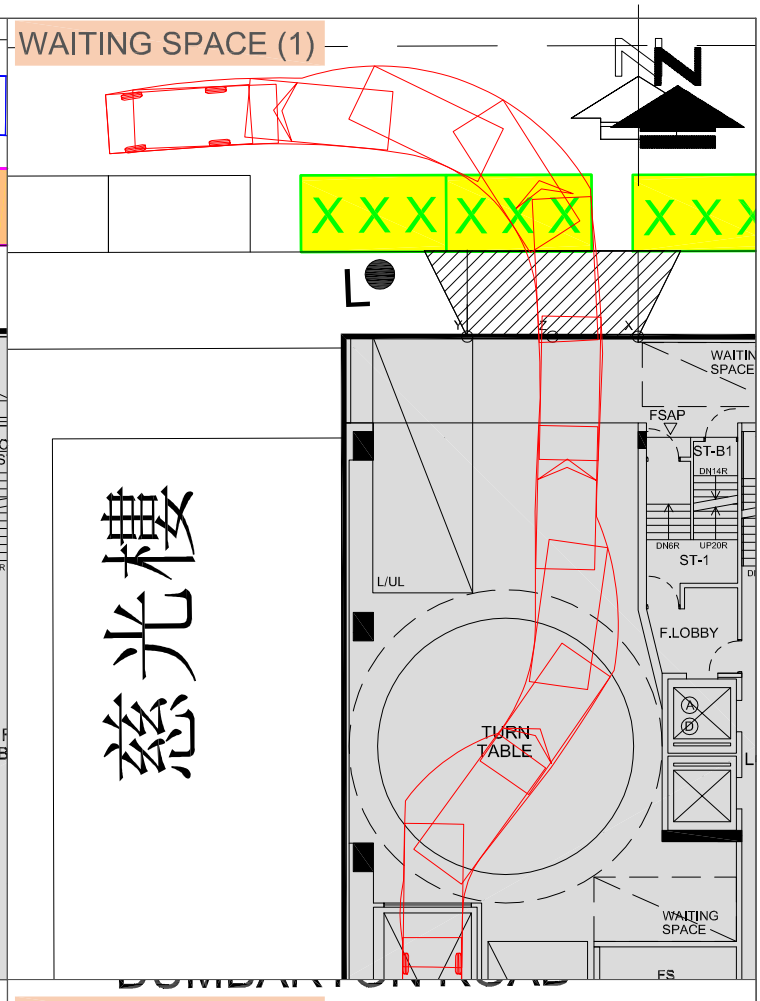


FIGURE NO.: 1	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: PROPOSED METERED CAR PARKING SPACES	
SCALE: 1 : 300 @A4 / DATE: 03 JUL 2024		

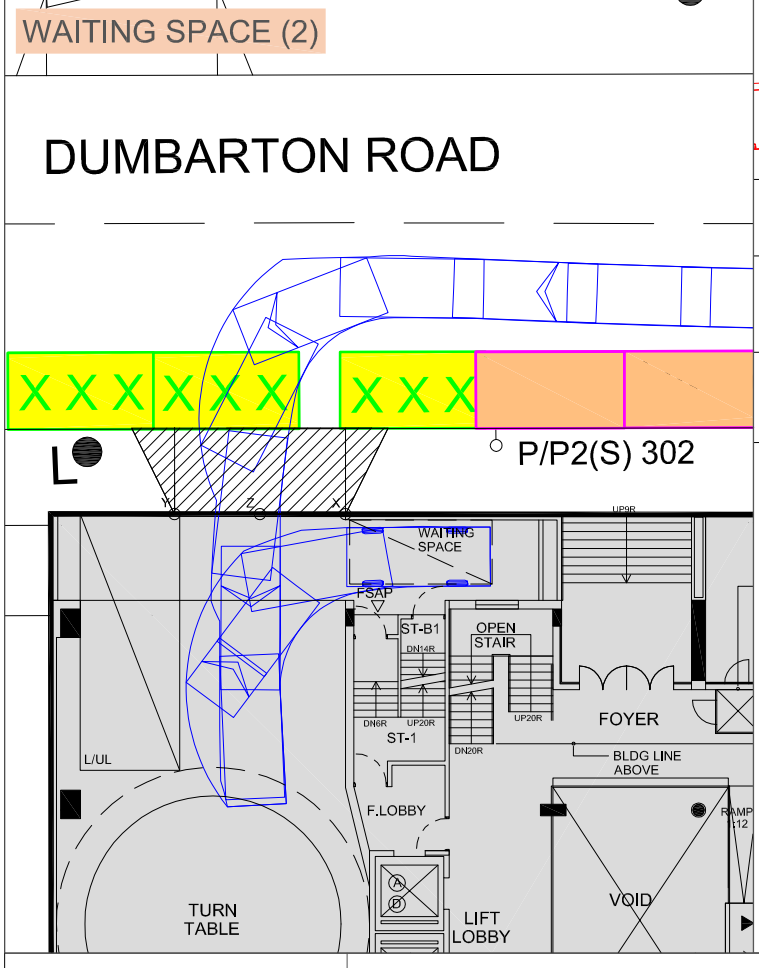
WAITING SPACE (1)



WAITING SPACE (1)



WAITING SPACE (2)



WAITING SPACE (2)

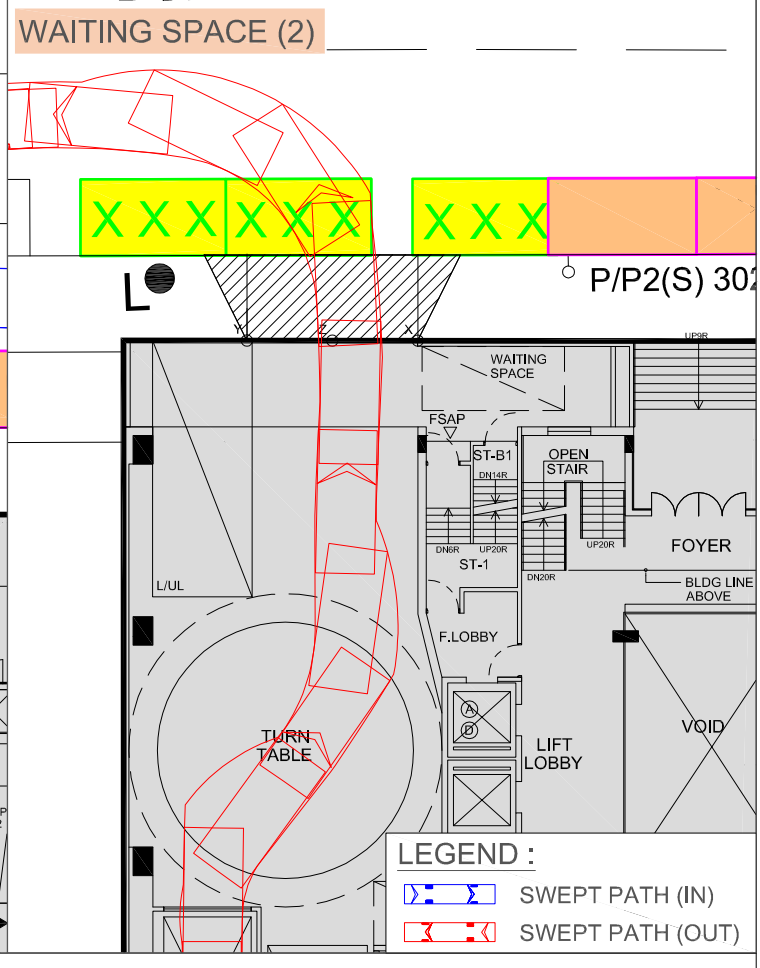


FIGURE NO.: SP-01	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE: UG/F - SWEPT PATH ANALYSIS OF WAITING SPACE
SCALE: 1:300 @A4 / DATE: 03 JUL 2024	CTA Consultants Limited 志達顧問有限公司

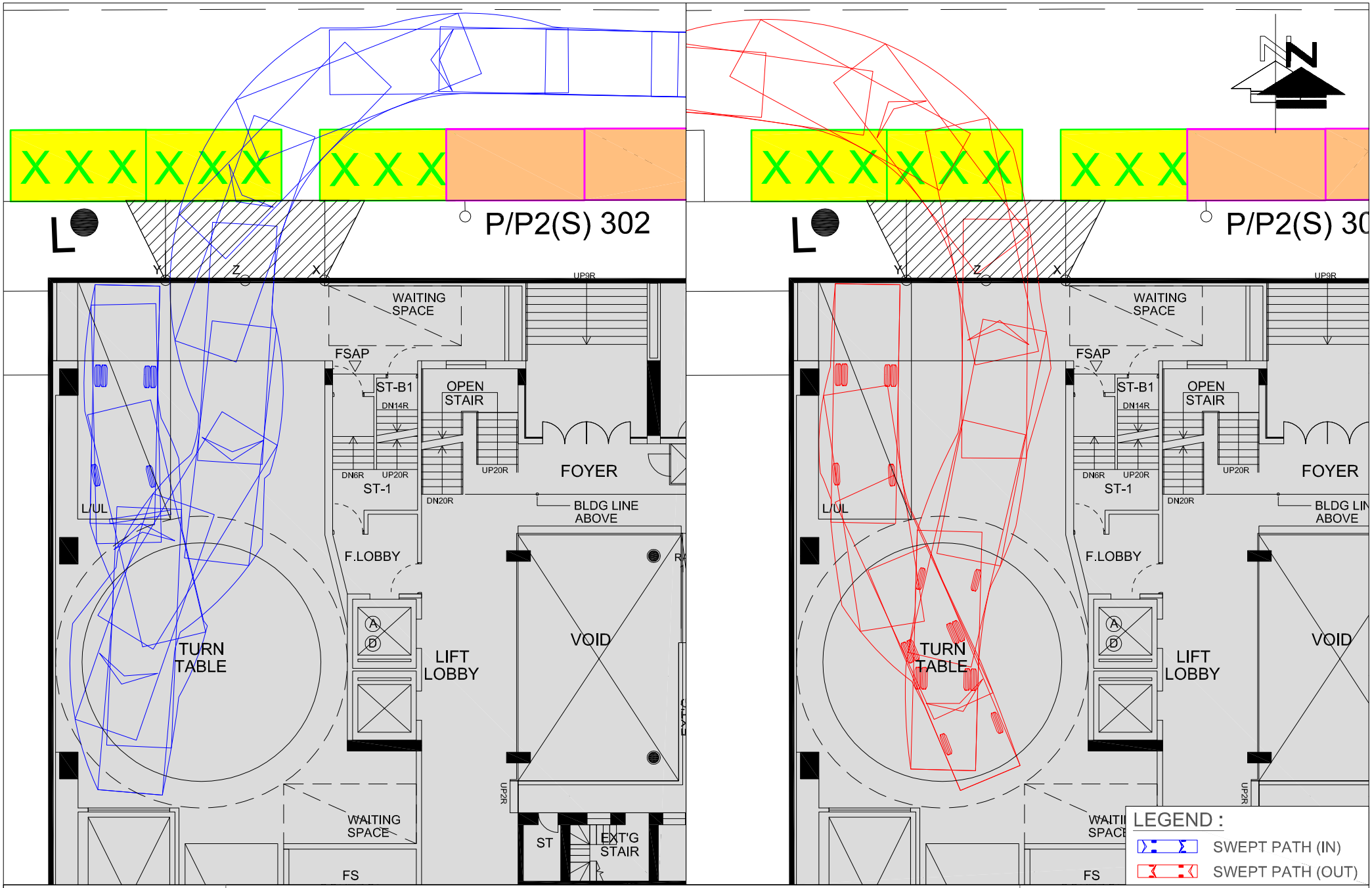


FIGURE NO.: SP-02	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: UG/F - SWEPT PATH ANALYSIS OF LOADING / UNLOADING	
SCALE: 1 : 185 @A4 / DATE: 10 JUL 2024		

Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application

Revised Traffic Impact Assessment Report

July 2024

CTA Consultants Limited
志達顧問有限公司

1. INTRODUCTION

1.1 Background

1.1.1 CTA Consultants Limited ("CTA") is commissioned by the Applicant to prepare a Traffic Impact Assessment Study for Bethel Bible Seminary at 45-47 Grampian Road Kowloon City (NKIL 1382) for teaching facilities, chapel and dormitory uses.

1.1.2 This TIA study aims to examine the impact of the traffic generated by the proposed number of beds and teaching facilities in the vicinity. Improvement proposals where needed would be recommended if necessary to resolve any foreseeable traffic issues.

1.2 Study Objectives

1.2.1 The main objectives of this study are listed below:

- To assess the existing traffic condition in the vicinity of the proposed development;
- To forecast traffic flows on the adjacent road network in the design year 2029; and the adjacent road network in the design year 2026 (construction)
- To estimate the likely traffic generated by the proposed development;
- To appraise the traffic impact induced by the proposed development on the adjacent road network;
- To recommend traffic improvement measures to alleviate any foreseeable traffic problem to the surrounding road network, if any.

2. THE PROPOSED DEVELOPMENT

2.1 Site Location

2.1.1 The proposed development is located at 45-47 Grampian Road Kowloon City (NKIL 1382), as shown in **Figure 2.1**.

2.2 Existing Bethel Bible Seminary

2.2.1 The existing Bethel Bible Seminary has teaching facilities with some 2,700m^2 GFA and 8 staff quarters with 640m^2 GFA. The Bethel Bible Seminary currently has 820 students, of which 60% more enrolled in day courses and the remaining enrolled in the evening courses. In addition, it has 30 staffs members.

2.3 Development Proposal

2.3.1 Development parameters of the proposed development are listed in **Table 2.1**.

Table 2.1 Development Parameters of the Proposed Development

	Development Parameters
Proposed Use	Residential use, teaching facilities and Chapel
Site Area	2,088.32 m^2
Total Accountable GFA	7,446 m^2
Domestic GFA	300 m^2
Non-domestic GFA	7,146 m^2
No of blocking	1
No of domestic units (for the dormitory)	3 units

2.3.2 It is anticipated that the proposed development will be commissioned in year 2026.

Therefore, design year 2029 (i.e., 3 years after the planned commencement year of the proposed development) is adopted for the Traffic Impact Assessment.

2.4 Provision of Access Arrangement

2.4.1 The existing vehicular access locates in Grampian Road. The existing vehicular access will be closed and proposed a new access in the Dumbarton Road. The detail of the access is shown in the **Figure 2.2**.

2.5 Car lift Assessment

2.5.1 The details breakdown of the car park are listed in the **Table 2.2**.

Table 2.2 Breakdown of the Car Parking Spaces

Total Car Park Nos	14 (PV) + 2 (MC) + 1 (L/UL) nos. + 1 coach layby	
the Breakdown of the car parking spaces	UG/F	1 L/UL space + 1 coach layby
	LG/F	/
	B1/F	14 (PV) spaces +2 (MC) spaces
Car Entry/Exit	1 no.	
Waiting Spaces at G/F	2 no.	

2.5.2 The Queue Length / Waiting Space Assessment

Methodology

The queuing situation can be assessed based on a single channel queuing system, thus Poisson distribution and multi-server queuing (M/M/N) theory is used.

The assessment is work out the probability that n vehicles are in the car-lift system.

The formula in deriving the probability is given by:

$$P(n) = \frac{1}{\sum_{n=0}^{N-1} \frac{e^n}{n!} + \frac{e^N}{N!\left(1-\frac{e}{N}\right)}} \qquad \text{for } n = 0$$

$$P(n) = \frac{e^n}{n!} P(0) \qquad \text{for } 0 < n \le N$$

$$P(n) = \frac{e^n}{N^{n-N} N!} P(0) \qquad \text{for } n > N$$

where:

$P(n)$	=	Probability of *n* vehicles in the system
λ	=	Peak 15-minutes arrival rate
μ	=	Servicing rate
n	=	Number of vehicles in the system
N	=	Number of car lift
e	=	λ / μ

2.5.3 The Derivation of Arrival Rate (λ)

In house trip generation/ attraction data due to the parking space for both proposed development is shown in the **Table 2.3**.

Table 2.3 Peak 15 Minutes Arrival Rate of Redevelopment

Land Use	Trip Generations (veh/hr) at Weekday	
	AM Peak	PM Peak
Educational facilities and residential uses	Attraction **16**	Attraction **16**

Based on the Table 1 above, the maximum peak 15 minutes arrival rate (λ) 4 (=16/60 mins x 15 mins).

2.5.4 Servicing Rate (μ)

The vertical speed of the car lifts in the proposed development is assumed to be 0.5 m/s ("s") in this assessment.

The average servicing rate is:

	Distance in m (d)	Travelling Time in sec (t) (=d/s)	Parking Spaces (P)	P x t
UG/F to B1/F	8.5m	14	16	224
		Total	16	224
			Weighted Average	μ =224/16 = 14 sec

2.5.5 Estimate Car Lift Round Trip Time

Estimate Trip Time for Arrival	Required Time
Door Opening time at UG/F	3.0 sec
Car existing lift (for departing vehicle, if any)	10.0 sec
Car entering lift (for arriving vehicle)	10.0 sec
Safety Buffer	5.0 sec
Door Closing time at UG/F	3.0 sec
Travelling time from UG/F to B1/F	14.0 sec
Door opening time at B1/F	3.0 sec
Car existing lift (for arriving vehicle)	10.0 sec
Car entering lift (for departing vehicle)	10.0 sec
Safety Buffer	5.0 sec
Door Closing time at UG/F	3.0 sec
Travelling time from UG/F to B1/F	14.0 sec
Total Round Trip Time	90.0 sec
Average Round Trip Time (=90/2)	45 sec

Servicing rate (μ) = 15 mins x 60/45 = 20 veh/ 15 mins

The probability that n vehicles are in the car-lift system is given by:

$$P(n) = \frac{1}{\sum_{n=0}^{N-1} \frac{e^n}{n!} + \frac{e^N}{N!\left(1-\frac{e}{N}\right)}} \qquad \textbf{for } n = 0$$

$$P(n) = \frac{e^n}{n!} P(0) \qquad \textbf{for } 0 < n \le N$$

$$P(n) = \frac{e^n}{N^{n-N} N!} P(0) \qquad \textbf{for } n > N$$

where: $P(n)$ = Probability of n vehicles in the system
λ = Peak 15-minutes arrival rate = 4
μ = Servicing rate =20 veh/15mins
N = Number of car lift = 1
e = λ / μ = 0.24
n = Number of vehicles in the system

2.5.6 Probability of requiring Waiting Space

Table 2.4 Probability of requiring waiting space

n	λ	μ	e	N	P(n)
0	1	20	0.200	1	0.800000000
1	1	20	0.200	1	0.160000000
2	1	20	0.200	1	0.032000000
				Total	0.992000000

As can be seen, it is anticipated that the probability for car park traffic will require waiting space is 0.008 (= 1 -0.992000000), i.e. approximately 1 out of 125 times.

2.5.7 Probability of requiring 1 no. Waiting Space

Table 2.5 Probability of requiring more than 1 waiting space

n	λ	μ	e	N	P(n)
0	1	20	0.200	1	0.800000000
1	1	20	0.200	1	0.160000000
2	1	20	0.200	1	0.032000000
3	1	20	0.200	1	0.006400000
				Total	0.998400000

As can be seen, it is anticipated that the probability for car park traffic will require more than "one" waiting spaces is negligible and is 0.0016 (= 1-0.998400000), i.e. approximately 1 out of 625 times.

2.5.8 Probability of requiring 2 no. Waiting Spaces

Table 2.6 Probability of requiring more than 2 waiting spaces

n	λ	μ	e	N	P(n)
0	1	20	0.200	1	0.800000000
1	1	20	0.200	1	0.160000000
2	1	20	0.200	1	0.032000000
3	1	20	0.200	1	0.006400000
4	1	20	0.200	1	0.000320000
				Total	0.998720000

As can be seen, it is anticipated that the probability for car park traffic will require more than "two" waiting spaces is negligible and is 0.001280000 (= 1-0.998720000), i.e. approximately 1 out of 782 times.

2.5.9 Summary and Conclusion

The above assessment shows that there's a chance for creating a queue for car waiting, more than "two" waiting spaces provided is negligible. The results are given as:

Probability of requiring a waiting space = 0.008
(1 out of 125 times)

Probability of requiring more than "one" waiting spaces = 0.0016
(1 out of 625 times)

Probability of requiring more than "two" waiting spaces = 0.00128
(1 out of 782 times)

Based on the assessment results, it is concluded that the proposed development requires 2 waiting spaces on the G/F.

3. EXISTING TRAFFIC CONDITIONS

3.1 Existing Road Network

3.1.1 Junction Road is a district distributor which provides major access for traffic commuting to/ from other areas of Kowloon. It connects to the Chuk Yuen Road and Boundary Street at its both ends.

3.1.2 Nga Tsin Wai Road is a local distributor which provides the access for traffic commuting to/ from various developments within the area of influence. It connects to the Junction Road.

3.1.3 Grampian Road is a local road which provides the access of the subject site.

3.2 Critical Junctions in Surrounding Area

3.2.1 To study the existing traffic condition of the area as requested by the Transport Department, a comprehensive traffic survey has been conducted.

3.2.2 Based on the location of the Lot and the road network in the vicinity, seven key junctions are identified for this Traffic Impact Assessment (TIA) due to the Proposed Development and listed in **Table 3.1**. The location of the junctions and the area of influence are shown in **Figure 3.1**. The details of each junction are illustrated in **Figures 3.2** to **3.8** respectively.

3.2.3 The traffic count surveys were carried out at the critical junctions in the vicinity of the Proposed Development.

Table 3.1 Identified Key Junctions

Ref.	Junction	Type	Figure No.
A	Dumbarton Road/ Inverness Road	Priority	3.2
B	Dumbarton Road/ Grampian Road	Priority	3.3
C	Dumbarton Road/ Junction Road	Signal	3.4
D	Junction Road/ Carpenter Road	Signal	3.5
E	Inverness Road/ Nga Tsin Wai Road	Priority	3.6
F	Grampian Road/ Nga Tsin Wai Road	Signal	3.7
G	Junction Road/ Nga Tsin Wai Road	Signal	3.8

Traffic Survey

3.2.4 In order to appraise the existing traffic conditions of these junctions, a traffic survey in the form of manual classified was conducted on 13th October 2023 during AM and PM peak. The peak hour flows were found to occur from 7:30am to 8:30am and from 5:00pm to 6:00pm respectively. The 2023 observed traffic flows (with the effect of the bus stops within 200m) are presented in **Figure 3.9**.

Junction Assessments

3.2.5 Operation performance of the critical junctions has been examined in accordance with the existing traffic flow (including the effect of bus stops within 200m) and the results are summarised in the **Table 3.2** below. Details of the junction assessment calculations are enclosed in the **Appendix A**.

Table 3.2 Existing Operational Performance of Key Junctions in 2023

Ref.	Junction	Method of Control	Year 2023 RC/DFC (1)	
			AM Peak	PM Peak
A	Dumbarton Road/ Inverness Road	Priority	0.22	0.15
B	Dumbarton Road/ Grampian Road	Priority	0.49	0.50
C	Dumbarton Road/ Junction Road	Signal	61%	95%
D	Junction Road/ Carpenter Road	Signal	130%	86%
E	Inverness Road/ Nga Tsin Wai Road	Priority	0.57	0.42
F	Grampian Road/ Nga Tsian Wai Road	Signal	107%	178%
G	Junction Road/ Nga Tsin Wai Road	Signal	85%	81%

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

3.2.6 The assessment results in **Table 3.2** indicate that all key junctions are operating with ample capacities during the peak hours in 2023.

3.3 Internal Transport Facilities Provisions

3.3.1 For the residential units and church, the transport provision requirements will be referenced to the Hong Kong Planning Standards and Guidelines (HKPSG). The provision requirement is summarized in **Table 3.3**.

3.3.2 There is no requirement stipulated in the HKPSG for the internal transport facilities provision for the tertiary institution. The proposed car parking provision for tertiary institution is also summarized in the **Table 3.3**.

Table 3.3. Proposed Internal Transportation Provision under the HKPSG Requirements for <u>Domestic Use and Non- Domestic Uses</u>

Residential Development									
Proposed Development			**Parking Requirement**						**Loading/ Unloading Requirement**
Private Housing	**GFA**	**Nos. of Flat**	**Private Car Parking Space (5m (L) x 2.5m (W) x 2.4m (H))**				**Visitor Parking**	**Motor-cycle**	**Loading/ Unloading Bay for Goods Vehicles (HGV :11m (L) x 3.5 (W) x 4.7(H))**
			GPS 1 Space per 4-7 flats			**GPS X 1 R1 XR2 R3**	**Less than 75 units, the visitor parking provision will be termined by the TD on a case – by- case basis**	**1 motor-cycle parking space per 110-150 flats excluding non-residential elements**	**Provision of minimums 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**
			R1	**R2**	**R3**				
	40< FS ≤ 70	3	1.2	1.00	1.3	1-2	1	1	
Sub-total						1-2	1	**1**	/
Proposed						**2**	**1**	**1**	**1 LGV**
Chapel									
Chapel	**110 seats**	**Up to 1 car parking space for every 16 seats or equivalent**					/	/	**One to two bays (9m x 3.5m) for small coaches.**
	Sub-total	**7**					/	/	1
	Proposed	**7**					/	/	1
Tertiary Institution									
Tertiary Institution	**12 classrooms**	**No standard according to the HKPSG**						**5-10% of the total provision for private cars**	**No standard according to the HKPSG**
	Sub-total	**4**					/	**1**	/
	Proposed	**4**					/	**1**	/
Proposed Total		**13(1)**					**1**	**2**	**1 coach layby +1 LGV**

Note :

(1) Including 1 accessible parking space

3.3.3 According to the HKPSG, 3 residential units require to provide 1 HGV loading and unloading bay. However, there is site limitation including:

(1) The building is graded as the graded 2 historical building is situ, HGV is hard to maneuver with the limited space

(2) To provide the HGV loading/ unloading bay, it requires a ramp to access to/ from the B1/F carpark, and hard to provide

Yet, 1 nos of the HGV loading and unloading bay is hard to provide in the proposed development, and will proposed to 1 LGV loading and unloading bay. The loading and unloading bay will be shared use with the tertiary institution.

3.3.4 The proposed car parking provision for the teaching facilities and the overall parking provision for the proposed development is summarized in the **Table 3.4**.

Table 3.4 Car Parking Provision Requirement for the Proposed Development

Type		Internal Transport Provision		
	Residential Use	Teaching Facilities	Chapel	Total
Private Cars	3 (including 1 visitor parking space)	4	7	14 (including 1 accessible parking space)
Motorcycle	1	1	0	2
L/UL for LGV	1		0	1
L/UL for Coach	0	0	1	1

3.3.5 The details of the car park layout plan is shown in the **Figure 3.10 and Figure 3.11**. The swept path analysis is also provided and is shown in the **Figure SP-01 – Figure SP 02.**

3.4 Public Transport Services in the Vicinity of the Proposed Development

3.4.1 Numerous road-based public transport services are provided in the vicinity of the proposed development. Details of the current services of franchised buses and GMB routes within 500 meters catchment area are listed in **Table 3.5**, and the location of the nearby public transport stations is shown in **Figure 3.12**.

Table 3.5 Public Transport Services in the Vicinity of the Proposed Development

Service	Route	Origin - Destination	Headway (min)
Franchised Buses	1	Chuk Yuen Estate – Star Ferry	9-20
	1A	Chuk Yuen Estate	9-20
	6D	Mei Foo – Ngau Tau Kok	13-25
	6P	Mei Foo – Ngau Tau Kok	15-25
	7B	Lok Fu – Hung Hom (Hung Luen Road)	20-30
	12A	Cheung Sha Wan (Hoi Tat Estate) – Whampoa Garden	12-25
	2D	Wong Tai Sin – Chak on Estate	20-30
	208	Broadcast Drive – Tsim Sha Tsui East	25-30
	11D	Lok Fu – Kwun Tong Ferry	15-30
	75x	Kowloon City Ferry – Tai Po (Fu Shin)	11-25
	85	Kowloon City Ferry – Fo tan (Shan Mei St)	20-30
	85A	Kowloon City Ferry- Kwong Yuen	20-30
	85B(1)	Chun Shek – Kowloon City Ferry	30
	10	Choi Wan – Tai Kok Tsui (Circulation)	15-30
	113	Kennedy Town (Belcher Bay) – Choi Hung	15-26
	11K	Hung Hom Station- Chuk Yuen Estate	20-30
	20A	High Speed Rail West Kowloon Station – Kai Tak Cruise Terminal	30-35
	22	Kowloon Tong (Festival Walk) – Kai Tak Cruise Terminal	25-30
	42	Tsing Yi (Cheung Hong Estate) – Shun Lee	15-25
GMB	13	Kowloon Tong (Broadcast Drive) – Hung Hom (Hung Luen Road)	15-30
	25A	Kowloon Tong (Suffolk Road) Public Transport Interchange – Tung Tau Estate (Tung Lung Road)	15-20
	25B	San Po Kong (The Latitude) – Kowloon Tong (Suffolk Road) PTI	15-18
	66s	Mong Kok – Hammer Hill Road	30
	69	Laguan City – Kowloon City (Lion Rock Road)	20-30
	2	Whampoa Garden Public Transport Interchange- Festival Walk PTI	10-25
	2A	Whampoa Garden Public Transport Interchange- Festival Walk PTI	10-25
MTR		Sung Wong Toi Station	3-8

Note: (1) only 3 departures on Monday to Friday (Except for public holidays)

3.4.2 It reveals that the proposed development is currently well served by the comprehensive public transport services in the vicinity.

4. FUTURE TRAFFIC CONDITION & TRAFFIC IMPACT ASSESSMENT

4.1 Design Year

4.1.1 It is anticipated that the proposed development would be completed in 2026 tentatively. In order to assess the possible traffic impacts on the local road network due to the proposed development, year 2029 (i.e., 3 years after OP) has been adopted as the design year for this TIA.

4.2 Traffic Forecast

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

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

II. Territorial planning assumptions prepared by the Planning Department.

Historical Trend

4.2.2 Transport Department has traffic count stations in the vicinity of the proposed development. The traffic counts reported in the Annual Traffic Census over a period of seven years, i.e., 2015 to 2018 are summarized in **Table 4.1**.

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

ATC Stn	Road Name	Annual Average Daily Traffic (AADT)				Avg. Annual Growth Rate
		2015	2016	2017	2018	
3016	Junction Road	16,900	16,940	16,700	16,800	-0.20%
3254	Tung Tau Tsuen Road	6,580*	6,480*	6,510*	5,540	-5.57%
3284	Nga Tsin Wai Road and Kai Tak Road	8,020*	7,900*	7,930*	8,850	3.34%
3458	Junction Road	16,390	16,130*	16,200*	16,270	-0.24%
3494	Tak Ku Ling Road	7,480	7,360	7,390*	7,420*	-0.27%
3692	Tung Tsing Road	7,140	8,040	8,070*	8,110	4.34%
4079	Nga Tsin Wai Road	10,330	10,170*	11,560	11,340*	3.16%
Total		**72,840**	**73,020**	**74,360**	**74,330**	**0.68%**

*Note: *AADT estimated by Growth factor*

***Due to the social movement in 2019 and COVID in 2020, the traffic flow will not be reliable and hence the growth rate will only take into account from 2016 to 2018*

****As the traffic flow listed in the designated ATC stations are predicted, yet the flow will not be reliable and will not take it into the account.*

Planning Data

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

Table 4.2 2019-Based Planning Data from 2019 to 2031

Kowloon City District				
Data	**Year**			**Average Annual Growth Rate**
	2019	**2026**	**2031**	
Population	429,300	451,100	420,050	-0.18%
Employment	212,000	237,900	227,850	0.60%
Total	**641,300**	**689,000**	**647,900**	

Adopted Growth Rate

4.2.4 A.A.D.T. of ATC indicates that the traffic flow of the local road network has an average annual growth rate of +0.68% from year 2015 to year 2018.

4.2.5 Whilst the planning data indicates that the population and employment data of the study area are expected to grow with an average annual growth rate of -0.18% and 0.60% respectively from 2019 to 2031.

4.2.6 Therefore, as the conservative approach the annual growth rate **+1%** p.a. has been adopted for projecting traffic forecasts from year 2023 to year 2029.

4.3 Traffic Generations of Planned Adjacent New Developments

4.3.1 To fully reflect the growth traffic, trip generation of the future vicinity developments have been taken into consideration. The planned development is detailed in **Table 4.3**, shows the detailed location in **Figure 4.1.**

Table 4.3 Planned Adjacent Developments in the Vicinity

Adjacent Committed Developments						
Planning Application No	**Development Site**	**Applied Use**	**Use**	**Site Area**	**Assumed Parameters**	**Flat No.**
/	Mei Tung Estate	Redevelopment of Mei Tung Estate (Older Part)	Domestic & Non-domestic	2.05ha	117,895 m^2	2,860 Flats
					38,400 m^2	/
Y/K10/3	128 Carpenter Road, Kowloon City, Kowloon	Redevelopment of Kowloon City Plaza into a private residential development with retail facilities and a public vehicle park	Domestic	5,921m^2	44,407.5m^2	850 Flats
			Non-domestic		8,881.5m^2	/
Y/K10/4	40 Lung Kong Road, Kowloon City, Kowloon	Redevelopment of Cornerstone Education Centre for school and religious institution uses	Non-domestic	637.59 m^2	4,208m^2	/
S/K10/URA1/1	Kai Tak Road/Sa Po Road Development Scheme Plan (DSP)	High-density residential development with the provision of a sunken plaza and underground public vehicle park (PVP)	Domestic	5,352 m^2	40,140 m^2	810 Flats
			Non-domestic		8,028 m^2	/
S/K10/URA3/1	Nga Tsin Wai Road/Carpenter Road DSP (Site A, B, C1 & C2)	A holistic re-planning and restructuring of the area with high-density residential Developments, underground public vehicle park, commercial facilities, Government, institution or community facilities. (URA KC-017)	Domestic	37,061 m^2	202,416 m^2	4,353 Flats
			Non-domestic		69,302 m^2	/

A/ K18/327	Kowloon Tsai Park (Portion), 13 Inverness Road, Kowloon Tong, Kowloon	Proposed Place of Recreation, Sports or Culture (Swimming Pool Complex Redevelopment)	Non-domestic	13,320 m^2	16,356.4 m^2	/

4.3.2 The estimation on trip generations and attractions of the adjacent planned developments is shown in **Table 4.4**.

Table 4.4 Estimated Trip Generations and Attractions of Adjacent Developments

Planning Application No.	Development Site	Uses	Trip Rates			
			Weekday AM Peak		Weekday PM Peak	
			Gen.	Att.	Gen.	Att.
/	Mei Tung Estate	Redevelopment of Mei Tung Estate (Older Part) (1)	221	158	189	180
Y/K10/3	128 Carpenter Road, Kowloon City, Kowloon	Redevelopment of Kowloon City Plaza into a private residential development with retail facilities and a public vehicle park	89(2)	61(2)	57(2)	70(2)
Y/K10/4	40 Lung Kong Road, Kowloon City, Kowloon	Redevelopment of Cornerstone Education Centre for school and religious institution uses	66(3)	67(3)	66(3)	66(3)
S/K10/URA1/1	Kai Tak Road/Sa Po Road Development Scheme Plan (DSP)	High-density residential development with the provision of a sunken plaza and underground public vehicle park (PVP)	108(4)	100(4)	112(4)	125(4)
S/K10/URA3/1	Nga Tsin Wai Road/Carpenter Road DSP (Site A, B, C1 & C2)	A holistic re-planning and restructuring of the area with high-density residential Developments, underground public vehicle park, commercial Facilities, Government, institution or community facilities. (URA KC-017)	408(4)	274(4)	343(4)	382(4)
A/ K18/327	Kowloon Tsai Park (Portion), 13 Inverness Road, Kowloon Tong, Kowloon	Proposed Place of Recreation, Sports or Culture (Swimming Pool Complex Redevelopment)	30(4)	30(4)	30(4)	30(4)
Total			**922**	**690**	**797**	**753**

Note:

(1) As no specific trip rates lists in the TPDM for social welfare use, the estimation of the trip related to the proposed development based on in-house surveys and approved planning applications which conducted with reference to other social welfare facilities. While for the public housing section, the trip rates are reference to the TPDM.

(2) The estimated trip generation and attraction calculation is reference to the latest TPDM.

(3) The trip generation and attraction are based on the approved planning application.

(4) According to the approved TIA report

4.3.3 The above-mentioned traffic flows were added to the traffic flows to obtain the reference traffic flows as described in Section 4.4.

4.4 Reference Traffic Flow in Year 2029

4.4.1 The reference traffic flow is estimated by applying the adopted growth rate to the observed traffic flow in the current year, and the 2029 reference traffic flows for all junctions can be computed with the following calculation:

2029 Reference Traffic Flows (without proposed development) = **2023 (Observed Traffic Flows** x **Adopted Growth Factor i.e. +1% p.a. for 6 years**) + **Traffic Flows of Planned Adjacent Developments**

4.4.2 The 2029 reference traffic flows at surrounding critical junctions are shown in **Figure 4.2**.

4.5 Traffic Generations of the Existing Teaching Facilities

4.5.1 As the use of teaching facilities are not specified in the latest Transport Planning & Design Manual (TPDM), the estimation of the traffic trips of the proposed development is based on the previous approved planning application of the current site.

4.5.2 According to the previous approved planning application of the proposed development site, a traffic survey was conducted in the development site and nearby site where has same purpose/use of the development. The results are summarised in the **Table 4.5.**

Table 4.5 Results of Traffic Generation Survey of Teaching Facilities in Kowloon District

Development	AM Peak Hour		PM Peak Hour	
	Gen	Att	Gen	Att
	Trip Generation, (pcu/hr)			
Concordia Theological Seminary at 68 Begonia Road, Kowloon Tong (9,900m^2 GFA)	0	2	1	0
South Asian Kutheran Evangelical Mission at 1/F, 4 Broadcast Drive, Kowloon Tong (4,300m^2 GFA)	1	2	2	2
Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (1,466m^2 GFA)	0	2	1	0
Trip Generation and Attraction Rate, pcu/hr/100 m^2				
Concordia Theological Seminary	0	0.0202	0.0101	0
South Asian Kutheran Evangelical Mission	0.0233	0.0465	0.0465	0.0465
Bethel Bible Seminary	0	0.1383	0.0691	0
Maximum Rates:	**0.0233**	**0.1383**	**0.0691**	**0.0465**

4.5.3 The existing traffic generated from the existing teaching facilities is shown in **Table 4.6.**

Table 4.6 Adopted Trip Rate and Trips of Existing Teaching Facilities

Item		Traffic Generation (pcu/hr)			
		AM Peak Hour		PM Peak Hour	
		Gen	Att	Gen	Att
Teaching Facilities	Trip Rate Trip Generation	0	2	1	0

4.6 Traffic Generations of the Proposed Teaching Facilities

4.6.1 To estimate the traffic generation and attraction of the proposed development, the trip generation and attraction of the teaching facilities is calculated based on the maximum (refers to Table 4.5). The adopted trip rates are also summarized in below **Table 4.7**.

Table 4.7 Adopted Trip Rate and Trips of Proposed Development

Item		Traffic Generation (pcu/hr)			
		AM Peak Hour		PM Peak Hour	
		Gen	Att	Gen	Att
Teaching Facilities (7,146m^2)	Trip Rate	0.0233	0.1383	0.0691	0.0465
	Trip Generation	**2**	**10**	**5**	**4**

4.6.2 Based on the trip rates of residential units in the latest TPDM, the trips rates are estimated and summarised in the **Table 4.8**.

Table 4.8 Adopted Trip Rate and Trips of Residential Units

Residential Units										
			Trips Rates (pcu/hr/flat)				Trips (pcu/hr)			
Use	Average Flat Size (sq. m.)	No. of Flats	Weekday AM Peak		Weekday PM Peak		Weekday AM Peak		Weekday PM Peak	
			Gen.	Att.	Gen.	Att.	Gen.	Att.	Gen.	Att.
Private Housing: High-Density	FS ≤ 70	3	0.1117	0.0729	0.0454	0.0551	1	1	1	1
Total							**1**	**1**	**1**	**1**

4.6.3 The total of the trip rates of the proposed development is shown in the **Table 4.9**.

Table 4.9 Adopted Total Trips of Proposed Development

Proposed Development	Trip Generation, (pcu/hr)			
	AM Peak Hour		PM Peak Hour	
	Gen	Att	Gen	Att
Teaching Facilities	2	10	5	4
3 Residential Units	1	1	1	1
Total	**3**	**11**	**6**	**5**

4.6.4 The net changes in traffic generation due to the proposed changes in uses is shown in the **Table 4.10**.

Table 4.10 Net Increase in Traffic Generated by the Proposed Development

Development	Trip Generation, (pcu/hr)			
	AM Peak Hour		PM Peak Hour	
	Gen	Att	Gen	Att
Proposed Development (a)	3	11	6	5
Existing Use (b)	0	2	1	0
(a) – (b)	**3**	**9**	**5**	**5**

4.7 Traffic Forecast for Design Year 2029

4.7.1 The net traffic trips of the proposed development, which is shown in the **Figure 4.2**, is then superimposed onto the year 2029 reference traffic flow (without the proposed development) as:

2029 Design Traffic Flows (with proposed development) = **2029 Reference Traffic Flows (without proposed development)** + **Proposed Development Traffic Flows**

4.7.2 The 2029 design traffic flows at surrounding critical junctions are shown in **Figure 4.3**. While a separated traffic flow diagram shows the traffic generated and attracted by the proposed development only is also provided and is shown in the **Figure 4.4.**

4.8 Operational Assessment

4.8.1 To assess traffic impacts due to the proposed development, operational assessment of the critical junctions identified in **Chapter 3** are carried out for both the reference (without the proposed development) and the design scenario (with the proposed development) in year 2029. The results are summarized in **Table 4.11**.

Table 4.11 Operational Performance of Key Junctions in Year 2029

Ref.	Junction	Method of Control	Year 2029 RC/DFC (1)			
			Reference Scenario		Design Scenario	
			AM Peak	PM Peak	AM Peak	PM Peak
A	Dumbarton Road/ Inverness Road	Priority	0.21	0.14	0.21	0.14
B	Dumbarton Road/ Grampian Road	Priority	0.47	0.48	0.49	0.49
C	Dumbarton Road/ Junction Road	Signal	25%	55%	24%	54%
D	Junction Road/ Carpenter Road	Signal	18%	21%	17%	20%
E	Inverness Road/ Nga Tsin Wai Road	Priority	0.62	0.47	0.63	0.48
F	Grampian Road/ Nga Tsin Wai Road	Signal	84%	152%	80%	144%
G	Junction Road/ Nga Tsin Wai Road	Signal	52%	47%	52%	46%

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

4.8.2 Based on the assessment results given in **Table 4.11**, all key junctions would operate with ample capacities in both reference and design scenarios in year 2029.

4.8.3 Queue length assessment has been carried out and summarized in **Table 4.12**.

Table 4.12 Queue Length Analysis of Identified Junctions in 2029 (Design Year)

Ref.	Junction	Method of Control	Direction		Length of Road Segment (m)	Calculated Queue Length (m) Design Scenario	
						AM Peak	PM Peak
A	Dumbarton Road/ Inverness Road	Priority	Inverness Road (SB) (SRT+RT)		288	0	0
			Dumbarton Road (WB)(LR+RT)		88	2	2
			Inverness Road (NB)(SRT+LT)		80	2	1
B	Dumbarton Road/ Grampian Road	Priority	Dumbarton Road (EB)(LR+RT)		15	0	0
			Dumbarton Road (WB)(LR+RT)		88	1	1
			Grampian Road (NB)(LT+RT)		284	6	6
C	Dumbarton Road/ Junction Road	Signal	Dumbarton Road (EB) (LR+RT)		119	30	12
			Junction Road (NB) (SRT)		75	54	48
			Junction Road (SB)(SRT+RT)		55	24	18
D	Junction Road/ Carpenter Road	Signal	Carpenter Road (SB) (LT+RT)		68	36	36
			Junction Road (NB) (SRT+RT)		46	36	36
			Junction Road (SB) (SRT+LT)		74	60	42
E	Inverness Road/ Nga Tsin Wai Road	Priority	Inverness Road (SB) (LT+RT)		288	11	6
			Nga Tsin Wai Road (EB) (SRT+LT)		57	0	0
			Nga Tsin Wai Road (SRT+RT)		75	5	6
F	Grampian Road/ Nga Tsin Wai Road	Signal	Grampian Road (SB)(LT+RT)		41	18	12
			Grampian Road (NB)(LT+RT+SRT)		84	30	24
			Nga Tsin Wai Road (WB) (SRT+RT)		30	24	24
			Nga Tsin Wai Road (EB) (SRT+LT)		61	30	30
G	Junction Road/ Nga Tsin Wai Road	Signal	Junction Road (SB) (LT+RT)		81	42	30
			Junction Road (NB) (LT+SRT)		50	24	24
			Nga Tsin Wai Road (WB) (SRT+RT)		40	24	30
			Nga Tsin Wai Road (EB) (SRT)	Reference Case	30	>30	30
				Design Case		>30	30

4.8.4 The assessment results in **Table 4.12** indicate that all queues are queuing within the allowable road segments *except* for the Junction G (East Bound).

4.8.5 The queue length for Junction G (East Bound) for the reference case (ie without the proposed development) is the same as the queue length for design case. Therefore, the impact cases by the proposed development on the queue length is negligible.

4.8.6 In addition, this section of Nga Tsin Wai Road is bounded by Grampian Road, Junction Road, Man Yuen Mansion and 49-49A Nga Tsin Wai Road, it cannot be elongated nor widened. Therefore, the applicant is unable to carry out any mitigation measures that can reduce the queue length.

5. CONSTRUCTION TIA ASSESSMENT

5.1 Design Year of the Construction Program

5.1.1 It is anticipated that the proposed development will be commissioned in year 2026. Therefore, the design year for this TIA (construction) is also chosen to be 2026.

5.2 Existing Traffic Flow in 2023

5.2.1 Operation performance of the critical junctions has been examined in accordance with the existing traffic flow (including the effect of the bus stop within the 200m distance) and the results are summarised and are shown in the **Table 5.1** below. The 2023 existing traffic flows at the critical junctions are also shown in the **Figure 3.9**. Details of the junction assessment calculations are enclosed in the **Appendix A**.

Table 5.1 Existing Operational Performance of Key Junctions in 2023

Ref.	Junction	Method of Control	Year 2023 RC/DFC (1)	
			AM Peak	PM Peak
A	Dumbarton Road/ Inverness Road	Priority	0.22	0.15
B	Dumbarton Road/ Grampian Road	Priority	0.49	0.50
C	Dumbarton Road/ Junction Road	Signal	61%	95%
D	Junction Road/ Carpenter Road	Signal	130%	86%
E	Inverness Road/ Nga Tsin Wai Road	Priority	0.57	0.42
F	Grampian Road/ Nga Tsian Wai Road	Signal	107%	178%
G	Junction Road/ Nga Tsin Wai Road	Signal	85%	81%

5.2.2 The assessment, it indicates that all key junctions are operating with ample capacities during the peak hour.

5.3 Reference Traffic Flow in Year 2026

5.3.1 The reference traffic flow is estimated by applying the adopted growth rate to the observed traffic flow in the current year, and the 2026 reference traffic flows for all junctions can be computed with the following calculation:

2026 Reference Traffic Flows (without proposed development)	=	**2023 (Observed Traffic Flows**	x	**Adopted Growth Factor i.e. +1% p.a. for 3 years**	**)**	+	**Traffic Flows of Planned Adjacent Developments**

5.3.2 The details of the planned adjacent development and those trip generation and attraction can be reference to the **Chapter 4 Table 4.3 and Table 4.4**.

5.3.3 The 2026 reference traffic flows at the critical junctions are shown in **Figure 5.1**

5.4 Traffic Generation during Construction

5.4.1 As the site is only 2,088 m^2 and the total GFA to be constructed is only 7,446 m^2, it will not generate large volume of traffic due to the construction activities.

5.4.2 It is assumed that the worst case will be having **4 construction vehicles per hour** generated / attracted due to the construction works.

5.4.3 The net changes in traffic generation due to the proposed changes in uses is shown in the **Table 5.2**.

Table 5.2 Net Increase in Traffic Generated by the Construction Works

Development	Trip Generation, (pcu/hr)			
	AM Peak Hour		PM Peak Hour	
	Gen	Att	Gen	Att
Proposed Development (a)	4	4	4	4
Existing Use (b)	0	2	1	0
(a) – (b)	**4**	**2**	**3**	**4**

5.5 Traffic Forecast for Design Year 2026

5.5.1 The net traffic trips of the proposed development, which is shown in the **Figure 5.1**, is then superimposed onto the year 2026 reference traffic flow (without the proposed development) as:

2026 Design Traffic Flows (with proposed development)	=	**2026 Reference Traffic Flows (without proposed development)**	+	**Traffic due to Construction Works**

5.5.2 The 2026 design traffic flows at the critical junctions are shown in **Figure 5.2**.

5.6 Operational Assessment

5.6.1 To assess traffic impacts due to the proposed development, operational assessment of the critical junctions identified in **Chapter 3** are carried out for both the reference (without the proposed development) and the design scenario (with the proposed development) in year 2026. The results are summarized in **Table 5.3**.

Table 5.3 Operational Performance of Key Junctions in Year 2026

Ref.	Junction	Method of Control	Year 2026 RC/DFC (1)			
			Reference Scenario		Design Scenario	
			AM Peak	PM Peak	AM Peak	PM Peak
A	Dumbarton Road/ Inverness Road	Priority	0.16	0.14	0.16	0.14
B	Dumbarton Road/ Grampian Road	Priority	0.45	0.46	0.47	0.47
C	Dumbarton Road/ Junction Road	Signal	28%	59%	27%	58%
D	Junction Road/ Carpenter Road	Signal	20%	23%	20%	22%
E	Inverness Road/ Nga Tsin Wai Road	Priority	0.60	0.45	0.61	0.46
F	Grampian Road/ Nga Tsin Wai Road	Signal	90%	155%	86%	147%
G	Junction Road/ Nga Tsin Wai Road	Signal	56%	50%	56%	49%

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

5.6.2 Based on the assessment results given in **Table 5.3**, all key junctions would operate with ample capacities in both reference and design scenarios in year 2026.

6. PEDESTRIAN IMPACT ASSESSMENT

6.1 Survey on Pedestrian Flows in the Vicinity

6.1.1 To investigate the serviceability of pedestrian pathways in the vicinity in design year 2029, a pedestrian assessment is conducted.

6.1.2 Pedestrian count surveys were carried out to obtain the existing pedestrian demand on the major pedestrian pathways in the vicinity of the proposed development site. The survey was carried out on normal weekdays on 26th October 2023.

6.1.3 The proposed use of the development and the activity schedule for the future seminary are summarized below:

- Teaching facilities (use during Monday to Saturday 8:30am - 9:30pm)
- Chapel (use on Sunday only from 8:30am - 3:00pm and maximum of having 110 people using the chapel)
- 3 nos. of residential units

6.1.4 It is understood that the situation will be the worst during the school days especially before and after school hours. Therefore, the pedestrian survey is conducted during the following time:

- 7:30-8:30 (AM Peak)
- 12:00-14:25 (Noon Peak)
- 17:30-18:30 (PM Peak)

6.1.5 The assessment of sections is shown in **Figure 6.1**. The level of service (LOS) for the observed operational performance of the identified critical sections (which these roads access to the nearest GMB/ Bus stops and nodes) and are listed in **Table 6.1**.

Table 6.1 Performance of Critical Footpath in Existing Scenario Year 2023

Critical Sections	Total Footpath Width (m)[1]	Effective Width (m)[2]	Existing Scenario (Year 2023)								
			AM Peak			Noon Peak			PM Peak		
			Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m)[3]	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m)[3]	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m)[3]	LOS
1	3.1	2.6	10	0.26	A	10	0.26	A	10	0.26	A
2	3.3	2.8	20	0.48	A	20	0.48	A	25	0.60	A
3	2.9	2.4	95	2.64	A	35	0.97	A	25	0.69	A
4	2.6	2.1	90	2.86	A	30	0.95	A	25	0.79	A
5	3.3	2.3	90	2.61	A	110	3.19	A	35	1.01	A
6	3.3	2.8	115	2.74	A	155	3.69	A	60	1.43	A
7	2.9	1.9	70	2.46	A	15	0.53	A	20	0.70	A
8	2.6	1.6	65	2.71	A	30	1.25	A	45	1.88	A
9	3.3	2.8	90	2.14	A	50	1.19	A	30	0.71	A
10	3.3	2.8	60	1.43	A	45	1.07	A	60	1.43	A
11	2.9	2.4	40	1.11	A	25	0.69	A	10	0.28	A
12	2.6	2.1	105	3.33	A	130	4.13	A	40	1.27	A
13	3.3	2.3	155	4.49	A	60	1.74	A	35	1.01	A
14	3.3	2.3	15	0.43	A	175	5.07	A	90	2.61	A
15	2.9	1.9	145	5.09	A	60	2.11	A	60	2.11	A
16	2.6	1.6	150	6.25	A	70	2.92	A	45	1.88	A
17	3.3	2.3	135	3.91	A	50	1.45	A	65	1.88	A
18	3.3	2.3	110	3.19	A	25	0.72	A	25	0.72	A
19	2.9	1.9	60	2.11	A	15	0.53	A	30	1.05	A
20	2.6	1.6	55	2.29	A	10	0.42	A	25	1.04	A
21	3.3	2.3	90	2.61	A	20	0.58	A	20	0.58	A
22	3.3	2.3	125	3.62	A	35	1.01	A	55	1.59	A
23	2.9	1.9	65	2.28	A	20	0.70	A	40	1.40	A
24	2.6	2.1	50	1.59	A	250	7.94	A	140	4.44	A
25	3.3	2.3	35	1.01	A	70	2.03	A	80	2.32	A
26	3.3	2.3	60	1.74	A	150	4.35	A	140	4.06	A
27	2.9	1.9	55	1.93	A	150	5.26	A	145	5.09	A
28	2.6	1.6	55	2.29	A	150	6.25	A	145	6.04	A
29	3.3	2.3	60	1.74	A	155	4.35	A	155	4.49	A
30	3.3	2.3	45	1.30	A	155	4.35	A	155	4.49	A
31	2.9	1.9	105	3.68	A	130	4.56	A	40	1.40	A
32	2.6	1.6	105	4.38	A	165	6.88	A	110	4.58	A
33	3.3	2.3	170	4.93	A	125	3.62	A	95	2.75	A
34	3.3	2.3	110	3.19	A	180	5.22	A	140	4.06	A
35	2.9	1.9	110	3.86	A	225	7.89	A	305	10.70	A
36	2.6	1.6	160	6.67	A	310	12.92	A	370	15.42	A
37	3.3	2.3	75	2.17	A	100	2.90	A	85	2.46	A
38	3.3	2.3	165	4.78	A	285	8.26	A	135	3.91	A
39	2.9	1.9	80	2.81	A	180	6.32	A	255	8.95	A
40	2.6	1.6	125	5.21	A	145	6.04	A	120	5.00	A
41	3.3	2.3	155	4.49	A	315	9.13	A	350	10.14	A
42	3.3	2.3	150	4.35	A	315	9.13	A	310	8.99	A

43	2.9	1.9	95	3.33	A	150	5.26	A	140	4.91	A
44	2.6	1.6	125	5.21	A	340	14.17	A	195	8.13	A
45	3.3	2.3	35	1.01	A	145	4.20	A	135	3.91	A
46	3.3	2.3	315	9.13	A	305	8.84	A	540	15.65	A
47	2.9	1.9	140	4.91	A	235	8.25	A	260	9.12	A
48	2.6	2.1	30	0.95	A	35	1.11	A	35	1.11	A
49	3.3	2.8	45	1.07	A	50	1.19	A	80	1.90	A
50	3.3	2.8	185	4.40	A	80	1.90	A	105	2.50	A
51	2.9	2.4	195	5.42	A	140	3.89	A	170	4.72	A
52	2.6	1.6	165	6.88	A	140	5.83	A	170	7.08	A
53	3.3	2.8	55	1.31	A	55	1.31	A	45	1.07	A
54	3.3	2.3	90	2.61	A	320	9.28	A	215	6.23	A
55	2.9	1.9	100	3.51	A	30	1.05	A	40	1.40	A
56	2.6	1.6	50	2.08	A	25	1.04	A	15	0.63	A
57	3.3	2.8	50	1.19	A	45	1.07	A	55	1.31	A
58	3.3	2.3	65	1.88	A	20	0.58	A	30	0.87	A
59	2.9	1.9	45	1.58	A	55	1.93	A	45	1.58	A
60	2.6	1.6	55	2.29	A	75	3.13	A	55	2.29	A
61	3.3	2.3	50	1.45	A	130	3.77	A	100	2.90	A

(1) Clear Width of Street = Street Width between walls and hoardings. For conservative, assume no

(2) pedestrian could walk under the hoardings.

(3) Effective Width = Clear Width – Dead Width (There is no shopping frontages along the footpath, and hence assume 0.5m for dead areas for both side – T.P.D.M Vol 2 Chapter 3.4 Table 3.4.11.1)

(4) Pedestrian Flow Rate (ped/min/m) = Peak Hour Pedestrian Flow / 15 min. / Effective Width

6.1.6 Besides, to determine the V/C ratio at crossing points, the following empirical formula in accordance with T.P.D.M Volume 4 Chapter 3.2.5 is used for checking if the light signal crossing facilities provided are adequate for the pedestrian volumes wishing to cross:

PC = K x GTP x W

PC = Pedestrian crossing capacity in pedestrian per hour

GTP = Green time proportion i.e. (Pedestrian green + flashing green time)/ Cycle time

W = Lateral width of pedestrian crossing

K= A constant equivalent to saturation flow for pedestrians, may be taken as 1900 ped/ meter/ hours

6.1.7 The V/C ratio of the crossings is found and summarized in **Table 6.2**.

Table 6.2 Performance of Critical Pedestrian Crossing in Existing Scenario Year 2023

Crossing	Method of Control	Existing Scenario (Year 2023)								
		AM Peak (ped/hr)			Noon Peak (ped/hr)			PM Peak (ped/hr)		
		Crossing Demand (V)	Crossing Capacity (C)	V/C	Crossing Demand (V)	Crossing Capacity (C)	V/C	Crossing Demand (V)	Crossing Capacity (C)	V/C
C1	Signalized	170	3475	0.05	555	3420	0.16	480	3475	0.14
C2	Signalized	465	6490	0.07	1035	6460	0.16	1130	6490	0.17
C3	Signalized	360	3475	0.10	735	3515	0.21	630	3475	0.18
C4	Signalized	460	3475	0.13	980	3515	0.28	900	3475	0.26
C5	Signalized	425	3730	0.11	930	3760	0.25	1410	3730	0.38
C6	Signalized	255	6840	0.04	790	6610	0.12	980	6840	0.14
C7	Signalized	470	8500	0.06	1095	8550	0.13	1315	8500	0.15
C8	Signalized	125	2365	0.05	65	2430	0.03	75	2365	0.03
C9	Signalized	205	2120	0.10	370	2660	0.14	280	2120	0.13
C10	Signalized	85	2615	0.03	65	2660	0.02	50	2615	0.02
C11	Signalized	405	5980	0.07	320	5930	0.05	275	5980	0.05
C12	Signalized	70	2895	0.02	50	2890	0.02	75	2895	0.03
C13	Signalized	185	4885	0.04	335	4865	0.07	325	4885	0.07
C14	Signalized	75	2895	0.03	95	2890	0.03	150	2895	0.05
C15	Signalized	325	2895	0.11	435	2915	0.15	345	2895	0.12
C16	Signalized	130	2000	0.07	90	2025	0.04	95	2000	0.05
C17	Signalized	180	3835	0.05	225	3880	0.06	180	3835	0.05
C18	Signalized	165	4275	0.04	615	4275	0.14	550	4275	0.13
C19	Signalized	170	2470	0.07	605	2470	0.24	560	3090	0.18
C20	Signalized	165	3325	0.05	600	3325	0.18	555	3325	0.17
C21	Signalized	270	7335	0.04	105	3135	0.03	85	7335	0.01
C22	Signalized	260	5000	0.05	290	7315	0.04	305	5000	0.06
C23	Signalized	205	2620	0.08	55	3230	0.02	90	2620	0.03
C24	Signalized	175	2620	0.07	145	3230	0.04	160	2620	0.06
C25	Signalized	170	2620	0.06	145	3230	0.04	80	2620	0.03
C26	Signalized	30	2600	0.01	115	2660	0.04	60	2600	0.02
C27	Signalized	155	4800	0.03	645	2585	0.25	285	4800	0.06
C28	Signalized	110	2485	0.04	50	2535	0.02	50	2485	0.02
C29	Signalized	150	2340	0.06	25	2365	0.01	50	2340	0.02

6.1.8 The result of the assessment shown in **Table 6.1 and Table 6.2** indicate that all critical sections, and crossings are operating with ample reserved capacities during AM, Noon and PM peak hours.

6.2 Future Pedestrian Condition

6.2.1 The distribution of trips by transport mode are derived from the Travel Characteristics Survey 2011 (TCS report) published by Transport Department. The extracts of the modal split detail is given in **Table 6.3**.

Table 6.3 Distribution of Transport Modal Split

Mode	Modal Split %
Franchised Bus + GMB	27% + 13% = 40%
Rail	30%

6.2.2 The pedestrian from the committed planning/ adjacent developments and the proposed development that may affect the footpath of the surrounding area mainly be the pedestrian access the MTR station, Bus/ GMB Stops. Based on the Model Split given in **Table 6.3**, the distribution to MTR station, and Bus/ GMB stops are 30% and 40% respectively.

6.2.3 The expected peak hour pedestrian flow to this transport mode is shown in Table 5.3 based on the daily trip rate of 1.83 and a peak hour factor of 12%, which extracted from the TCS report 2011.

6.2.4 According to the latest Census, the person per flat (PPF) of the Kowloon City is 2.67. The PPF applies to the committed planning while estimating the pedestrian, including:

- Redevelopment of Mei Tung Estate (Older Part)
- Redevelopment of Kowloon City Plaza into a private residential development with retail facilities and a public vehicle park
- Kai Tak Road/ Sa Po Road Redevelopment
- Nga Tsin Wai Road/Carpenter Road DSP

6.2.5 According to the approved TIA of 40 Lung Kong Road redevelopment, the use of the building will be church and school. Hence, no PPOF will be applied when estimating the expected peak hour pedestrian flow (refer **Table 6.4**).

Table 6.4 Expected Peak Hour pedestrian Flow to MTR Station and Bus/ GMB Stops

Committed Planning	Population (= Flats Nos* 2.67)	Peak Hour Passenger Trips (= population* daily trip per person (1.83) * peak hour factor (12%))	Passenger trip related to MTR (30%)	Passenger trip related to Bus and GMB (40%)
Redevelopment of Mei Tung Estate (Older Part)	7636	1676	503	671
Redevelopment of Kowloon City Plaza	2268	498	150	200
40 Lung Kong Road, Kowloon City, Kowloon	/	86	26	35
Nga Tsin Wai Road/Carpenter Road DSP (Site A, B, C1 & C2)	11623	2553	766	1014
Kai Tak Road/ Sa Po Road Redevelopment	2163	475	143	190

6.2.6 According to the approved TIA of 40 Lung Kong Road, it mentions a total maximum 779 people will use the building. Due to the use of the development, we understood that not all people will come to the building at the time. Yet, we assume half of the people (ie. 390 people) will be arrived and left in the peak hour. The estimated trips are superimposed to the network. The future pedestrian design flow could be estimated and summarized in **Table 6.5** and **Table 6.6.**

6.2.7 Based on the geographical location of the committed planning to/ from the related locations of Sung Wong Toi MTR Station, the Bus Stops and GMB Stops, it is understood that Junction Road, Carpenter Road, and Nga Tsin Wai Road will be the main route accessing Song Wong Toi Station. The Bus and GMB pedestrian trips will be distributed among Junction Road, Carpenter Road and Nga Tsin Wai Road etc.

6.2.8 Based on the observed flow and adopted the growth rate of +1%, the future pedestrian reference flows at the critical sections (without proposed development) in year 2029 at the concerned sections are estimated and summarized in **Table 6.5 and Table 6.6**.

Table 6.5 Performance of Critical Footpath for Reference Scenario in Year 2029

Critical Sections	Total Footpath Width (m)[1]	Effective Width (m)[2]	Reference Scenario (without the Proposed Development) in Year 2029								
			AM Peak			Noon Peak			PM Peak		
			Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) [3]	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) [3]	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m) [3]	LOS
1	3.1	2.6	10	0.26	A	10	0.26	A	10	0.26	A
2	3.3	2.8	25	0.60	A	25	0.60	A	30	0.71	A
3	2.9	2.4	100	2.78	A	35	0.97	A	25	0.69	A
4	2.6	2.1	100	3.17	A	40	1.27	A	35	1.11	A
5	3.3	2.3	100	2.90	A	125	3.62	A	45	1.30	A
6	3.3	2.8	120	2.86	A	165	3.93	A	65	1.55	A
7	2.9	1.9	75	1.72	A	15	0.53	A	20	0.70	A
8	2.6	1.6	75	1.92	A	35	1.46	A	50	2.08	A
9	3.3	2.8	95	1.92	A	55	1.31	A	30	0.71	A
10	3.3	2.8	70	1.41	A	55	1.31	A	70	1.67	A
11	2.9	2.4	40	0.92	A	25	0.69	A	10	0.28	A
12	2.6	2.1	110	2.82	A	140	4.44	A	40	1.27	A
13	3.3	2.3	165	3.33	A	65	1.88	A	35	1.01	A
14	3.3	2.3	15	0.30	A	185	5.36	A	95	2.75	A
15	2.9	1.9	155	3.56	A	65	2.28	A	65	2.28	A
16	2.6	1.6	160	4.10	A	75	3.13	A	50	2.08	A
17	3.3	2.3	145	2.93	A	55	1.59	A	75	2.17	A
18	3.3	2.3	125	2.53	A	35	1.01	A	35	1.01	A
19	2.9	1.9	160	3.68	A	115	4.04	A	130	4.56	A
20	2.6	1.6	105	2.69	A	55	2.29	A	70	2.92	A
21	3.3	2.3	145	2.93	A	70	2.03	A	70	2.03	A
22	3.3	2.3	185	3.74	A	90	2.61	A	105	3.04	A
23	2.9	1.9	70	1.61	A	20	0.70	A	45	1.58	A
24	2.6	2.1	55	1.41	A	265	8.41	A	150	4.76	A
25	3.3	2.3	40	0.81	A	75	2.17	A	85	2.46	A
26	3.3	2.3	110	2.22	A	205	5.94	A	200	5.80	A
27	2.9	1.9	125	2.87	A	225	7.89	A	230	8.07	A
28	2.6	1.6	105	2.69	A	205	8.54	A	195	8.13	A
29	3.3	2.3	90	1.82	A	190	5.51	A	190	5.51	A
30	3.3	2.3	75	1.52	A	190	5.51	A	190	5.51	A
31	2.9	1.9	115	2.64	A	145	5.09	A	50	1.75	A
32	2.6	1.6	110	2.82	A	175	7.29	A	115	4.79	A
33	3.3	2.3	190	3.84	A	145	4.20	A	110	3.19	A
34	3.3	2.3	125	2.53	A	195	5.65	A	155	4.49	A
35	2.9	1.9	115	2.64	A	240	8.42	A	325	11.40	A
36	2.6	1.6	190	4.87	A	350	14.58	A	420	17.50	B
37	3.3	2.3	95	1.92	A	120	3.48	A	110	3.19	A
38	3.3	2.3	190	3.84	A	315	9.13	A	155	4.49	A
39	2.9	1.9	115	2.64	A	220	7.72	A	300	10.53	A
40	2.6	1.6	185	4.74	A	205	8.54	A	180	7.50	A
41	3.3	2.3	195	3.94	A	365	10.58	A	395	11.45	A

42	3.3	2.3	175	3.54	**A**	350	10.14	**A**	340	9.86	**A**
43	2.9	1.9	105	2.41	**A**	165	5.79	**A**	155	5.44	**A**
44	2.6	1.6	140	3.59	**A**	365	15.21	**A**	210	8.75	**A**
45	3.3	2.3	45	0.91	**A**	165	4.78	**A**	155	4.49	**A**
46	3.3	2.3	365	7.37	**A**	355	10.29	**A**	605	17.54	**B**
47	2.9	1.9	155	3.56	**A**	255	8.95	**A**	285	10.00	**A**
48	2.6	2.1	85	2.18	**A**	90	2.86	**A**	80	2.54	**A**
49	3.3	2.8	70	1.41	**A**	75	1.79	**A**	100	2.38	**A**
50	3.3	2.8	205	4.14	**A**	90	2.14	**A**	115	2.74	**A**
51	2.9	2.4	205	4.71	**A**	150	4.17	**A**	180	5.00	**A**
52	2.6	1.6	180	4.62	**A**	150	6.25	**A**	185	7.71	**A**
53	3.3	2.8	65	1.31	**A**	65	1.55	**A**	55	1.31	**A**
54	3.3	2.3	105	2.12	**A**	345	10.00	**A**	235	6.81	**A**
55	2.9	1.9	135	3.10	**A**	60	2.11	**A**	70	2.46	**A**
56	2.6	1.6	55	1.41	**A**	30	1.25	**A**	20	0.83	**A**
57	3.3	2.8	55	1.11	**A**	50	1.19	**A**	60	1.43	**A**
58	3.3	2.3	70	1.41	**A**	20	0.58	**A**	30	0.87	**A**
59	2.9	1.9	70	1.61	**A**	80	2.81	**A**	70	2.46	**A**
60	2.6	1.6	60	1.54	**A**	80	3.33	**A**	60	2.50	**A**
61	3.3	2.3	65	1.31	**A**	150	4.35	**A**	120	3.48	**A**

(1) Clear Width of Street = Street Width between walls and hoardings. For conservative, assume no pedestrian could walk under the hoardings.

(2) Effective Width = Clear Width – Dead Width (There is no shopping frontages along the footpath, and hence assume 0.5m for dead areas for both side – T.P.D.M Vol 2 Chapter 3.4 Table 3.4.11.1)

(3) Pedestrian Flow Rate (ped/min/m) = Peak Hour Pedestrian Flow / 15 min. / Effective Width

Table 6.6 Performance of Critical Pedestrian Crossing for Reference Case Year 2029

Crossing	Method of Control	Reference Case (without the Proposed Development) in Year 2029								
		AM Peak (ped/hr)			Noon Peak (ped/hr)			PM Peak (ped/hr)		
		Crossing Demand (V)	Crossing Capacity (C)	V/C	Crossing Demand (V)	Crossing Capacity (C)	V/C	Crossing Demand (V)	Crossing Capacity (C)	V/C
C1	Signalized	180	3475	0.05	590	3420	0.17	510	3475	0.15
C2	Signalized	495	6490	0.08	1100	6460	0.17	1200	6490	0.18
C3	Signalized	380	3475	0.11	780	3515	0.22	670	3475	0.19
C4	Signalized	490	3475	0.14	1040	3515	0.30	955	3475	0.27
C5	Signalized	450	3730	0.12	985	3760	0.26	1495	3730	0.40
C6	Signalized	270	6840	0.04	840	6610	0.13	1040	6840	0.15
C7	Signalized	500	8500	0.06	1160	8550	0.14	1395	8500	0.16
C8	Signalized	135	2365	0.06	70	2430	0.03	80	2365	0.03
C9	Signalized	220	2120	0.10	395	2660	0.15	295	2120	0.14
C10	Signalized	90	2615	0.03	70	2660	0.03	55	2615	0.02
C11	Signalized	430	5980	0.07	340	5930	0.06	290	5980	0.05
C12	Signalized	75	2895	0.03	55	2890	0.02	80	2895	0.03
C13	Signalized	195	4885	0.04	355	4865	0.07	345	4885	0.07
C14	Signalized	80	2895	0.03	100	2890	0.03	160	2895	0.06
C15	Signalized	345	2895	0.12	460	2915	0.16	365	2895	0.13
C16	Signalized	140	2000	0.07	95	2025	0.05	100	2000	0.05
C17	Signalized	190	3835	0.05	240	3880	0.06	190	3835	0.05
C18	Signalized	175	4275	0.04	655	4275	0.15	585	4275	0.14
C19	Signalized	180	2470	0.07	640	2470	0.26	595	3090	0.19
C20	Signalized	175	3325	0.05	635	3325	0.19	590	3325	0.18
C21	Signalized	285	7335	0.04	110	3135	0.04	90	7335	0.01
C22	Signalized	275	5000	0.06	310	7315	0.04	325	5000	0.07
C23	Signalized	220	2620	0.08	60	3230	0.02	95	2620	0.04
C24	Signalized	185	2620	0.07	155	3230	0.05	170	2620	0.06
C25	Signalized	180	2620	0.07	155	3230	0.05	85	2620	0.03
C26	Signalized	30	2600	0.01	120	2660	0.05	65	2600	0.03
C27	Signalized	165	4800	0.03	685	2585	0.26	305	4800	0.06
C28	Signalized	115	2485	0.05	55	2535	0.02	55	2485	0.02
C29	Signalized	160	2340	0.07	25	2365	0.01	55	2340	0.02

6.2.9 Referencing to the enrolment schedule, maximum 109 people using the building during the day time, maximum 103 people using the building during the noon time and 127 people using the building during the evening time. For conservative, assume all the people will come/leave within 15 minutes before the start/end of the course.

6.2.10 As the nearest MTR stations including both Lok Fu Station and Song Wong Toi Station are out of 500m radius, hence, we assumed the travelers will take either GMB or bus to the MTR station. Hence, the model split is adjusted. The adjusted model split is summarized in the **Table 6.7**.

Table 6.7 Adjusted Model Split

TCS								
	Rail	**Franchised Bus**	**PLB**	**Private Vehicle**	**SPB**	**Taxi**	**Tram**	**Ferry**
Modal Split	30%	27%	13%	12%	9%	6%	2%	1%
Adjusted Modal Split	**-**	**47%**	**21%**	**22%**	**-**	**10%**	**-**	**-**

6.2.11 The expected peak hour pedestrian flow to/ from the proposed development, bus and GMB stop are estimated and summarized in is summarized in the below **Table 6.8**.

Table 6.8 Expected Peak Hour pedestrian Flow to MTR Station and Bus/ GMB Stops

Proposed Development	**Peak Hour Passenger Trips (= population* daily trip per person (1.83) * peak hour factor (100%))**	**Passenger trip related to Bus in AM Peak (47%)**	**Passenger trip related to GMB in AM Peak (21%)**
Bethel Bible Seminary at 45-47 Grampian Road	200	94 (two- way)	42 (two- way)
		=94*60% (1) =57 (one way)	=42*60%(1) =26 (one way)
Proposed Development	**Peak Hour Passenger Trips (= population* daily trip per person (1.83) * peak hour factor (100%))**	**Passenger trip related to Bus in Noon Peak (47%)**	**Passenger trip related to GMB in Noon Peak (21%)**
–66*0.3Bethel Bible Seminary at 45-47 Grampian Road	189	89 (two- way)	40 (two- way)
		=89*60% (1) = 54 (one way)	=40*60%(1) = 24 (one way)
Proposed Development	**Peak Hour Passenger Trips (= population* daily trip per person (1.83) * peak hour factor (100%))**	**Passenger trip related to Bus in PM Peak (47%)**	**Passenger trip related to GMB in PM Peak (21%)**

Bethel Bible Seminary at 45-47 Grampian Road	234	110 (two- way)	50 (two- way)
		=110*60%(1) = 66 (one way)	=50*60% (1) =30 (one way)

Note:

(1) 1-way = 60% of the 2-way flows

6.2.12 A separated pedestrian flow table shows the pedestrian generated and attracted by the proposed development only. The detail is also provided and is shown in the **Table 6.9**.

Table 6.9 Pedestrian Flow Generated and Attracted by the Proposed Development

Critical Sections	Pedestrian Flow Generated and Attracted by the Proposed Development		
	AM Peak (ped/15 mins)	Noon Peak (ped/15 mins)	PM Peak (ped/15 mins)
1	5	5	5
2	5	5	5
4	10	10	10
5	5	5	5
6	10	10	10
7	30	30	35
8	25	25	30
9	5	5	10
12	15	15	15
13	10	10	10
14	25	25	30
15	10	10	10
16	5	5	5
17	5	5	5
18	10	10	10
19	10	10	10
20	10	10	10
24	5	5	5
25	15	15	15
26	5	5	5
27	5	5	5
28	5	5	5
29	5	5	5
30	5	5	5
32	5	5	5

33	5	5	5
34	5	5	5
35	5	5	5
36	5	5	5
40	5	5	5
41	5	5	5
42	5	5	5
48	10	10	10
49	5	5	5
50	5	5	5
51	5	5	5
52	5	5	5
53	10	10	10
54	5	5	5
55	15	10	15
56	10	10	10
57	5	5	5
58	15	15	15

Note :

(1) The pedestrian flow results are demonstrated to the nearest units of 5, 0.

Table 6.10 Pedestrian Flow Generated and Attracted by the Proposed Development for the Pedestrian Crossing

Critical Sections	Pedestrian Flow Generated and Attracted by the Proposed Development		
	AM Peak (ped/hr)	Noon Peak (ped/hr)	PM Peak (ped/hr)
C4	5	5	5
C8	25	25	30
C9	10	10	15
C11	10	10	10
C12	40	35	45
C14	15	15	15
C15	15	15	15
C17	30	30	35
C19	10	5	10
C21	5	5	5
C22	10	10	10
C23	10	10	15

C24	20	20	25
C25	15	15	15
C26	20	15	20
C27	55	50	60
C28	10	10	15

Note :

(1) The pedestrian flow results are demonstrated to the nearest units of 5, 0.

6.2.13 The estimated trips are superimposed to the network, the future pedestrian design flow could be estimated and summarized in **Table 6.11 and Table 6.12.**

Table 6.11 Performance of Critical Footpath for Design Scenario in Year 2029

Critical Sections	Total Footpath Width (m)[1]	Effective Width (m)[2]	Design Scenario (with the Proposed Development) in Year 2029								
			AM Peak			Noon Peak			PM Peak		
			Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m)[3]	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m)[3]	LOS	Two-way Pedestrian Flow (ped/15 mins)	Two-way Pedestrian Flow Rate (ped/min/m)[3]	LOS
1	3.1	2.6	15	0.38	A	15	0.38	A	15	0.38	A
2	3.3	2.8	30	0.71	A	30	0.71	A	35	0.83	A
3	2.9	2.4	100	2.78	A	35	0.97	A	25	0.69	A
4	2.6	2.1	110	3.49	A	50	1.59	A	45	1.43	A
5	3.3	2.3	105	3.04	A	130	3.77	A	50	1.45	A
6	3.3	2.8	130	3.10	A	175	4.17	A	75	1.79	A
7	2.9	1.9	105	3.68	A	45	1.58	A	55	1.93	A
8	2.6	1.6	100	4.17	A	60	2.50	A	80	3.33	A
9	3.3	2.8	100	2.38	A	60	1.43	A	40	0.95	A
10	3.3	2.8	70	1.67	A	55	1.31	A	70	1.67	A
11	2.9	2.4	40	1.11	A	25	0.69	A	10	0.28	A
12	2.6	2.1	125	3.97	A	155	4.92	A	55	1.75	A
13	3.3	2.3	175	5.07	A	75	2.17	A	45	1.30	A
14	3.3	2.3	40	1.16	A	210	6.09	A	125	3.62	A
15	2.9	1.9	165	5.79	A	75	2.63	A	75	2.63	A
16	2.6	1.6	165	6.88	A	80	3.33	A	55	2.29	A
17	3.3	2.3	145	4.35	A	55	1.74	A	80	2.32	A
18	3.3	2.3	135	3.91	A	45	1.30	A	45	1.30	A
19	2.9	1.9	170	5.96	A	125	4.39	A	140	4.91	A
20	2.6	1.6	115	4.79	A	65	2.71	A	80	3.33	A
21	3.3	2.3	145	4.20	A	70	2.03	A	70	2.03	A
22	3.3	2.3	185	5.36	A	90	2.61	A	105	3.04	A
23	2.9	1.9	70	2.46	A	20	0.70	A	45	1.58	A
24	2.6	2.1	55	1.90	A	265	8.57	A	150	4.92	A
25	3.3	2.3	55	1.59	A	90	2.61	A	100	2.90	A
26	3.3	2.3	115	3.33	A	210	6.09	A	205	5.94	A
27	2.9	1.9	125	4.56	A	225	8.07	A	235	8.25	A
28	2.6	1.6	105	4.58	A	205	8.75	A	200	8.33	A
29	3.3	2.3	95	2.75	A	195	5.65	A	195	5.65	A
30	3.3	2.3	75	2.32	A	190	5.65	A	190	5.65	A
31	2.9	1.9	115	4.04	A	145	5.09	A	50	1.75	A
32	2.6	1.6	115	4.79	A	180	7.50	A	120	5.00	A
33	3.3	2.3	195	5.65	A	150	4.35	A	115	3.33	A
34	3.3	2.3	130	3.77	A	200	5.80	A	160	4.64	A
35	2.9	1.9	120	4.21	A	245	8.60	A	330	11.58	A
36	2.6	1.6	195	8.13	A	355	14.79	A	425	17.71	B
37	3.3	2.3	95	2.75	A	120	3.48	A	110	3.19	A
38	3.3	2.3	190	5.51	A	315	9.13	A	155	4.49	A
39	2.9	1.9	115	4.04	A	220	7.72	A	300	10.53	A
40	2.6	1.6	190	7.92	A	210	8.75	A	185	7.71	A
41	3.3	2.3	200	5.80	A	370	10.72	A	400	11.59	A
42	3.3	2.3	175	5.22	A	350	10.29	A	340	10.00	A
43	2.9	1.9	105	3.68	A	165	5.79	A	155	5.44	A
44	2.6	1.6	140	5.83	A	365	15.21	A	210	8.75	A
45	3.3	2.3	45	1.30	A	165	4.78	A	155	4.49	A
46	3.3	2.3	365	10.58	A	355	10.29	A	605	17.54	B
47	2.9	1.9	155	5.44	A	255	8.95	A	285	10.00	A
48	2.6	2.1	95	3.02	A	100	3.17	A	90	2.86	A
49	3.3	2.8	70	1.79	A	75	1.90	A	100	2.50	A
50	3.3	2.8	210	5.00	A	95	2.26	A	120	2.86	A
51	2.9	2.4	205	5.83	A	150	4.31	A	180	5.14	A

52	2.6	1.6	180	7.71	**A**	150	6.46	**A**	185	7.92	**A**
53	3.3	2.8	75	1.79	**A**	75	1.79	**A**	65	1.55	**A**
54	3.3	2.3	110	3.19	**A**	350	10.14	**A**	240	6.96	**A**
55	2.9	1.9	150	5.26	**A**	70	2.46	**A**	85	2.98	**A**
56	2.6	1.6	65	2.71	**A**	40	1.67	**A**	30	1.25	**A**
57	3.3	2.8	60	1.43	**A**	55	1.31	**A**	65	1.55	**A**
58	3.3	2.3	85	2.46	**A**	35	1.01	**A**	45	1.30	**A**
59	2.9	1.9	70	2.46	**A**	80	2.81	**A**	70	2.46	**A**
60	2.6	1.6	60	2.50	**A**	80	3.33	**A**	60	2.50	**A**
61	3.3	2.3	65	1.88	**A**	150	4.35	**A**	120	3.48	**A**

Note:

(1) *Clear Width of Street = Street Width between walls and hoardings. For conservative, assume no pedestrian could walk under the hoardings.*

(2) *Effective Width = Clear Width – Dead Width (There is no shopping frontages along the footpath, and hence assume 0.5m for dead areas for both side – T.P.D.M Vol 2 Chapter 3.4 Table 3.4.11.1)*

(3) *Pedestrian Flow Rate (ped/min/m) = Peak Hour Pedestrian Flow / 15 min. / Effective Width*

(4) *The pedestrian flow results are demonstrated to the nearest units of 5, 0.*

Table 6.12 Performance of Critical Pedestrian Crossing in Design Scenario in Year 2029

Crossing	Method of Control	Design Scenario(with the Proposed Development) in Year 2029								
		AM Peak (ped/hr)			Noon Peak (ped/hr)			PM Peak (ped/hr)		
		Crossing Demand (V)	Crossing Capacity (C)	V/C	Crossing Demand (V)	Crossing Capacity (C)	V/C	Crossing Demand (V)	Crossing Capacity (C)	V/C
C1	Signalized	180	3475	0.05	590	3420	0.17	510	3475	0.15
C2	Signalized	510	6490	0.08	1115	6460	0.17	1215	6490	0.19
C3	Signalized	400	3475	0.12	800	3515	0.23	690	3475	0.20
C4	Signalized	500	3475	0.14	1050	3515	0.30	965	3475	0.28
C5	Signalized	470	3730	0.13	1005	3760	0.27	1515	3730	0.41
C6	Signalized	280	6840	0.04	850	6610	0.13	1050	6840	0.15
C7	Signalized	525	8500	0.06	1185	8550	0.14	1420	8500	0.17
C8	Signalized	160	2365	0.07	95	2430	0.04	110	2365	0.05
C9	Signalized	240	2120	0.11	415	2660	0.16	320	2120	0.15
C10	Signalized	90	2615	0.03	70	2660	0.03	55	2615	0.02
C11	Signalized	465	5980	0.08	375	5930	0.06	335	5980	0.06
C12	Signalized	175	2895	0.06	150	2890	0.05	195	2895	0.07
C13	Signalized	195	4885	0.04	355	4865	0.07	345	4885	0.07
C14	Signalized	130	2895	0.04	150	2890	0.05	210	2895	0.07
C15	Signalized	390	2895	0.13	505	2915	0.17	420	2895	0.15
C16	Signalized	165	2000	0.08	120	2025	0.06	130	2000	0.07
C17	Signalized	315	3835	0.08	365	3880	0.09	305	3835	0.08
C18	Signalized	225	4275	0.05	705	4275	0.16	635	4275	0.15
C19	Signalized	210	3090	0.07	665	2470	0.27	625	3090	0.20
C20	Signalized	250	3325	0.08	710	3325	0.21	660	3325	0.20
C21	Signalized	290	7335	0.04	115	3135	0.04	95	7335	0.01
C22	Signalized	285	5000	0.06	320	7315	0.04	335	5000	0.07
C23	Signalized	245	2620	0.09	85	3230	0.03	125	2620	0.05
C24	Signalized	215	2620	0.08	185	3230	0.06	205	2620	0.08
C25	Signalized	220	2620	0.08	195	3230	0.06	130	2620	0.05
C26	Signalized	50	2600	0.02	135	2660	0.05	85	2600	0.03
C27	Signalized	290	4800	0.06	805	2585	0.31	470	4800	0.10
C28	Signalized	125	2485	0.05	65	2535	0.03	70	2485	0.03
C29	Signalized	170	2340	0.07	35	2365	0.01	65	2340	0.03

6.2.14 From the assessment results in **Tables 6.11 and 6.12**, it is revealed that the concerned sections of footpaths and pedestrian crossings would all operate with LOS A, B and V/C Ratio well below 0.85 in peak periods. Therefore, the application is acceptable from the traffic points of view.

7. SUMMARY AND CONCLUSION

7.1 Summary

7.1.1 CTA Consultants Limited (CTA) is commissioned as the traffic consultant to prepare the Traffic Impact Assessment (TIA) and technical justifications in supporting the S16 Town Planning Application for Bethel Bible Seminary at 45-47 Grampian Road Kowloon City (NKIL 1382).

Junction Assessment and Performance

7.1.2 To appraise the existing traffic condition, a vehicular survey in the form of manual classified count was conducted at the surrounding road network of the proposed development. Current operational performance of the critical junctions has been assessed with the observed traffic flow. The results reveal that all critical junctions are at present operating within its capacities.

7.1.3 Assessment results of operational performance of the critical junctions indicate that all critical junctions will still operate within their capacities in both reference and design scenarios in the year 2029.

7.1.4 As the traffic trips of both committed planning and proposed development do not produce significant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.

Junction Assessment and Performance during the Construction

7.1.5 Assessment results of operational performance of the critical junctions indicate that all critical junctions will still operate within their capacities in both reference and design scenarios in the year 2026.

7.1.6 As the traffic trips of both committed planning and proposed development do not produce significant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.

Pedestrian Assessment

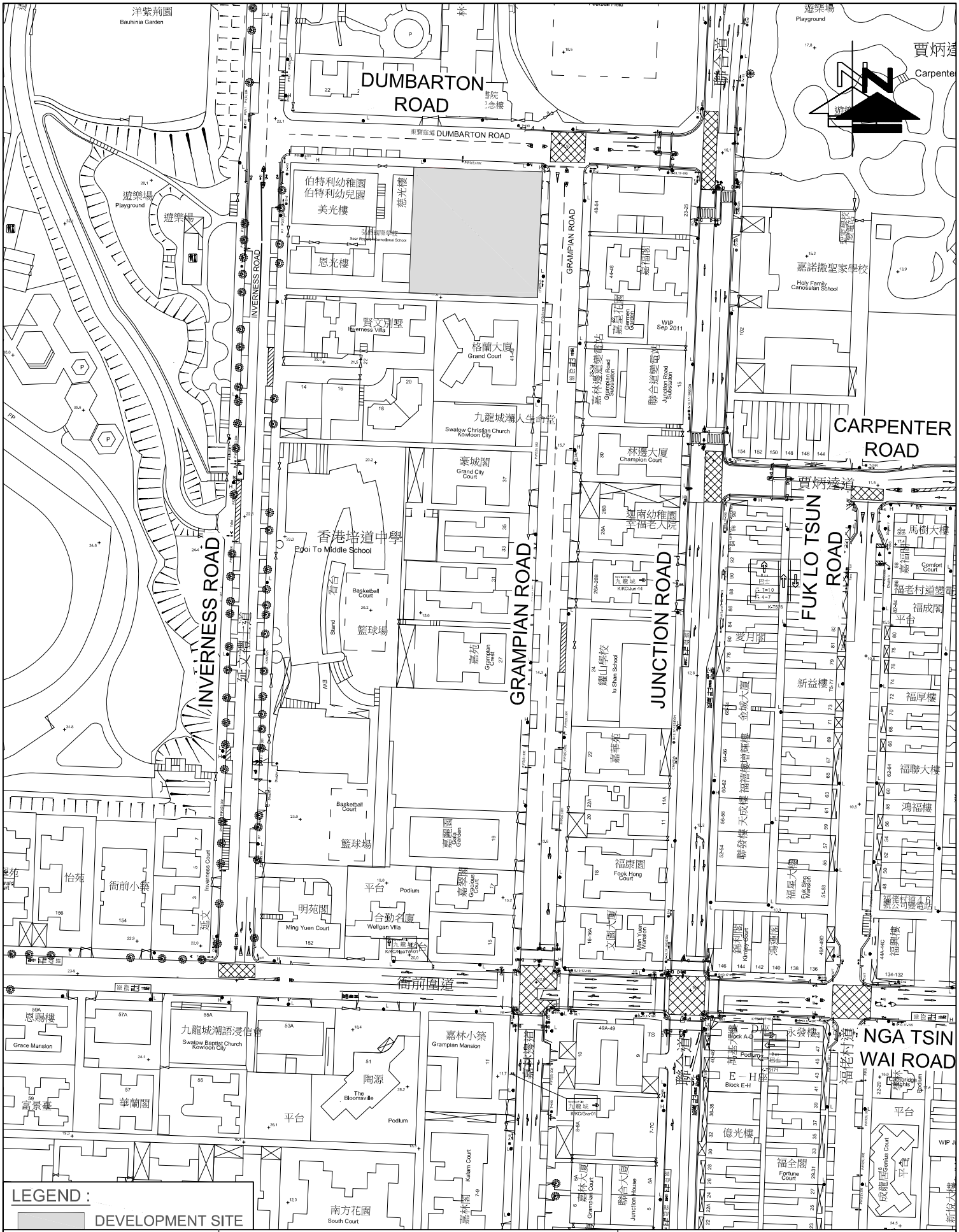
7.1.7 Pedestrian assessment was also carried out to identify the pedestrian condition in the vicinity.

7.1.8 The pedestrian results also revealed that the concerned sections of footpath and pedestrian crossing would all operate with ample reserved capacity during AM, Noon and PM peak hours in design year 2029.

7.2 Conclusion

7.2.1 Traffic Impact Assessment (TIA) study indicates that no adverse traffic impact will be induced by the proposed development.

7.2.2 Therefore, the proposed development at 45-47 Grampian Road Kowloon City (NKIL 1382) is acceptable from a traffic engineering point of view.



LEGEND :

DEVELOPMENT SITE

FIGURE NO.: 2.1	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: SITE LOCATION PLAN	
SCALE: 1 : 1750 @A4	DATE: 09 NOV 2023	

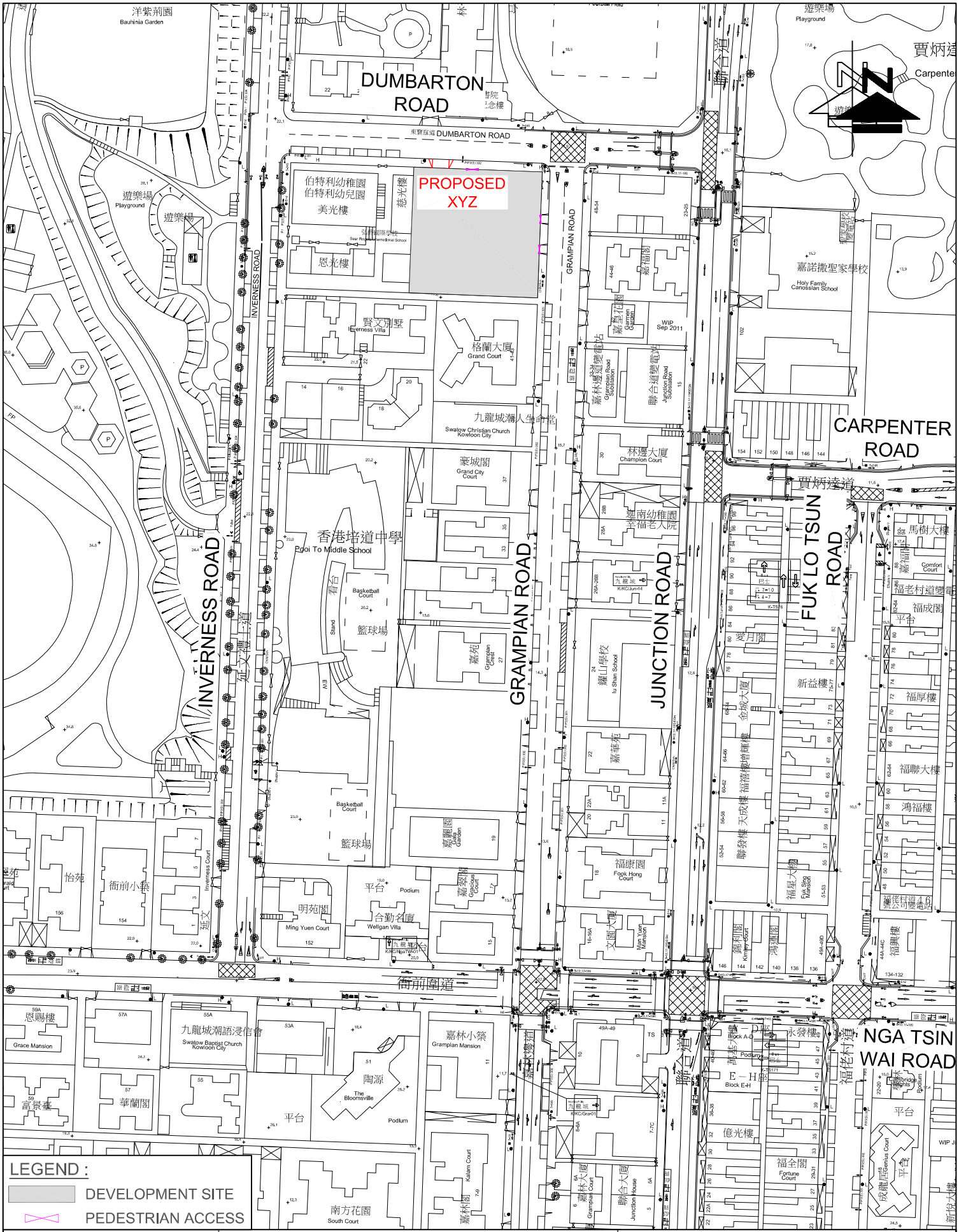


FIGURE NO.: 2.2	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE: THE NEW XYZ LOCATION
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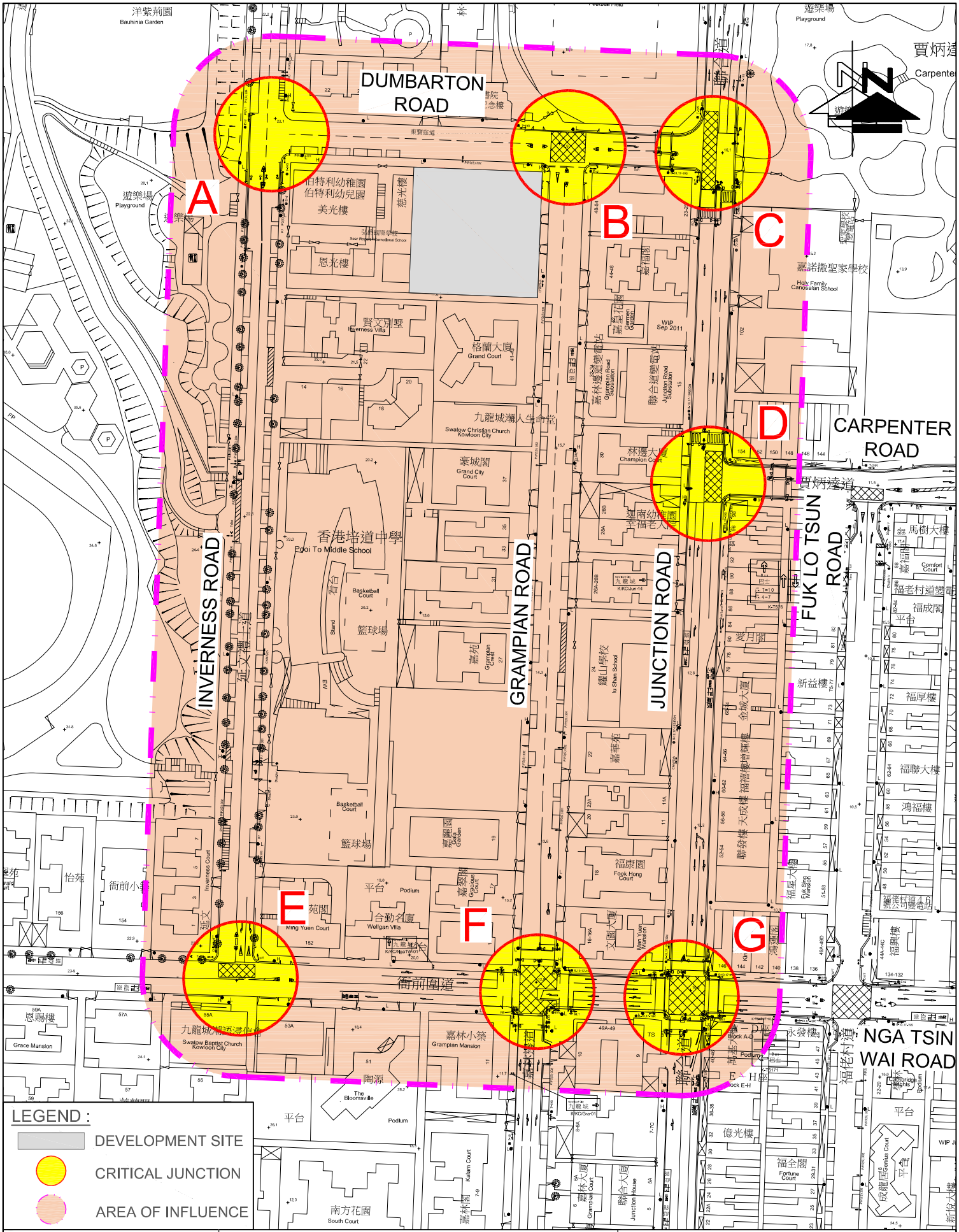

FIGURE NO.: 3.1	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE: IDENTIFIED CRITICAL JUNCTIONS AND AREA OF INFLUENCE
SCALE: 1 : 1750 @A4	DATE: 09 NOV 2023

CTA Consultants Limited
志達顧問有限公司

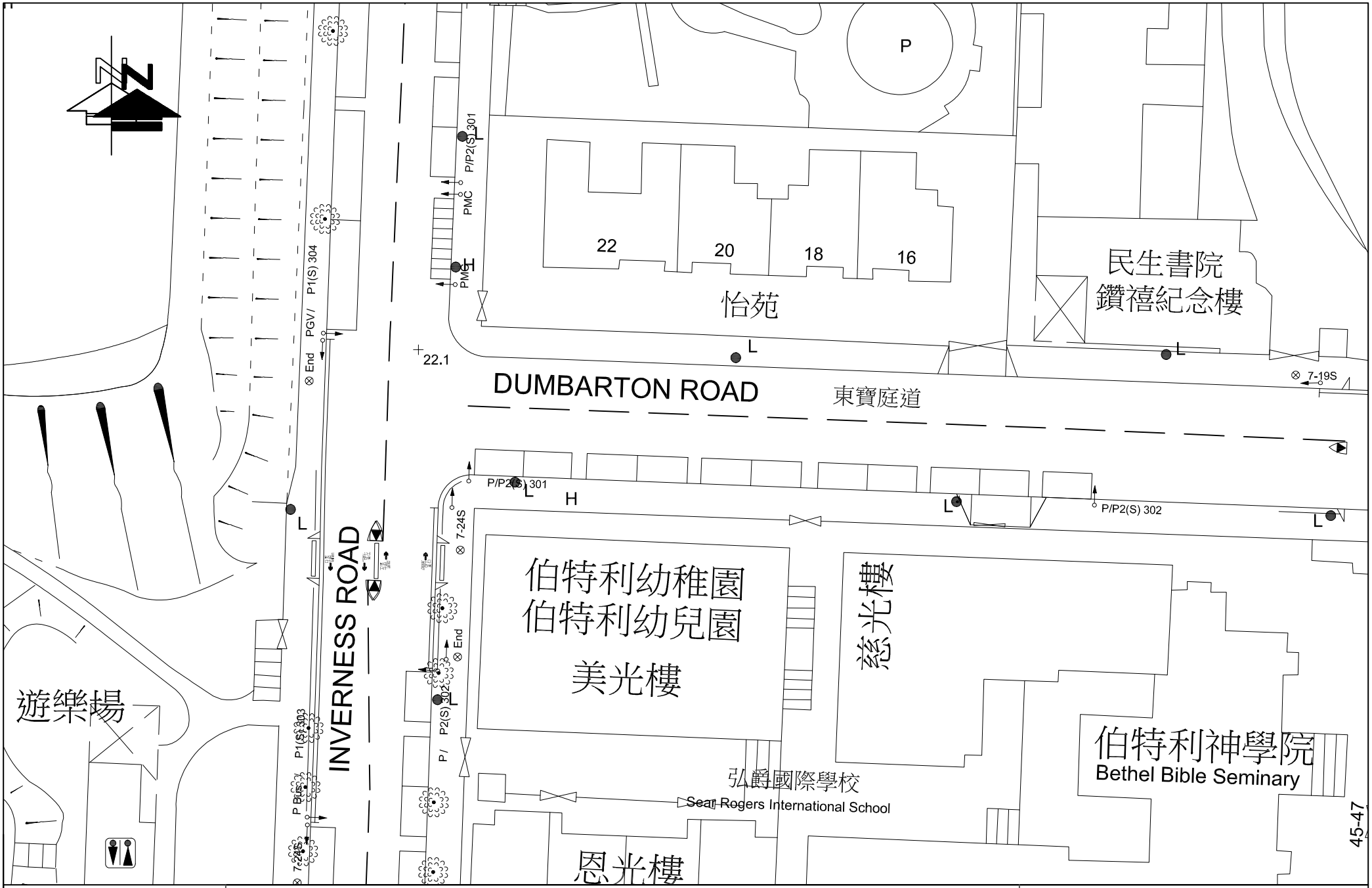

FIGURE NO.: 3.2	PROJECT TITLE: Bethel Bible Seminary at 45-47 Gramplan Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF DUMBARTON ROAD / INVERNESS ROAD (A)	
SCALE: 1 : 500 @A4 / DATE: 13 NOV 2023		

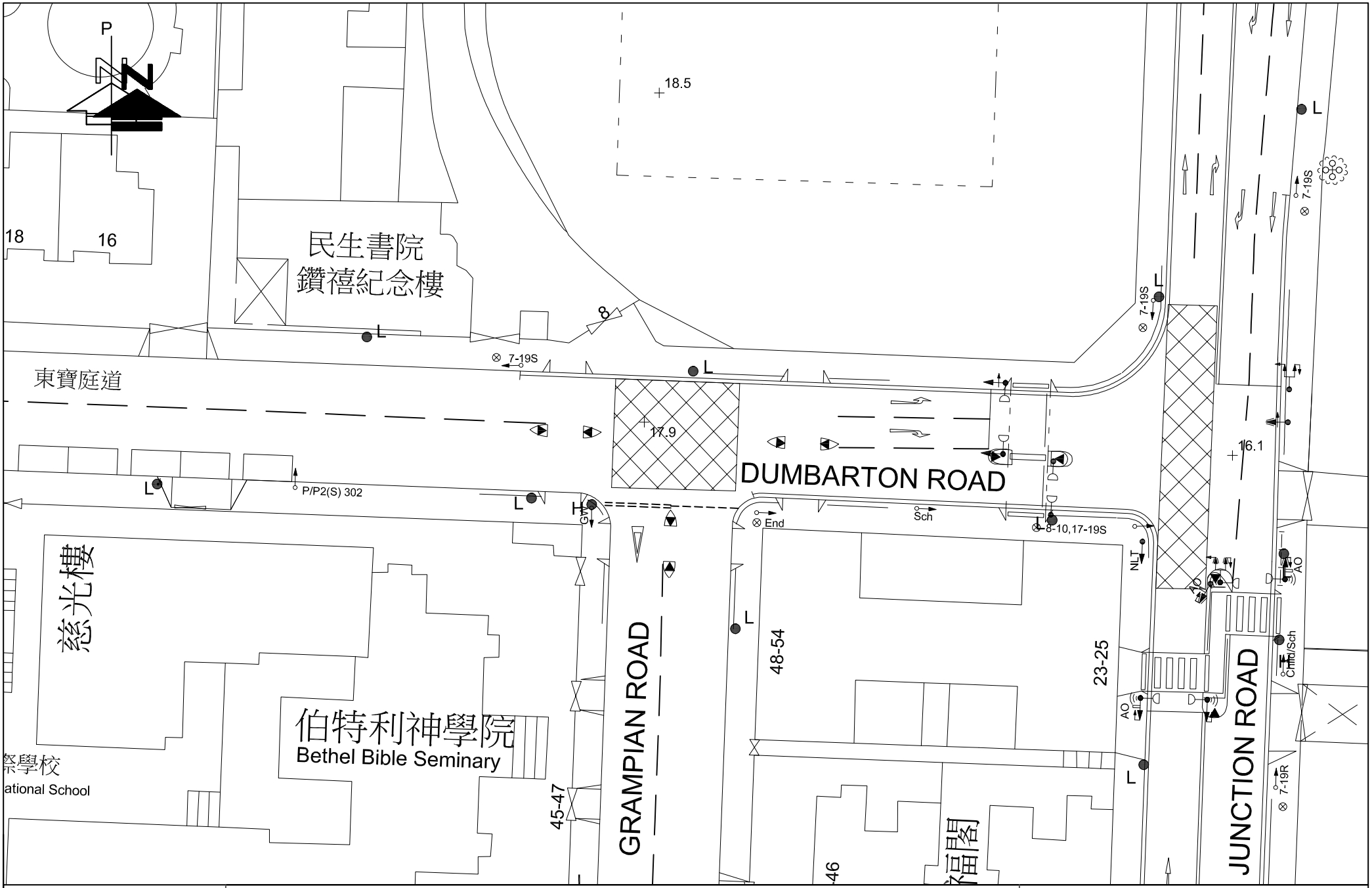

FIGURE NO.: 3.3	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF DUMBARTON ROAD / GRAMPIAN ROAD (B)	
SCALE: 1 : 500 @A4 / DATE: 13 NOV 2023		

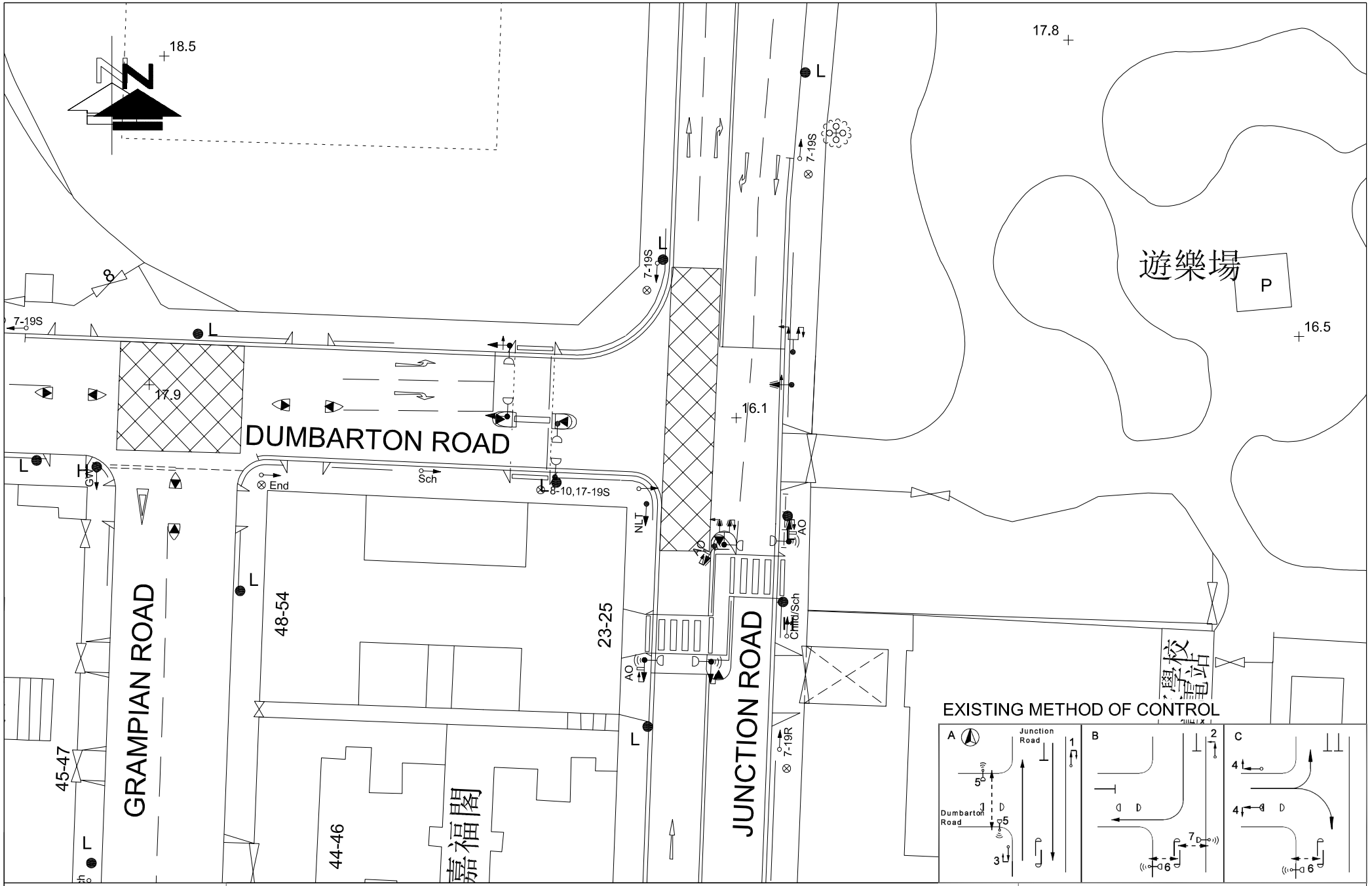

FIGURE NO.: 3.4	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF DUMBARTON ROAD / JUNCTION ROAD (C)	
SCALE: 1 : 500 @A4 / DATE: 13 NOV 2023		

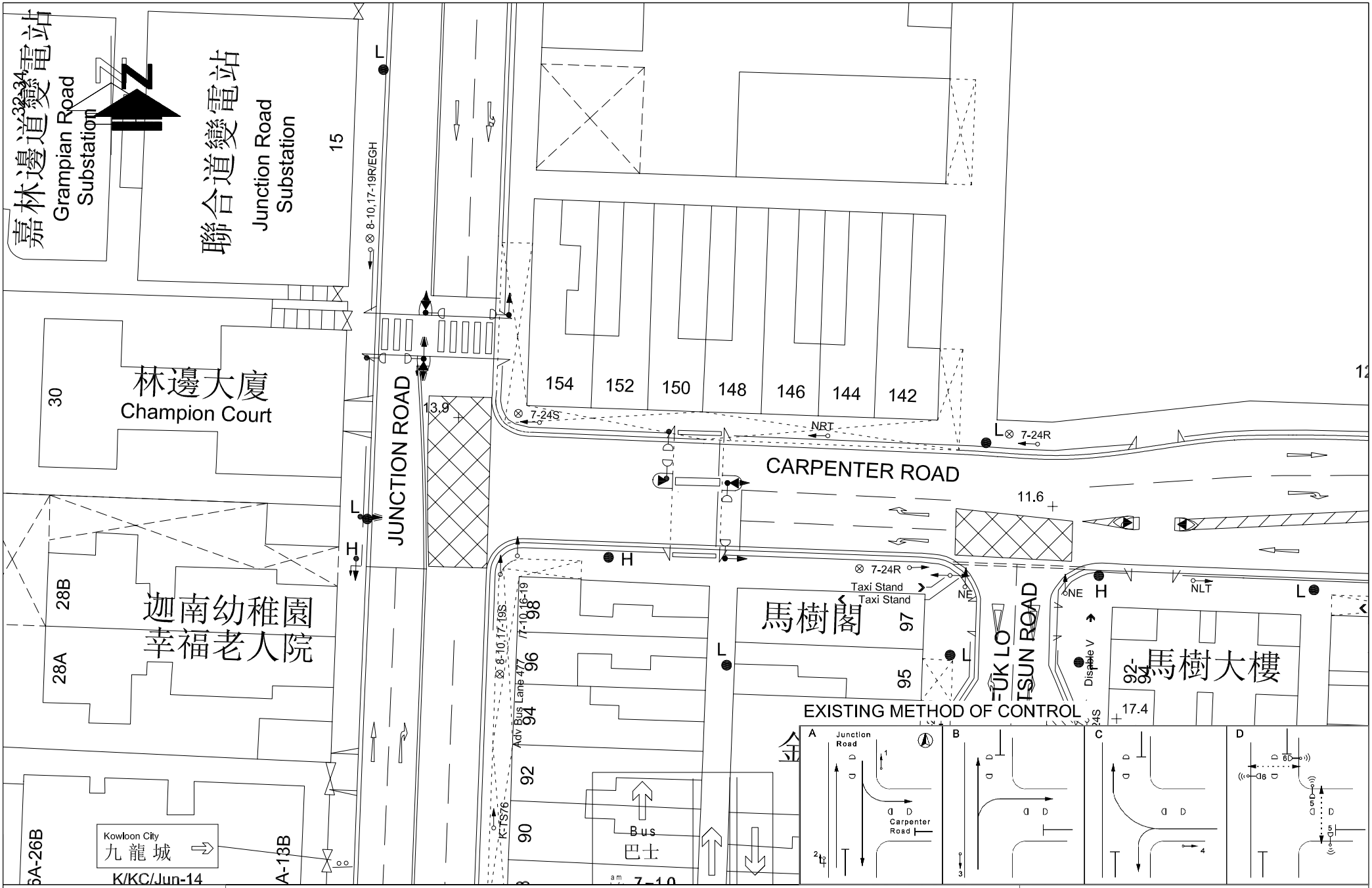

FIGURE NO.: 3.5	PROJECT TITLE:	Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE:	EXISTING JUNCTION LAYOUT OF CARPENTER ROAD / JUNCTION ROAD (D)	
SCALE: 1 : 500 @A4	DATE: 13 NOV 2023		

FIGURE NO.: 3.6	PROJECT TITLE: Bethel Bible Seminary at 45-47 Gramplan Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF NGA TSIN WAI ROAD / INVERNESS ROAD (E)	
SCALE: 1 : 500 @A4 / DATE: 13 NOV 2023		

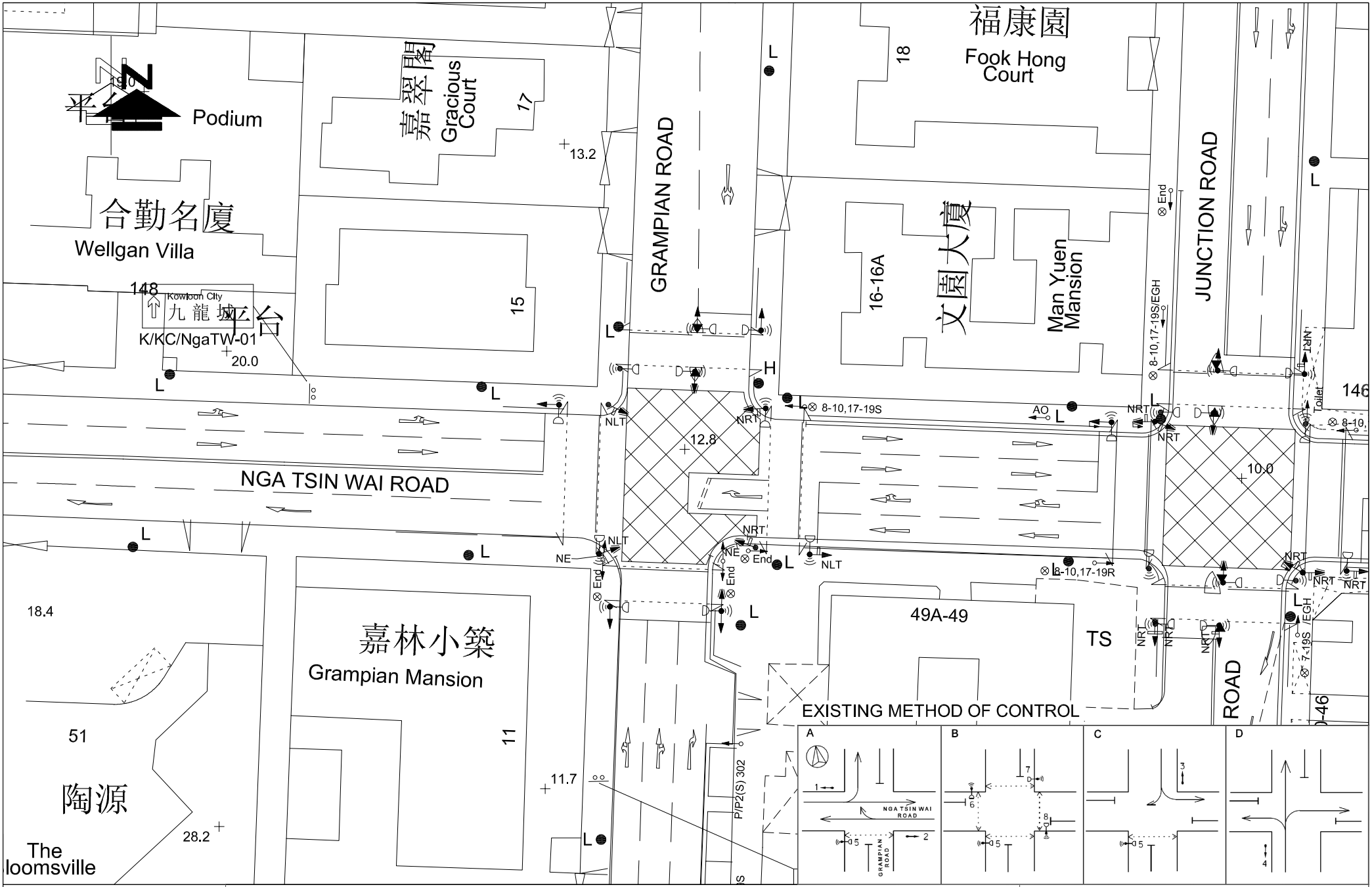

FIGURE NO.: 3.7	PROJECT TITLE:	Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE:	EXISTING JUNCTION LAYOUT OF NGA TSIN WAI ROAD / GRAMPIAN ROAD (F)	
SCALE: 1 : 500 @A4	DATE: 13 NOV 2023		

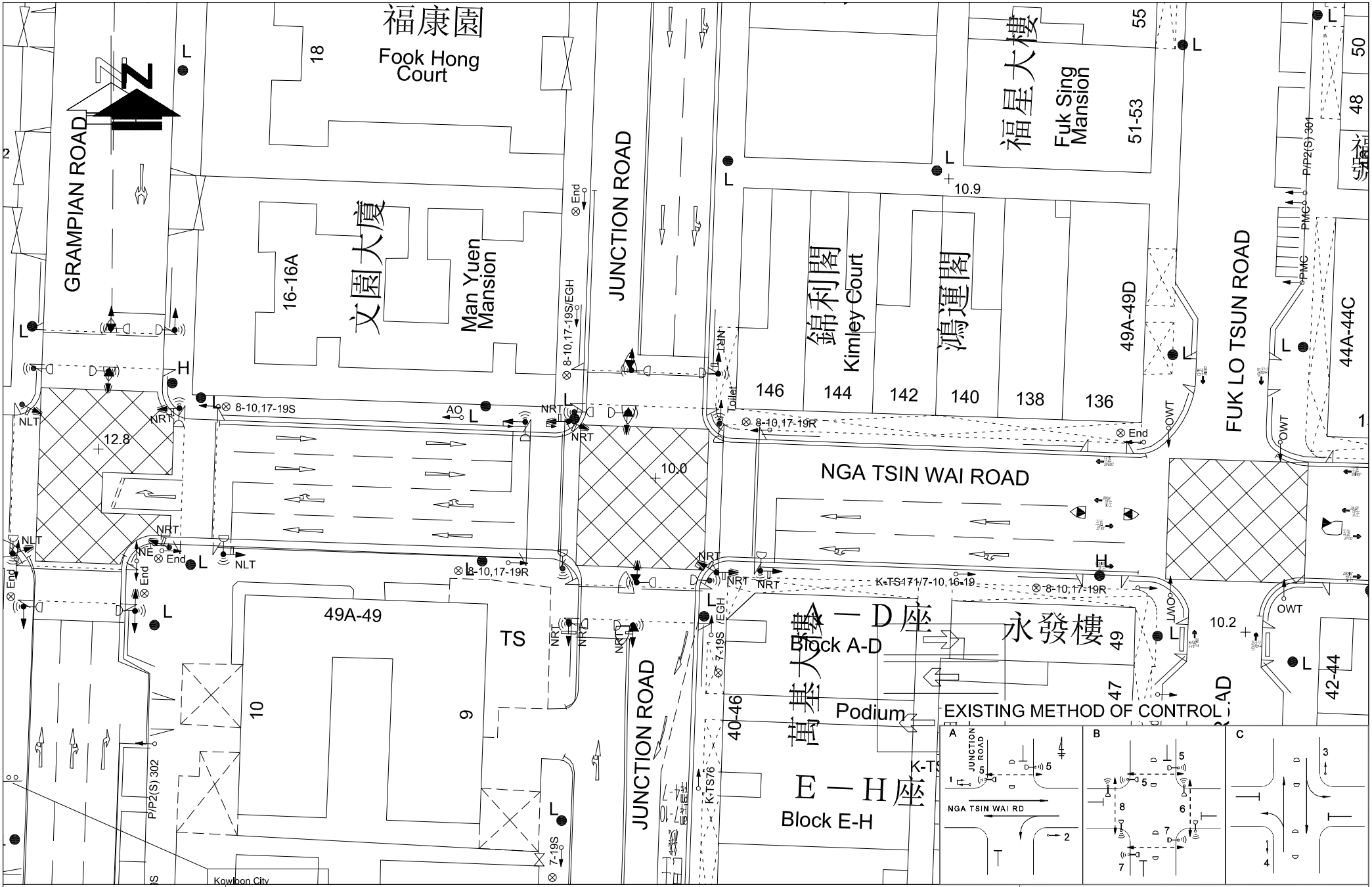

FIGURE NO.: 3.8	PROJECT TITLE:	Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE:	EXISTING JUNCTION LAYOUT OF NGA TSIN WAI ROAD / JUNCTION ROAD (G)	
SCALE: 1 : 500 @A4	DATE: 13 NOV 2023		

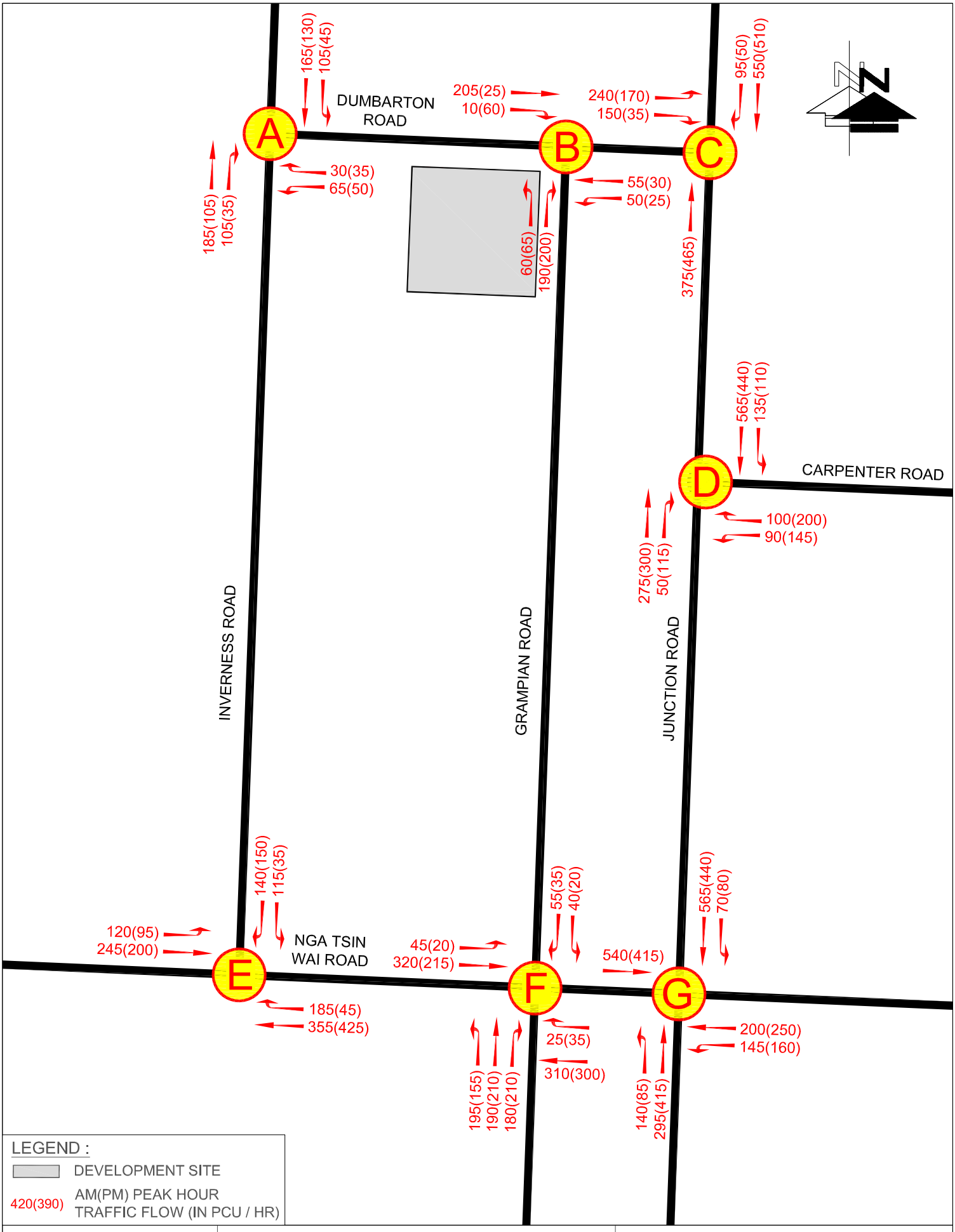

FIGURE NO.: 3.9	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: 2023 OBSERVED TRAFFIC FLOW (INCLUDING THE EFFECT OF BUS STOPS WITHIN 200M)	
SCALE: N.T.S. @A4 / DATE: 19 MAR 2024		

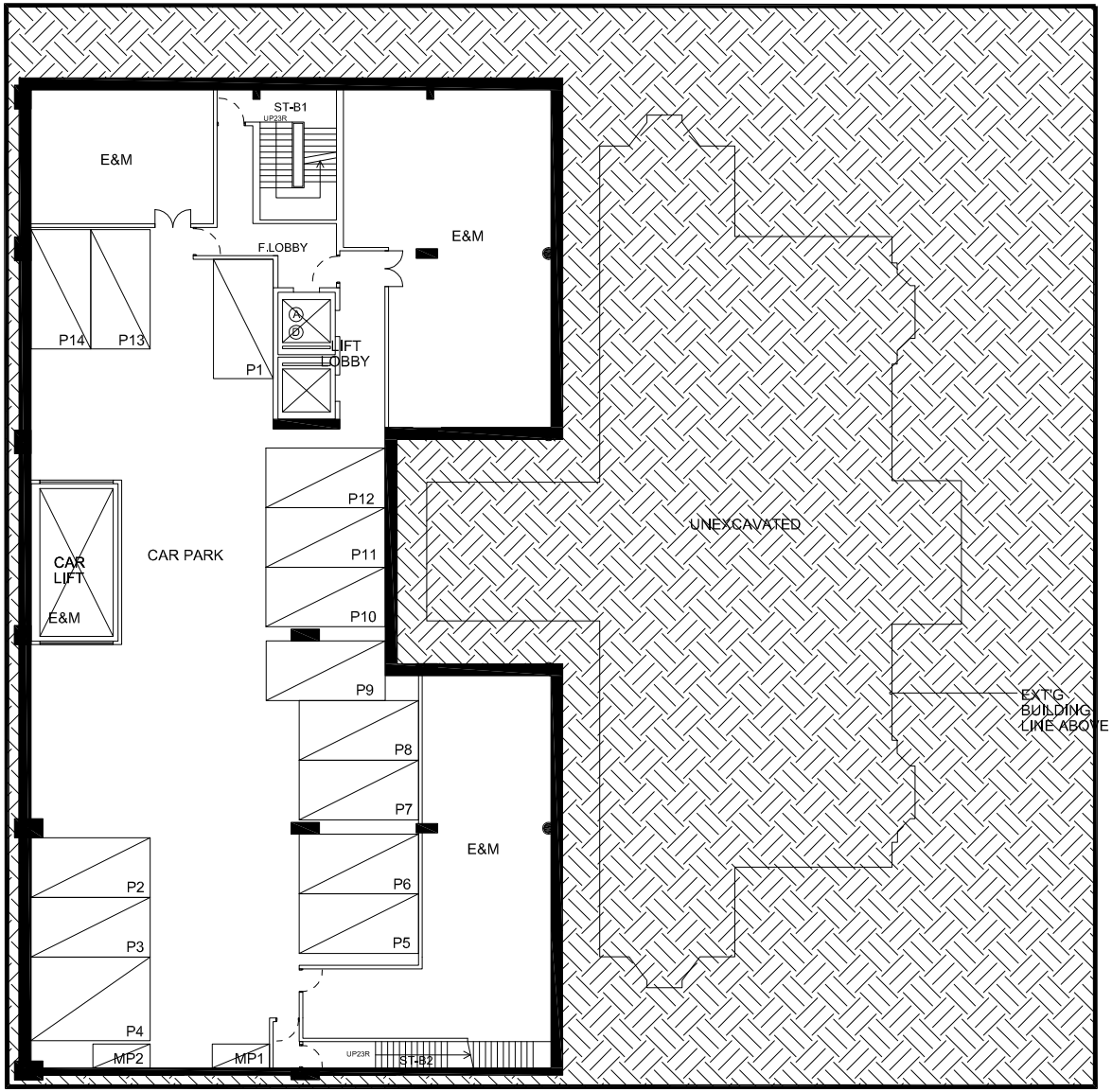

FIGURE NO.: 3.10	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application		
PROJECT NO.: 23041HK	DRAWING TITLE: CAR PARK LAYOUT PLAN OF B1/F		
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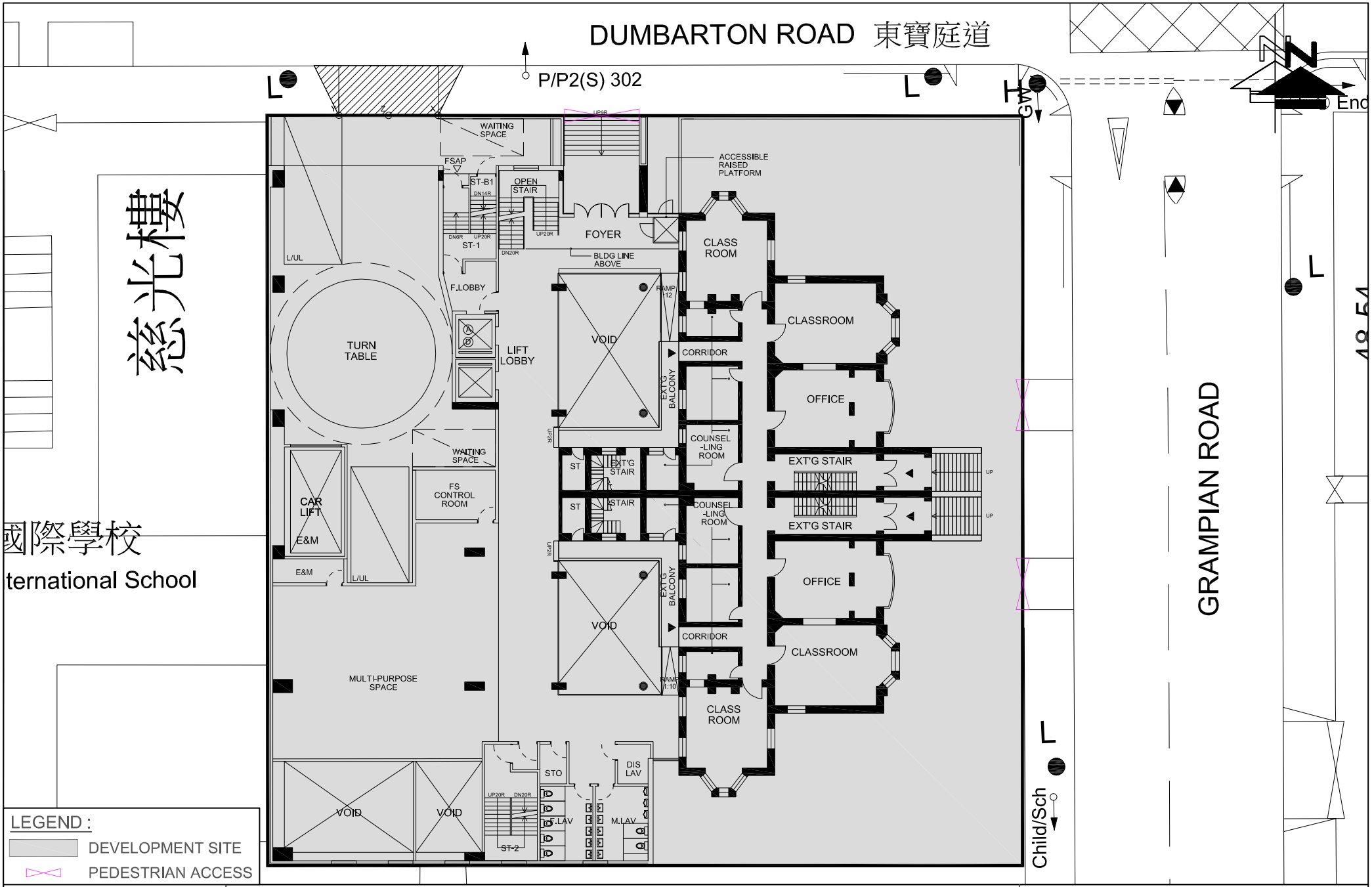

FIGURE NO.: 3.11	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE: CAR PARK LAYOUT PLAN OF UG/F
SCALE: 1 : 300 @A4	DATE: 05 JUL 2024

CTA Consultants Limited
志達顧問有限公司

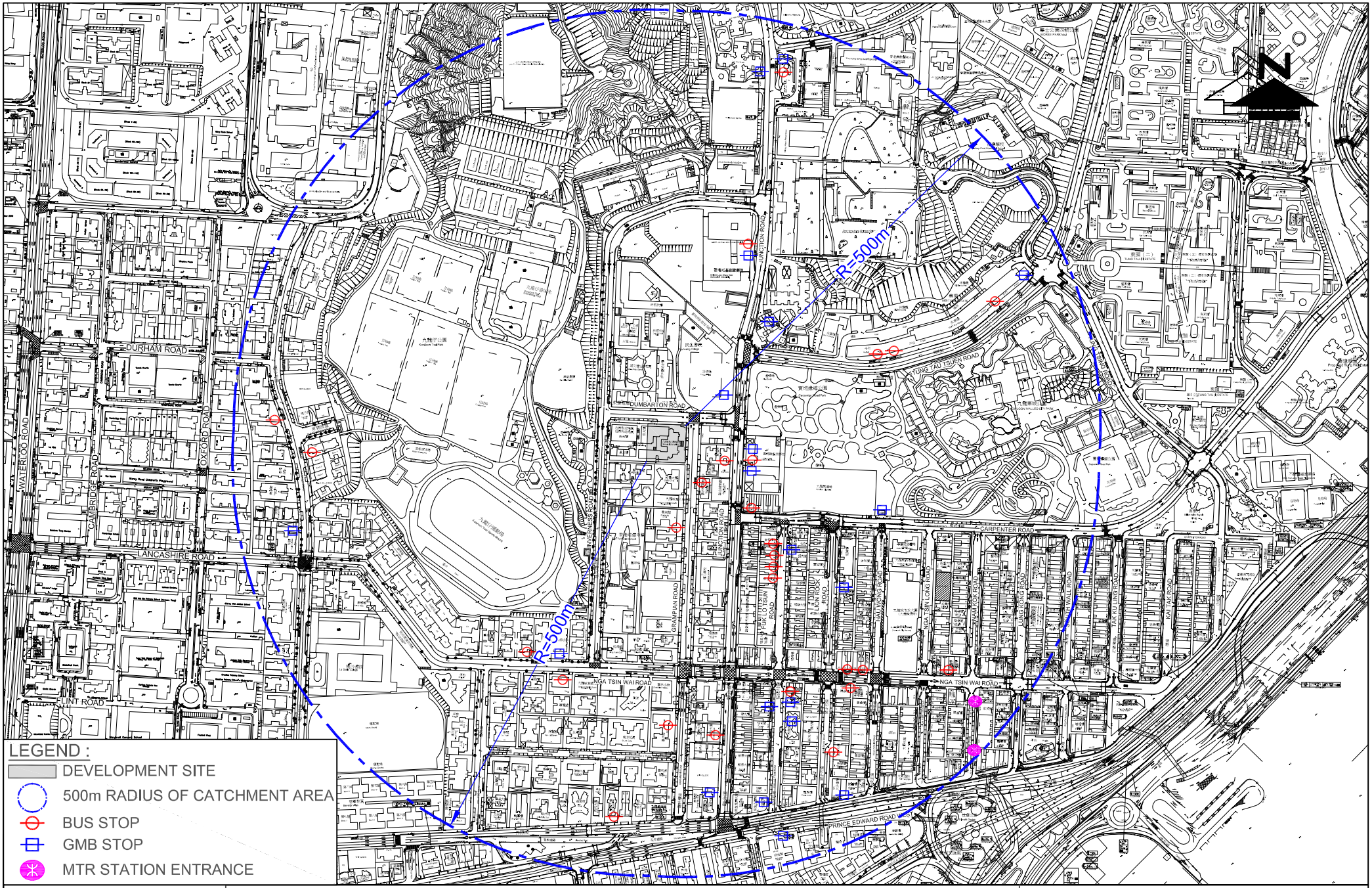

FIGURE NO.: 3.12(REV A)	PROJECT TITLE:	Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE:	LOCATION OF THE NEARBY BUS STOP & GMB STOP
SCALE: 1 : 6000 @A4 / DATE: 05 JUL 2024		

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志達顧問有限公司

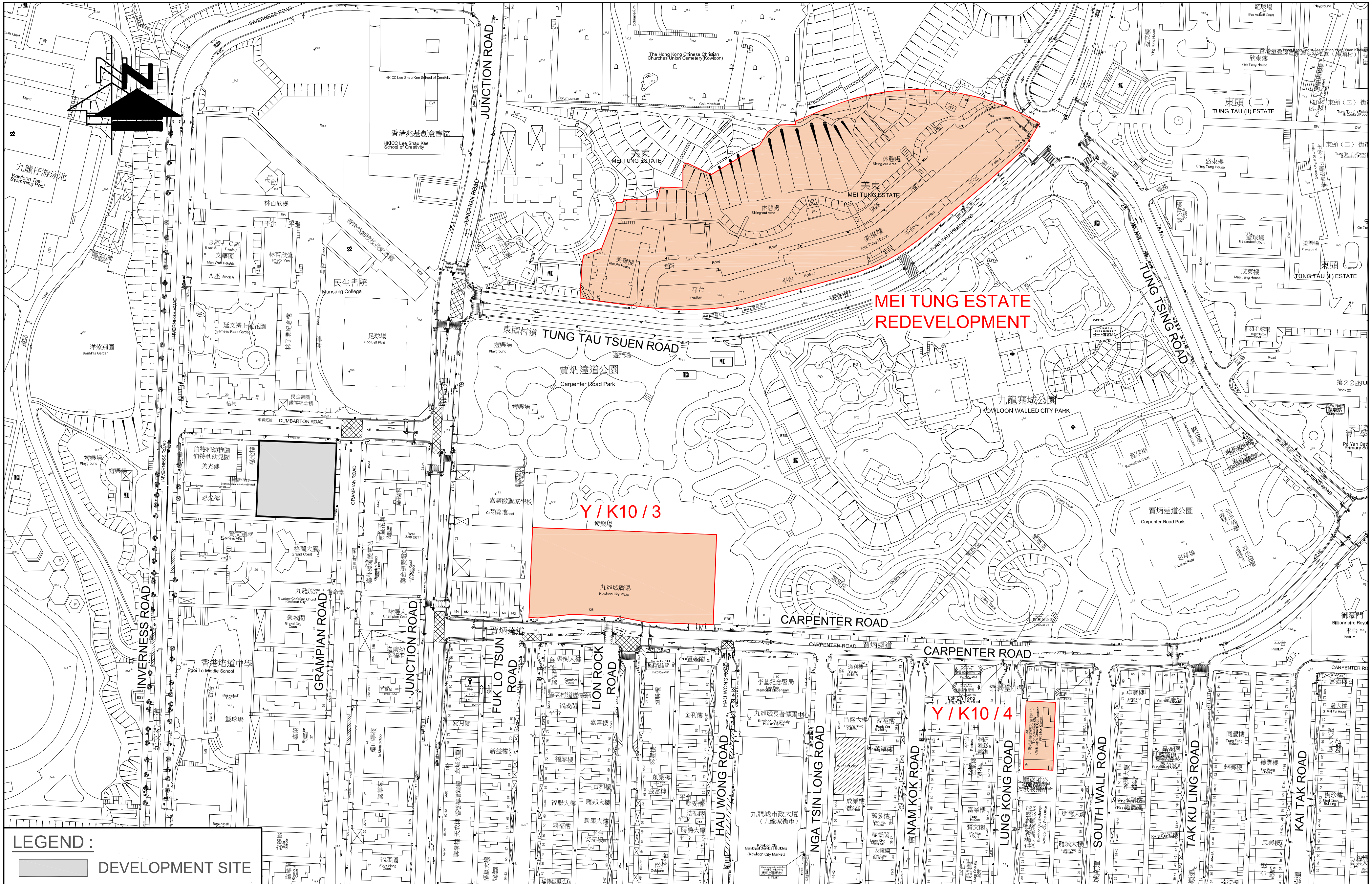

FIGURE NO.: 4.1	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE: PLANNED / COMITTED FUTURE DEVELOPMENT IN THE VICINITY
SCALE: 1 : 3000 @A4 — DATE: 10 NOV 2023	

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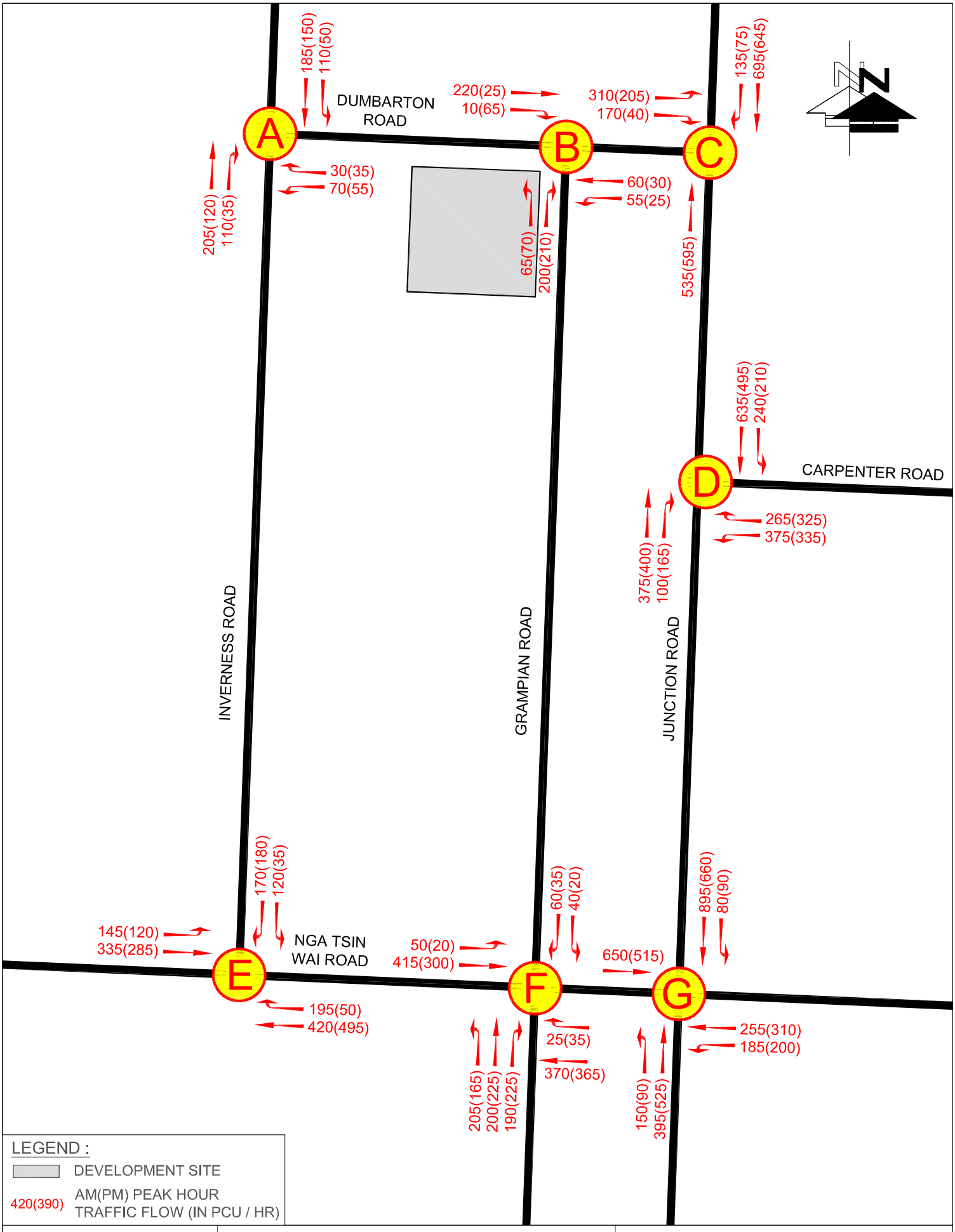
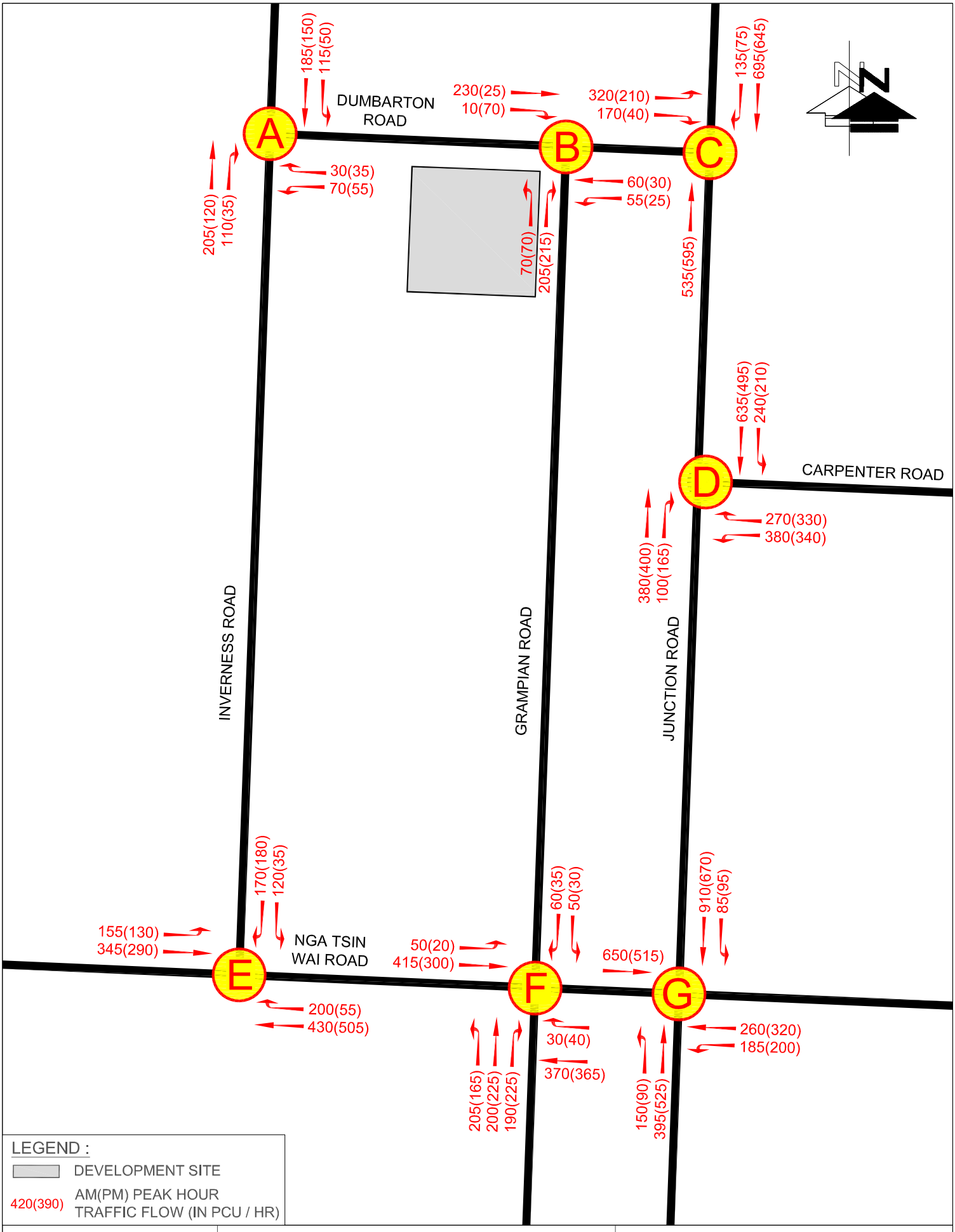


FIGURE NO.: 4.2		PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK		DRAWING TITLE: 2029 REFERENCE TRAFFIC FLOW	
SCALE: N.T.S. @A4	DATE: 19 MAR 2024		

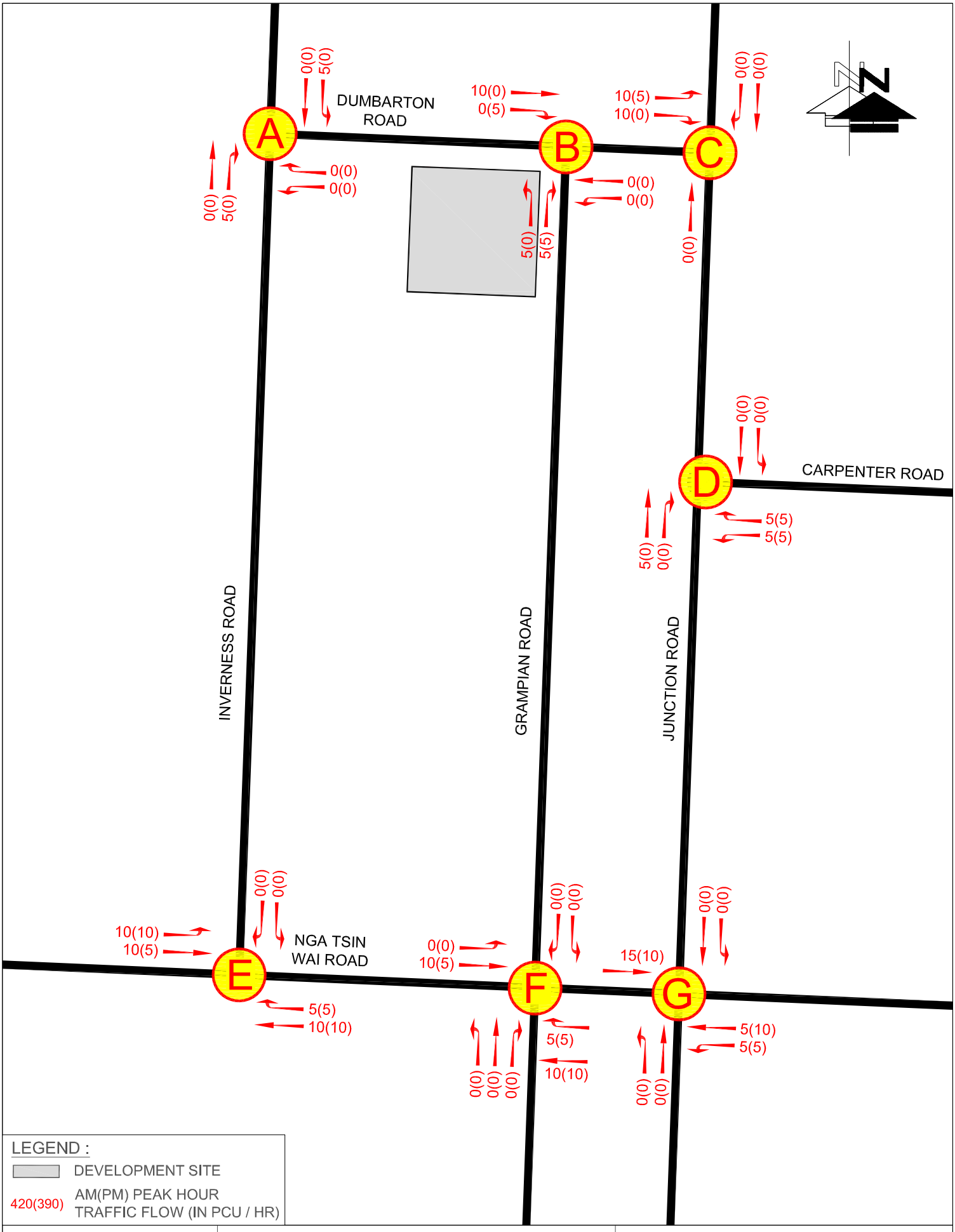


LEGEND :

DEVELOPMENT SITE

420(390) AM(PM) PEAK HOUR TRAFFIC FLOW (IN PCU / HR)

FIGURE NO.: 4.3	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: 2029 DESIGN TRAFFIC FLOW	
SCALE: N.T.S. @A4 / DATE: 20 MAR 2024		

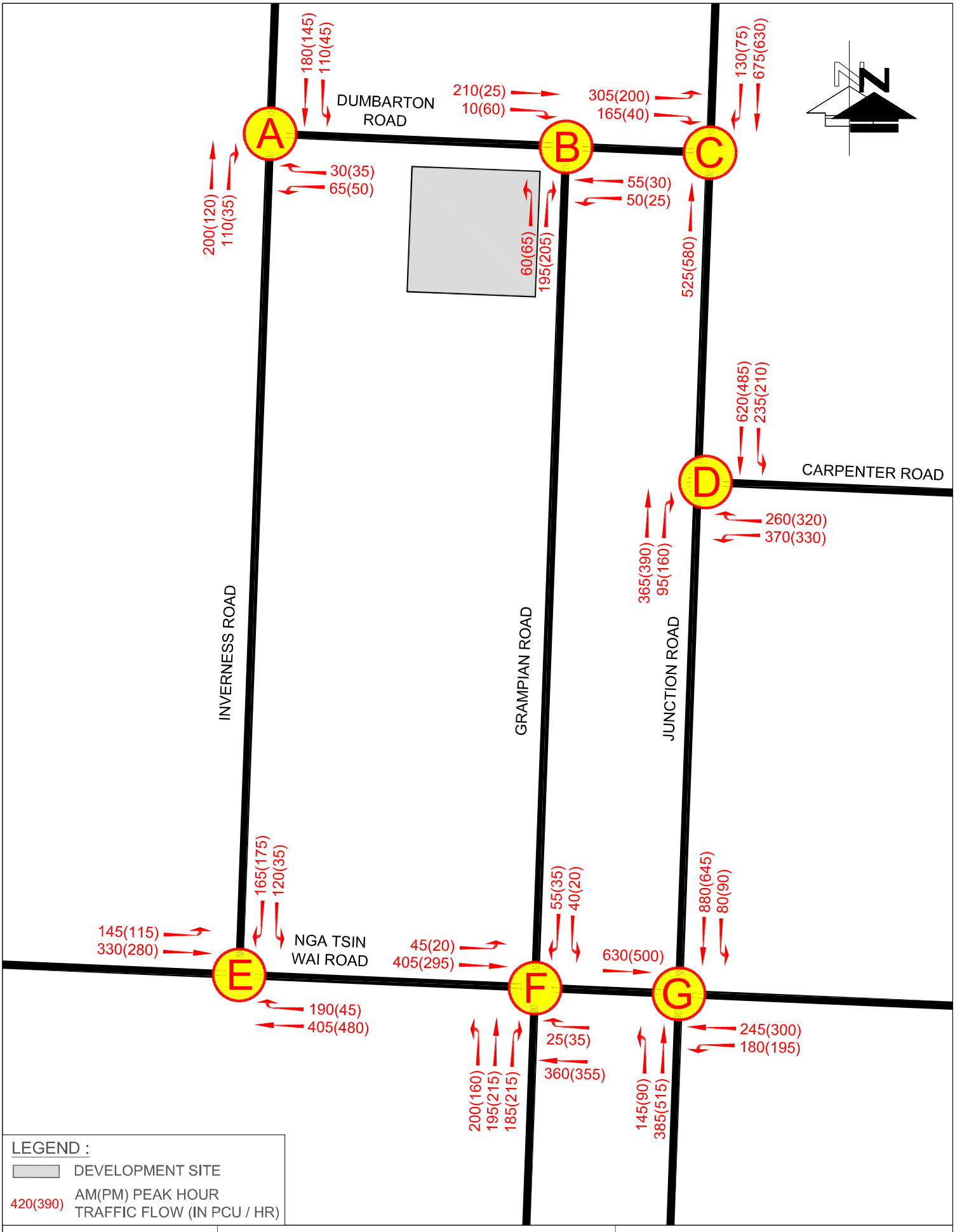


LEGEND :

DEVELOPMENT SITE

420(390) AM(PM) PEAK HOUR TRAFFIC FLOW (IN PCU / HR)

FIGURE NO.: 4.4	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: TRAFFIC FLOW GENERATED AND ATTRACTED BY PROPOSED DEVELOPMENT	
SCALE: N.T.S. @A4 / DATE: 20 MAR 2024		

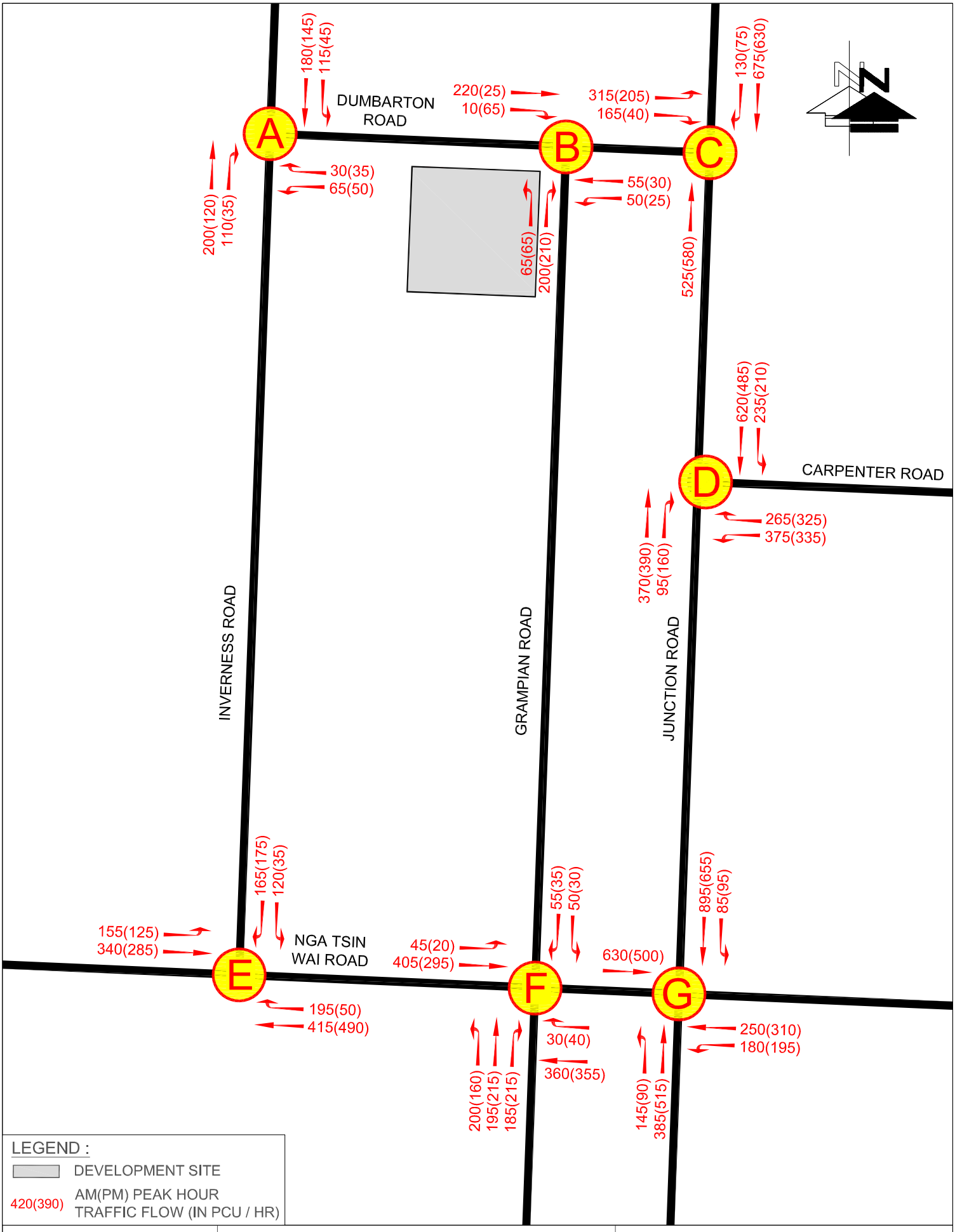


LEGEND :

DEVELOPMENT SITE

420(390) AM(PM) PEAK HOUR TRAFFIC FLOW (IN PCU / HR)

FIGURE NO.: 5.1	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: 2026 REFERENCE TRAFFIC FLOW (CONSTRUCTION)	
SCALE: N.T.S. @A4 / DATE: 20 MAR 2024		



LEGEND :

DEVELOPMENT SITE

420(390) AM(PM) PEAK HOUR TRAFFIC FLOW (IN PCU / HR)

FIGURE NO.: 5.2	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: 2026 DESIGN TRAFFIC FLOW (CONSTRUCTION)	
SCALE: N.T.S. @A4 / DATE: 20 MAR 2024		

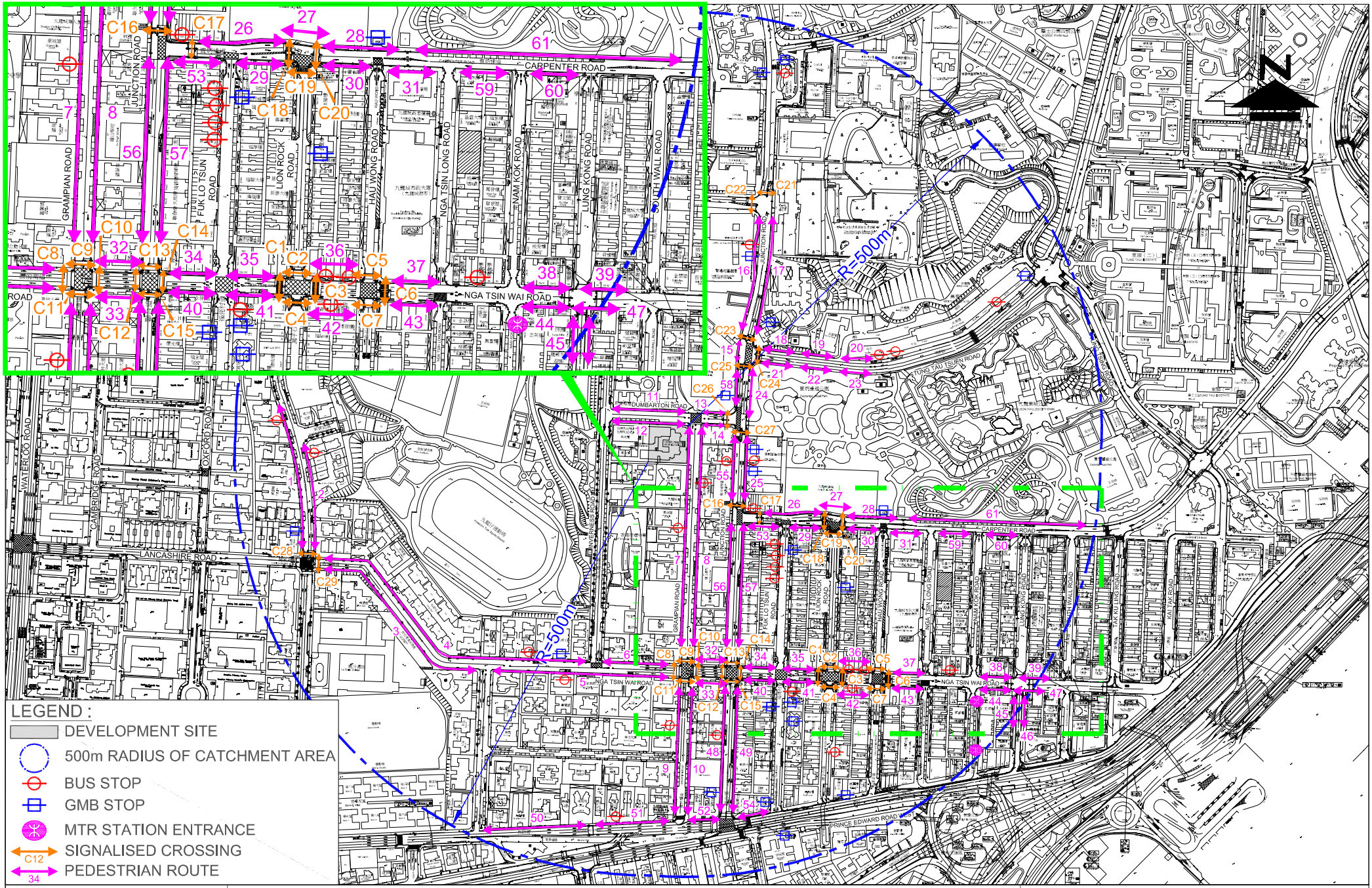


FIGURE NO.: 6.1(REV A)	PROJECT TITLE: Bethel Bible Seminary at 45-47 Gramplan Road, Kowloon City (NKIL 1382) Planning Application		
PROJECT NO.: 23041HK	DRAWING TITLE: INDEX PLAN OF CRITICAL FOOTPATH SECTIONS		
SCALE: 1 : 6000 @A4	DATE: 05 JUL 2024		

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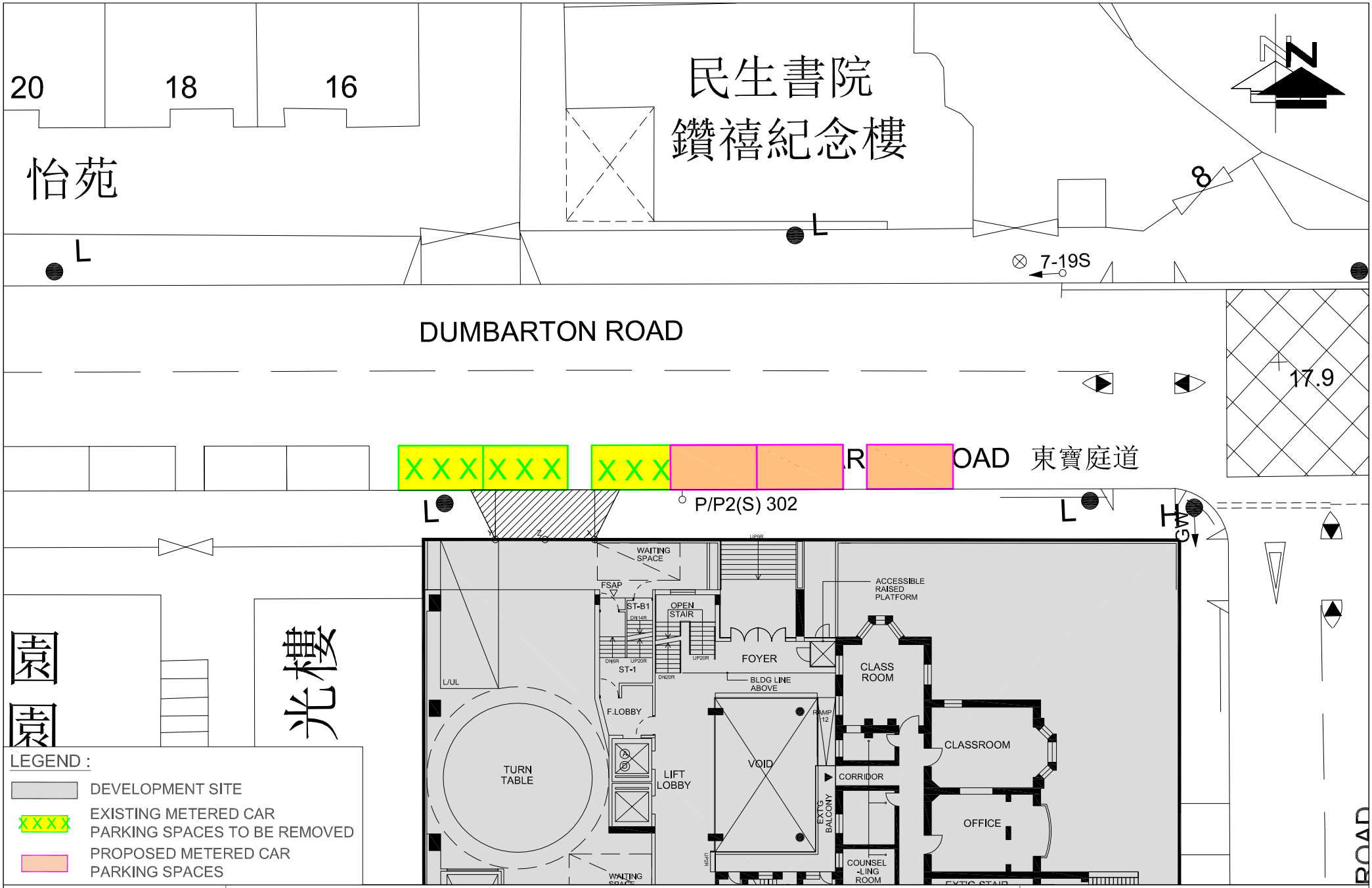
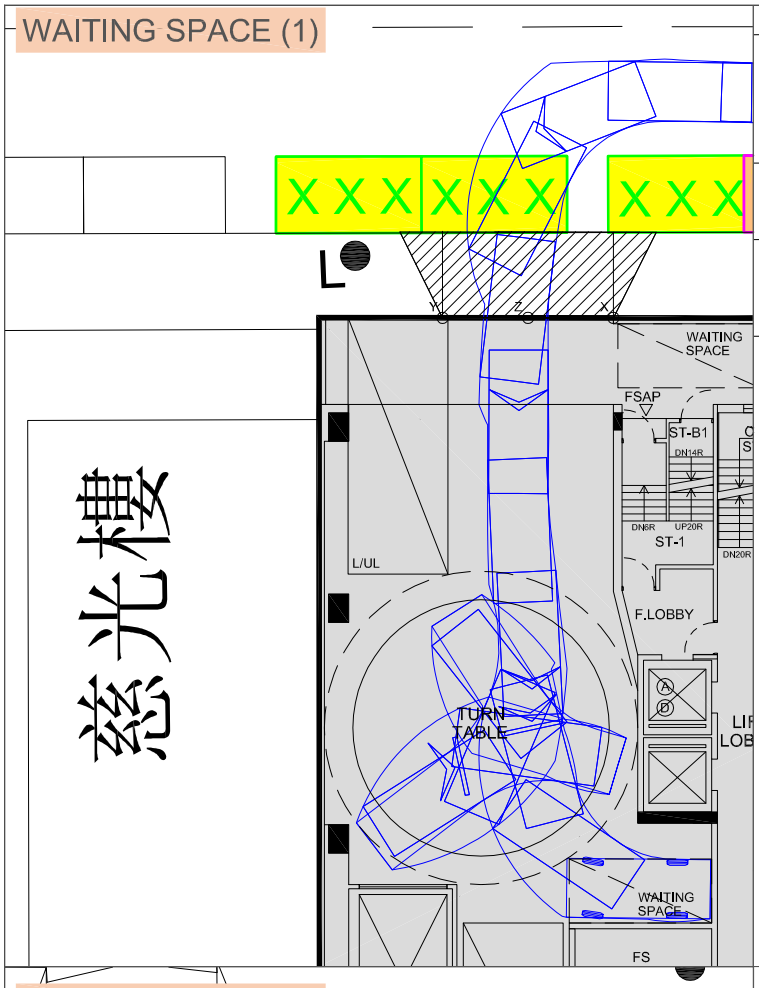
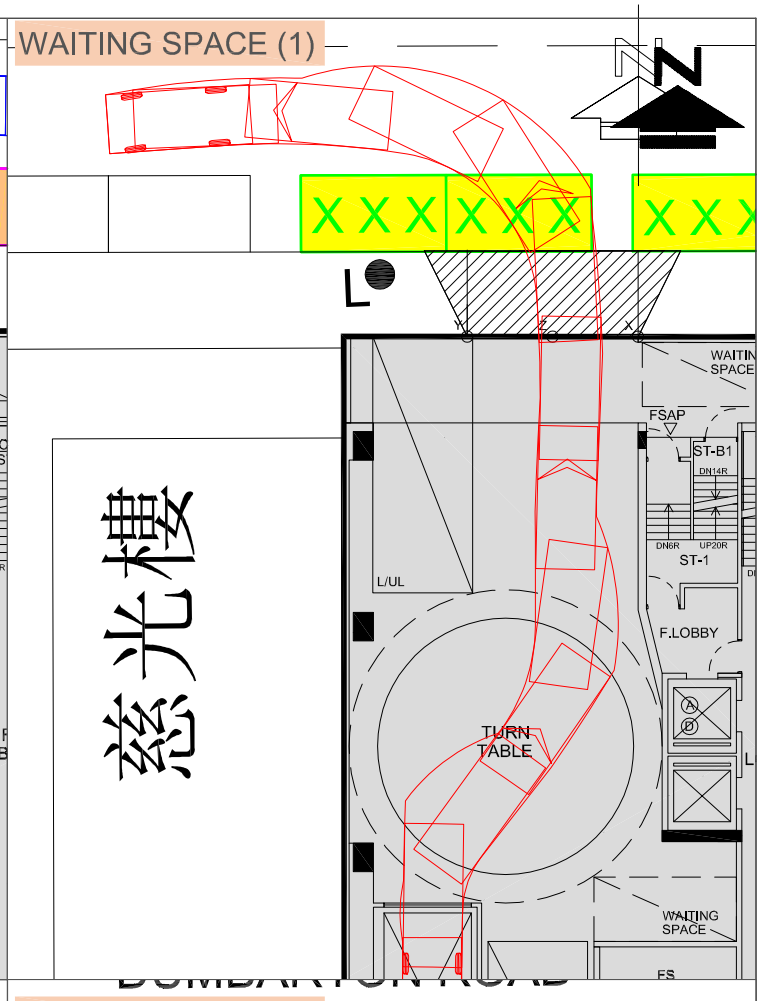


FIGURE NO.: 1	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: PROPOSED METERED CAR PARKING SPACES	
SCALE: 1 : 300 @A4 / DATE: 03 JUL 2024		

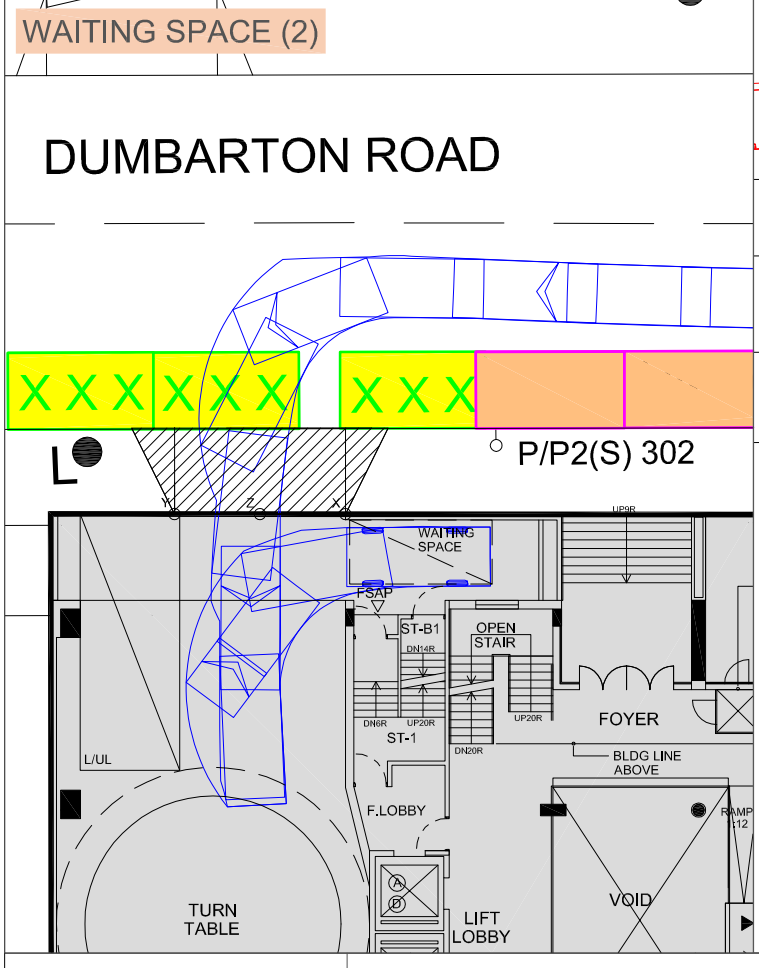
WAITING SPACE (1)



WAITING SPACE (1)



WAITING SPACE (2)



WAITING SPACE (2)

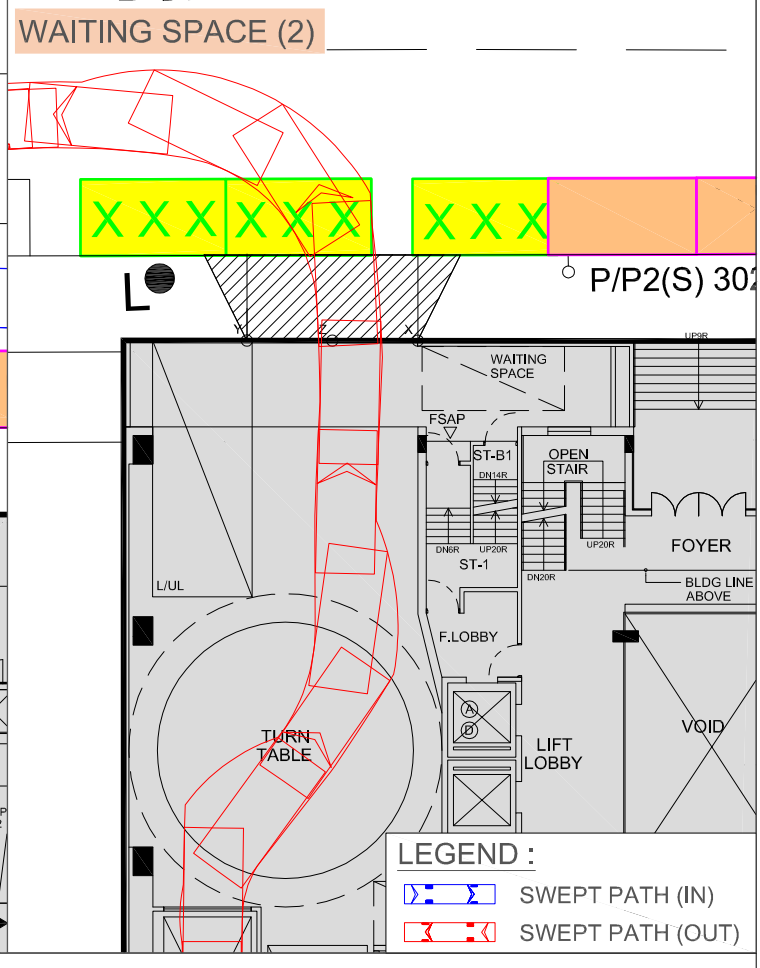


FIGURE NO.: SP-01	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application
PROJECT NO.: 23041HK	DRAWING TITLE: UG/F - SWEPT PATH ANALYSIS OF WAITING SPACE
SCALE: 1:300 @A4 / DATE: 03 JUL 2024	CTA Consultants Limited 志達顧問有限公司

FIGURE NO.: SP-02	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: B1/F - SWEPT PATH ANALYSIS OF PRIVATE CAR	
SCALE: 1 : 400 @A4 / DATE: 20 MAR 2024		

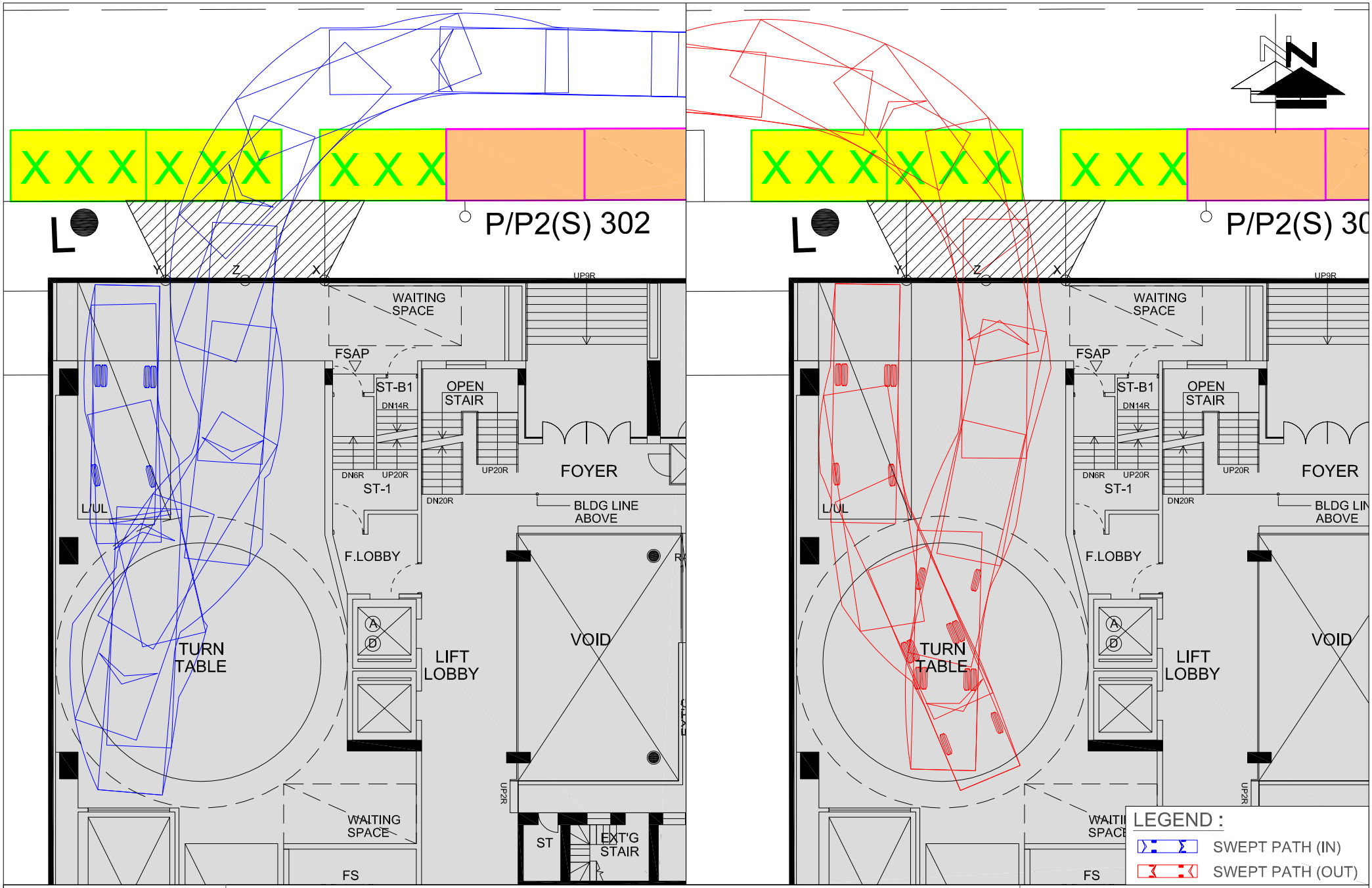


FIGURE NO.: SP-03	PROJECT TITLE: Bethel Bible Seminary at 45-47 Grampian Road, Kowloon City (NKIL 1382) Planning Application	CTA Consultants Limited 志達顧問有限公司
PROJECT NO.: 23041HK	DRAWING TITLE: UG/F - SWEPT PATH ANALYSIS OF LOADING / UNLOADING	
SCALE: 1 : 185 @A4 / DATE: 03 JUL 2024		

APPENDIX A

JUNCTION CALCULATION SHEETS

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: Jun A.arc8
Path: F:\23041HK\2024-03-20
Report generation date: 20/3/2024 11:08:11

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2023 Existing							
Stream B-AC	0.18	6.93	0.15	A	0.16	6.71	0.14	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.25	8.48	0.20	A	0.07	7.05	0.06	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Design							
Stream B-AC	0.20	7.04	0.16	A	0.17	6.78	0.15	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.26	8.68	0.21	A	0.07	7.11	0.06	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Reference							
Stream B-AC	0.19	7.03	0.16	A	0.17	6.78	0.15	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.26	8.66	0.21	A	0.07	7.11	0.06	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM " model duration: 7:30 - 8:30
"D2 - 2023 Existing, PM" model duration: 17:00 - 18:00
"D3 - 2029 Reference, AM" model duration: 7:30 - 8:30
"D4 - 2029 Reference, PM" model duration: 17:00 - 18:00
"D5 - 2029 Design, AM" model duration: 7:30 - 8:30
"D6 - 2029 Design, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.5.523 at 20/3/2024 11:08:06

File summary

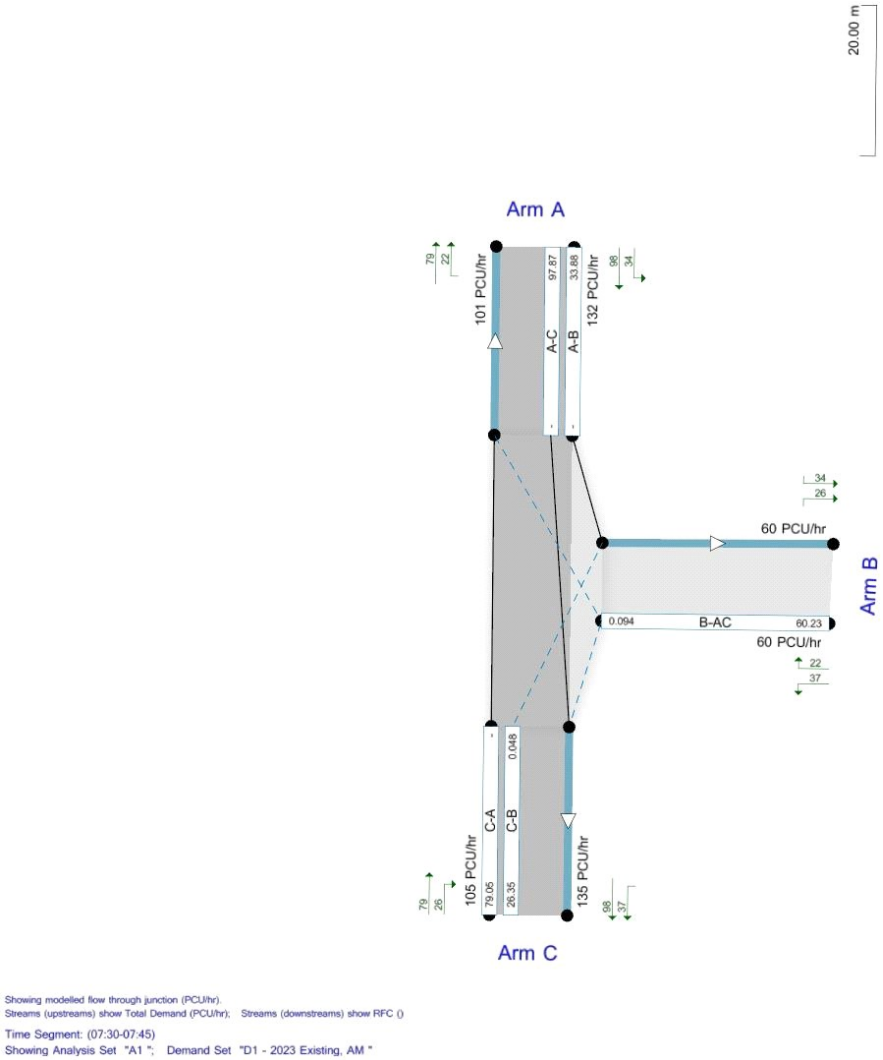
Title	23041HK
Location	
Site Number	
Date	8/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (07:30-07:45)
Showing Analysis Set "A1 "; Demand Set "D1 - 2023 Existing, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2023 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.74	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	270.00	100.000
B	FLAT	✓	95.00	100.000
C	FLAT	✓	290.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	105.000	165.000
	B	30.000	0.000	65.000
	C	185.000	105.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.32	0.00	0.68
	C	0.64	0.36	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	6.93	0.18	A
C-A	-	-	-	-
C-B	0.20	8.48	0.25	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	94.28	0.00	614.53	0.155	0.18	6.909	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	104.02	0.00	529.59	0.198	0.24	8.440	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	614.39	0.155	0.18	6.930	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	104.99	0.00	529.59	0.198	0.25	8.478	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	614.39	0.155	0.18	6.930	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	105.00	0.00	529.59	0.198	0.25	8.478	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	614.39	0.155	0.18	6.930	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	105.00	0.00	529.59	0.198	0.25	8.478	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2023 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.81	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	175.00	100.000
B	FLAT	✓	85.00	100.000
C	FLAT	✓	140.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	45.000	130.000
	B	35.000	0.000	50.000
	C	105.000	35.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.41	0.00	0.59
	C	0.75	0.25	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.14	6.71	0.16	A
C-A	-	-	-	-
C-B	0.06	7.05	0.07	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	84.37	0.00	621.52	0.137	0.16	6.695	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	34.73	0.00	545.20	0.064	0.07	7.049	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	621.48	0.137	0.16	6.709	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	545.20	0.064	0.07	7.055	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	621.48	0.137	0.16	6.709	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	545.20	0.064	0.07	7.055	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	621.48	0.137	0.16	6.709	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	545.20	0.064	0.07	7.055	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, AM	2029 Reference	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.89	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	295.00	100.000
B	FLAT	✓	100.00	100.000
C	FLAT	✓	315.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	110.000	185.000
	B	30.000	0.000	70.000
	C	205.000	110.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.37	0.63
	B	0.30	0.00	0.70
	C	0.65	0.35	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	7.03	0.19	A
C-A	-	-	-	-
C-B	0.21	8.66	0.26	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	99.23	0.00	611.90	0.163	0.19	7.012	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	108.95	0.00	525.48	0.209	0.26	8.621	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	100.00	0.00	611.75	0.163	0.19	7.033	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	109.99	0.00	525.48	0.209	0.26	8.664	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	100.00	0.00	611.75	0.163	0.19	7.033	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	525.48	0.209	0.26	8.664	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	100.00	0.00	611.75	0.163	0.19	7.033	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	525.48	0.209	0.26	8.664	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, PM	2029 Reference	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.88	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	200.00	100.000
B	FLAT	✓	90.00	100.000
C	FLAT	✓	155.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	150.000
	B	35.000	0.000	55.000
	C	120.000	35.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.39	0.00	0.61
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	6.78	0.17	A
C-A	-	-	-	-
C-B	0.06	7.11	0.07	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	89.33	0.00	620.53	0.145	0.17	6.768	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	34.73	0.00	541.10	0.065	0.07	7.106	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	90.00	0.00	620.49	0.145	0.17	6.785	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	541.10	0.065	0.07	7.112	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	90.00	0.00	620.49	0.145	0.17	6.785	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	541.10	0.065	0.07	7.112	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	90.00	0.00	620.49	0.145	0.17	6.785	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	541.10	0.065	0.07	7.112	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, AM	2029 Design	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.90	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	300.00	100.000
B	FLAT	✓	100.00	100.000
C	FLAT	✓	315.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	115.000	185.000
	B	30.000	0.000	70.000
	C	205.000	110.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.38	0.62
	B	0.30	0.00	0.70
	C	0.65	0.35	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	7.04	0.20	A
C-A	-	-	-	-
C-B	0.21	8.68	0.26	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	99.23	0.00	611.47	0.164	0.19	7.018	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	108.95	0.00	524.66	0.210	0.26	8.639	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	100.00	0.00	611.33	0.164	0.19	7.039	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	109.99	0.00	524.66	0.210	0.26	8.681	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	100.00	0.00	611.33	0.164	0.19	7.039	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	524.66	0.210	0.26	8.681	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	100.00	100.00	0.00	611.33	0.164	0.20	7.039	A
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	524.66	0.210	0.26	8.681	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	185.00	185.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, PM	2029 Design	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.88	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	200.00	100.000
B	FLAT	✓	90.00	100.000
C	FLAT	✓	155.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	150.000
	B	35.000	0.000	55.000
	C	120.000	35.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.25	0.75
	B	0.39	0.00	0.61
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	6.78	0.17	A
C-A	-	-	-	-
C-B	0.06	7.11	0.07	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	89.33	0.00	620.53	0.145	0.17	6.768	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	34.73	0.00	541.10	0.065	0.07	7.106	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	90.00	0.00	620.49	0.145	0.17	6.785	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	541.10	0.065	0.07	7.112	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	90.00	0.00	620.49	0.145	0.17	6.785	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	541.10	0.065	0.07	7.112	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	90.00	90.00	0.00	620.49	0.145	0.17	6.785	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	541.10	0.065	0.07	7.112	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	150.00	150.00	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: Jun B .arc8
Path: F:\23041HK\2024-03-20
Report generation date: 20/3/2024 11:10:22

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2023 Existing							
Stream B-AC	0.78	11.30	0.44	B	0.83	11.30	0.45	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	6.58	0.02	A	0.12	7.13	0.11	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Design							
Stream B-AC	0.94	12.33	0.49	B	0.96	12.16	0.49	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	6.61	0.02	A	0.14	7.27	0.12	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Reference							
Stream B-AC	0.87	11.94	0.47	B	0.92	11.88	0.48	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	6.61	0.02	A	0.13	7.20	0.12	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM " model duration: 7:30 - 8:30
"D2 - 2023 Existing, PM" model duration: 17:00 - 18:00
"D3 - 2029 Reference, AM" model duration: 7:30 - 8:30
"D4 - 2029 Reference, PM" model duration: 17:00 - 18:00
"D5 - 2029 Design, AM" model duration: 7:30 - 8:30
"D6 - 2029 Design, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.5.523 at 20/3/2024 11:10:17

File summary

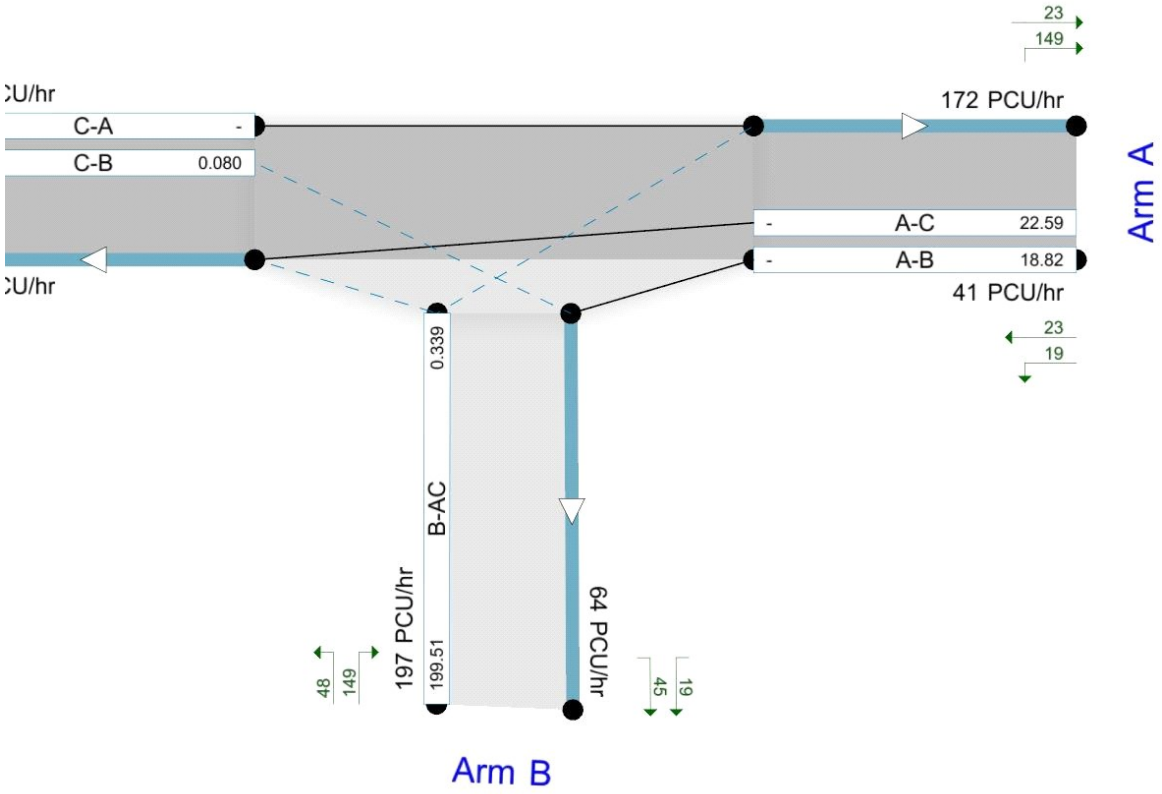
Title	23041HK
Location	
Site Number	
Date	8/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (07:30-07:45)
Showing Analysis Set "A1 "; Demand Set "D1 - 2023 Existing, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2023 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.12	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	105.00	100.000
B	FLAT	✓	250.00	100.000
C	FLAT	✓	215.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	55.000
	B	190.000	0.000	60.000
	C	205.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.48	0.52
	B	0.76	0.00	0.24
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.44	11.30	0.78	B
C-A	-	-	-	-
C-B	0.02	6.58	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	246.93	0.00	568.58	0.440	0.77	11.092	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	249.97	0.00	568.56	0.440	0.78	11.295	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	249.99	0.00	568.56	0.440	0.78	11.298	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	249.99	0.00	568.56	0.440	0.78	11.300	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2023 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.53	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	55.00	100.000
B	FLAT	✓	265.00	100.000
C	FLAT	✓	85.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	25.000	30.000
	B	200.000	0.000	65.000
	C	25.000	60.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.45	0.55
	B	0.75	0.00	0.25
	C	0.29	0.71	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.45	11.30	0.83	B
C-A	-	-	-	-
C-B	0.11	7.13	0.12	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	261.75	0.00	583.53	0.454	0.81	11.080	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	59.53	0.00	564.92	0.106	0.12	7.117	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.96	0.00	583.42	0.454	0.82	11.300	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	583.42	0.454	0.83	11.302	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	583.42	0.454	0.83	11.305	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, AM	2029 Reference	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.75	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	115.00	100.000
B	FLAT	✓	265.00	100.000
C	FLAT	✓	230.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	55.000	60.000
	B	200.000	0.000	65.000
	C	220.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.48	0.52
	B	0.75	0.00	0.25
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.47	11.94	0.87	B
C-A	-	-	-	-
C-B	0.02	6.61	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	261.57	0.00	566.46	0.468	0.86	11.682	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	555.06	0.018	0.02	6.603	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.96	0.00	566.44	0.468	0.87	11.937	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	555.06	0.018	0.02	6.603	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	566.44	0.468	0.87	11.939	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	555.06	0.018	0.02	6.603	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	566.44	0.468	0.87	11.941	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	555.06	0.018	0.02	6.606	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, PM	2029 Reference	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.00	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	55.00	100.000
B	FLAT	✓	280.00	100.000
C	FLAT	✓	90.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	25.000	30.000
	B	210.000	0.000	70.000
	C	25.000	65.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.45	0.55
	B	0.75	0.00	0.25
	C	0.28	0.72	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.48	11.88	0.92	B
C-A	-	-	-	-
C-B	0.12	7.20	0.13	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	280.00	276.40	0.00	583.11	0.480	0.90	11.607	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	64.48	0.00	564.92	0.115	0.13	7.186	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	280.00	279.95	0.00	582.99	0.480	0.91	11.876	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	65.00	0.00	564.92	0.115	0.13	7.200	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	280.00	279.98	0.00	582.99	0.480	0.92	11.878	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	65.00	0.00	564.92	0.115	0.13	7.200	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	280.00	279.99	0.00	582.99	0.480	0.92	11.881	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	65.00	0.00	564.92	0.115	0.13	7.200	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, AM	2029 Design	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	12.13	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	115.00	100.000
B	FLAT	✓	275.00	100.000
C	FLAT	✓	240.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	55.000	60.000
	B	205.000	0.000	70.000
	C	230.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.48	0.52
	B	0.75	0.00	0.25
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.49	12.33	0.94	B
C-A	-	-	-	-
C-B	0.02	6.61	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	271.33	0.00	566.97	0.485	0.92	12.035	B
C-A	230.00	230.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	555.06	0.018	0.02	6.603	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	274.95	0.00	566.95	0.485	0.93	12.322	B
C-A	230.00	230.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	555.06	0.018	0.02	6.603	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	274.98	0.00	566.95	0.485	0.93	12.327	B
C-A	230.00	230.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	555.06	0.018	0.02	6.603	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	274.99	0.00	566.95	0.485	0.94	12.327	B
C-A	230.00	230.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	555.06	0.018	0.02	6.606	A
A-B	55.00	55.00	0.00	-	-	-	-	-
A-C	60.00	60.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, PM	2029 Design	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.19	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	55.00	100.000
B	FLAT	✓	285.00	100.000
C	FLAT	✓	95.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	25.000	30.000
	B	215.000	0.000	70.000
	C	25.000	70.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.45	0.55
	B	0.75	0.00	0.25
	C	0.26	0.74	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.49	12.16	0.96	B
C-A	-	-	-	-
C-B	0.12	7.27	0.14	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	281.25	0.00	581.18	0.490	0.94	11.861	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	70.00	69.44	0.00	564.92	0.124	0.14	7.258	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.95	0.00	581.05	0.490	0.95	12.152	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	70.00	70.00	0.00	564.92	0.124	0.14	7.272	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.98	0.00	581.05	0.490	0.95	12.157	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	70.00	70.00	0.00	564.92	0.124	0.14	7.272	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.99	0.00	581.05	0.490	0.96	12.157	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	70.00	70.00	0.00	564.92	0.124	0.14	7.272	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction C - Dumbartion Road / Junction Road**

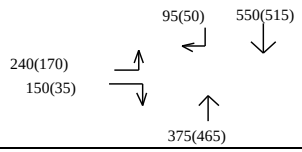
Description: **2023 Existing Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Dumbartion Road	E		1	C	3.0	10.0	0	1	100%	100%	1915	1915	1665	1665	1665	1665	240	0.144	0.144	170	0.102	0.102
	E		2	C	3.0	0.0	12	0	100%	100%	2055	2055	1825	1825	1825	1825	150	0.082		35	0.019	
Junction Road	S		1	A	3.3	0.0	0	1	0%	0%	1945	1945	1945	1945	1945	1945	550	0.283	0.283	515	0.265	0.265
	S		2	B	3.3	0.0	15	0	100%	100%	2085	2085	1895	1895	1895	1895	95	0.050	0.050	50	0.026	0.026
Junction Road	N		1	A	5.5	0.0	0	0	0%	0%	2305	2305	2305	2305	2305	2305	375	0.163	0.163	465	0.202	0.202
Pedestrian Crossing			5p	A		Min. Crossing Time = 7Gm + 6FGm =13s																
			6p	B, C		Min. Crossing Time = 25Gm +5FGm =30s																
			7p	B, C		Min. Crossing Time = 6Gm + 5FGm =11s																

Notes:

(Nil)

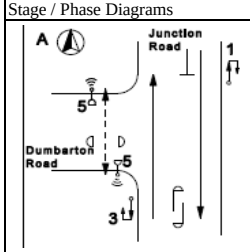
Traffic Flow (pcu / hr) Sunday AM Peak



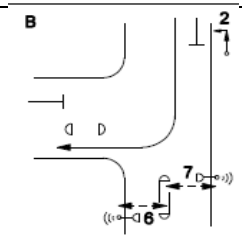
AM Peak Check Phase	
εy	0.477
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	61%

PM Peak Check Phase	
εy	0.393
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	95%

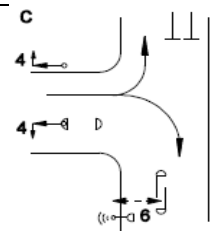
Stage / Phase Diagrams



I/G = 7s



I/G = 5s



I/G =7s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction C - Dumbartion Road / Junction Road**

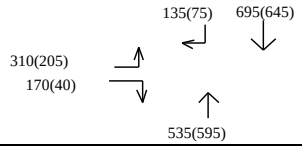
Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Dumbartion Road	E		1	C	3.0	10.0	0	1	100%	100%	1915	1915	1665	1665	1665	1665	310	0.186	0.186	205	0.123	0.123
	E		2	C	3.0	0.0	12	0	100%	100%	2055	2055	1825	1825	1825	1825	170	0.093		40	0.022	
Junction Road	S		1	A	3.3	0.0	0	1	0%	0%	1945	1945	1945	1945	1945	1945	695	0.357	0.357	645	0.332	0.332
	S		2	B	3.3	0.0	15	0	100%	100%	2085	2085	1895	1895	1895	1895	135	0.071	0.071	75	0.040	0.040
Junction Road	N		1	A	5.5	0.0	0	0	0%	0%	2305	2305	2305	2305	2305	2305	535	0.232	0.232	595	0.258	0.258
Pedestrian Crossing			5p	A		Min. Crossing Time = 7Gm + 6FGm =13s																
			6p	B, C		Min. Crossing Time = 25Gm +5FGm =30s																
			7p	B, C		Min. Crossing Time = 6Gm + 5FGm =11s																

Notes:

(Nil)

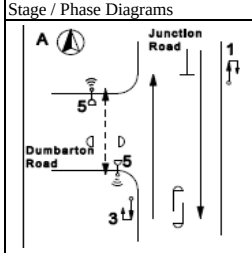
Traffic Flow (pcu / hr) Sunday AM Peak



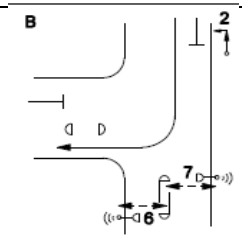
AM Peak Check Phase	
εy	0.615
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	25%

PM Peak Check Phase	
εy	0.494
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	55%

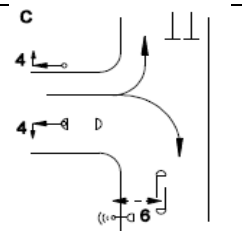
Stage / Phase Diagrams



I/G = 7s



I/G = 5s



I/G =7s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction C - Dumbartion Road / Junction Road**

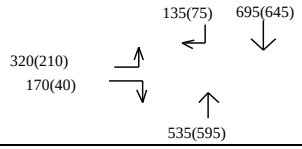
Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Dumbartion Road	E		1	C	3.0	10.0	0	1	100%	100%	1915	1915	1665	1665	1665	1665	320	0.192	0.192	210	0.126	0.126
	E		2	C	3.0	0.0	12	0	100%	100%	2055	2055	1825	1825	1825	1825	170	0.093		40	0.022	
Junction Road	S		1	A	3.3	0.0	0	1	0%	0%	1945	1945	1945	1945	1945	1945	695	0.357	0.357	645	0.332	0.332
	S		2	B	3.3	0.0	15	0	100%	100%	2085	2085	1895	1895	1895	1895	135	0.071	0.071	75	0.040	0.040
Junction Road	N		1	A	5.5	0.0	0	0	0%	0%	2305	2305	2305	2305	2305	2305	535	0.232	0.232	595	0.258	0.258
Pedestrian Crossing			5p	A		Min. Crossing Time = 7Gm + 6FGm =13s																
			6p	B, C		Min. Crossing Time = 25Gm +5FGm =30s																
			7p	B, C		Min. Crossing Time = 6Gm + 5FGm =11s																

Notes:

(Nil)

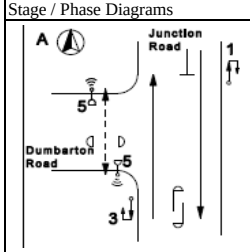
Traffic Flow (pcu / hr) Sunday AM Peak



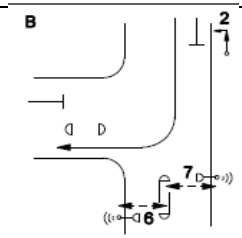
AM Peak Check Phase	
εy	0.621
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	24%

PM Peak Check Phase	
εy	0.497
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	54%

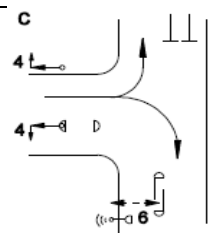
Stage / Phase Diagrams



I/G = 7s



I/G = 5s



I/G =7s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction D - Carpenter Road / Junction Road**

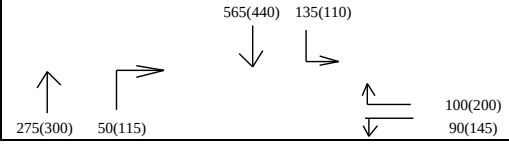
Description: **2023 Existing Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Junction Road	S	↓	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	373	0.181	0.181	293	0.143	0.143
	S	↓→	1	A	3.0	10.0	0	1	41%	43%	1915	3970	1805	1800	3860	3855	327	0.181		257	0.143	
Junction Road	N	↑	2,3	A,B	2.6	0.0	0	1	0%	0%	1875	1875	1875	1875	1875	1875	275	0.147		300	0.160	
	N	↱	3	B	2.7	0.0	15	0	100%	100%	2025	2025	1840	1840	1840	1840	50	0.027	0.027	115	0.063	0.063
Carpenter Road	W	↰	4	C	3.0	0.0	15	0	100%	100%	2055	2055	1870	1870	1870	1870	100	0.053	0.056	200	0.107	0.107
	W	↓	4	C	2.5	10.0	0	1	100%	100%	1865	1865	1620	1620	1620	1620	90	0.056		145	0.090	
Pedestrian Crossing		↕	5p	D		Min. Crossing Time = 7Gm + 7FGm =14s																
		↔	6p	D		Min. Crossing Time = 7Gm + 8FGm =15s																

Notes:

(Nil)

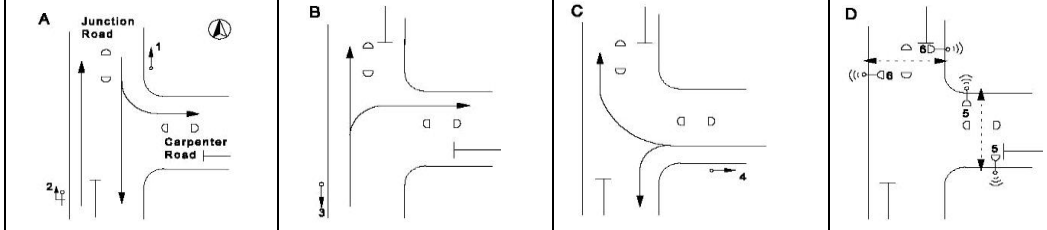
Traffic Flow (pcu / hr) Sunday AM Peak



AM Peak Check Phase	
εy	0.264
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	130%

PM Peak Check Phase	
εy	0.312
L (sec)	39
C (sec)	110
y pract.	0.581
R.C. (%)	86%

Stage / Phase Diagrams



A	B	C	D		
I/G = 3	I/G = 6	I/G = 5	I/G = 13 + 15s		

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction D - Carpenter Road / Junction Road**

Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Junction Road	S	↓	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	472	0.229	0.229	381	0.186	0.186
	S	↓→	1	A	3.0	10.0	0	1	59%	65%	1915	3970	1760	1745	3815	3800	403	0.229		324	0.186	
Junction Road	N	↑	2,3	A,B	2.6	0.0	0	1	0%	0%	1875	1875	1875	1875	1875	1875	375	0.200		400	0.213	
	N	↱	3	B	2.7	0.0	15	0	100%	100%	2025	2025	1840	1840	1840	1840	100	0.054	0.054	165	0.090	0.090
Carpenter Road	W	↰	4	C	3.0	0.0	15	0	100%	100%	2055	2055	1870	1870	1870	1870	265	0.142	0.231	325	0.174	0.207
	W	↓	4	C	2.5	10.0	0	1	100%	100%	1865	1865	1620	1620	1620	1620	375	0.231		335	0.207	
Pedestrian Crossing		↕	5p	D		Min. Crossing Time = 7Gm + 7FGm =14s																
		↔	6p	D		Min. Crossing Time = 7Gm + 8FGm =15s																

Notes:

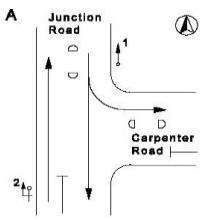
(Nil)

Traffic Flow (pcu / hr) Sunday AM Peak

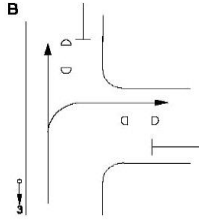
AM Peak Check Phase	
εy	0.515
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	18%

PM Peak Check Phase	
εy	0.482
L (sec)	39
C (sec)	110
y pract.	0.581
R.C. (%)	21%

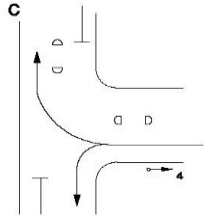
Stage / Phase Diagrams



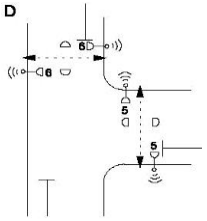
I/G = 3



I/G = 6



I/G = 5



I/G = 13 + 15s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction D - Carpenter Road / Junction Road**

Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Junction Road	S	↓	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	472	0.229	0.229	381	0.186	0.186
	S	↓→	1	A	3.0	10.0	0	1	59%	65%	1915	3970	1760	1745	3815	3800	403	0.229		324	0.186	
Junction Road	N	↑	2,3	A,B	2.6	0.0	0	1	0%	0%	1875	1875	1875	1875	1875	1875	380	0.203		400	0.213	
	N	↱	3	B	2.7	0.0	15	0	100%	100%	2025	2025	1840	1840	1840	1840	100	0.054	0.054	165	0.090	0.090
Carpenter Road	W	↰	4	C	3.0	0.0	15	0	100%	100%	2055	2055	1870	1870	1870	1870	270	0.144	0.235	330	0.176	0.210
	W	↓	4	C	2.5	10.0	0	1	100%	100%	1865	1865	1620	1620	1620	1620	380	0.235		340	0.210	
Pedestrian Crossing		↕	5p	D		Min. Crossing Time = 7Gm + 7FGm =14s																
		↔	6p	D		Min. Crossing Time = 7Gm + 8FGm =15s																

Notes:

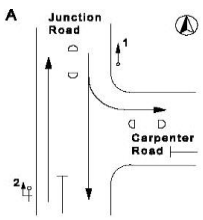
(Nil)

Traffic Flow (pcu / hr) Sunday AM Peak

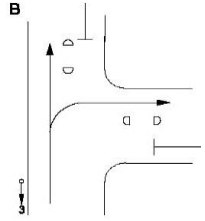
AM Peak Check Phase	
εy	0.518
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	17%

PM Peak Check Phase	
εy	0.485
L (sec)	39
C (sec)	110
y pract.	0.581
R.C. (%)	20%

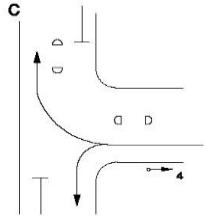
Stage / Phase Diagrams



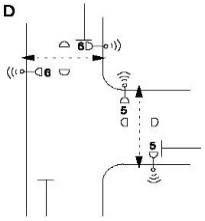
I/G = 3



I/G = 6



I/G = 5



I/G = 13 + 15s

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: Jun E.arc8
Path: F:\23041HK\2024-03-20
Report generation date: 20/3/2024 11:10:30

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2023 Existing							
Stream B-AC	1.01	14.37	0.50	B	0.60	11.77	0.38	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.56	11.00	0.36	B	0.09	7.51	0.09	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Design							
Stream B-AC	1.68	21.11	0.63	C	0.90	15.16	0.48	C
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.69	12.44	0.41	B	0.12	8.04	0.11	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Reference							
Stream B-AC	1.63	20.47	0.62	C	0.88	14.88	0.47	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.65	12.09	0.40	B	0.11	7.90	0.10	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM " model duration: 7:30 - 8:30
"D2 - 2023 Existing, PM" model duration: 17:00 - 18:00
"D3 - 2029 Reference, AM" model duration: 7:30 - 8:30
"D4 - 2029 Reference, PM" model duration: 17:00 - 18:00
"D5 - 2029 Design, AM" model duration: 7:30 - 8:30
"D6 - 2029 Design, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.5.523 at 20/3/2024 11:10:27

File summary

Title	23041HK
Location	
Site Number	
Date	8/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2023 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	12.95	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	365.00	100.000
B	FLAT	✓	255.00	100.000
C	FLAT	✓	540.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	120.000	245.000
	B	140.000	0.000	115.000
	C	355.000	185.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.33	0.67
	B	0.55	0.00	0.45
	C	0.66	0.34	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.50	14.37	1.01	B
C-A	-	-	-	-
C-B	0.36	11.00	0.56	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	251.06	0.00	506.05	0.504	0.98	13.916	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	182.78	0.00	512.22	0.361	0.55	10.857	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.93	0.00	505.53	0.504	1.00	14.354	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	184.98	0.00	512.22	0.361	0.56	10.999	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.98	0.00	505.52	0.504	1.01	14.363	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	184.99	0.00	512.22	0.361	0.56	11.001	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.99	0.00	505.52	0.504	1.01	14.366	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	185.00	0.00	512.22	0.361	0.56	11.001	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2023 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.94	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	295.00	100.000
B	FLAT	✓	185.00	100.000
C	FLAT	✓	470.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	95.000	200.000
	B	150.000	0.000	35.000
	C	425.000	45.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.32	0.68
	B	0.81	0.00	0.19
	C	0.90	0.10	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.38	11.77	0.60	B
C-A	-	-	-	-
C-B	0.09	7.51	0.09	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	182.63	0.00	490.83	0.377	0.59	11.595	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	44.63	0.00	524.06	0.086	0.09	7.504	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	184.98	0.00	490.73	0.377	0.60	11.772	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	524.06	0.086	0.09	7.513	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	184.99	0.00	490.73	0.377	0.60	11.774	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	524.06	0.086	0.09	7.513	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	185.00	0.00	490.73	0.377	0.60	11.774	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	524.06	0.086	0.09	7.513	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, AM	2029 Reference	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	17.10	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	480.00	100.000
B	FLAT	✓	290.00	100.000
C	FLAT	✓	615.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	145.000	335.000
	B	170.000	0.000	120.000
	C	420.000	195.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.30	0.70
	B	0.59	0.00	0.41
	C	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.62	20.47	1.63	C
C-A	-	-	-	-
C-B	0.40	12.09	0.65	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	283.78	0.00	466.27	0.622	1.56	19.135	C
C-A	420.00	420.00	0.00	-	-	-	-	-
C-B	195.00	192.44	0.00	492.76	0.396	0.64	11.891	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.81	0.00	465.64	0.623	1.60	20.417	C
C-A	420.00	420.00	0.00	-	-	-	-	-
C-B	195.00	194.97	0.00	492.76	0.396	0.65	12.087	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.94	0.00	465.63	0.623	1.62	20.456	C
C-A	420.00	420.00	0.00	-	-	-	-	-
C-B	195.00	194.99	0.00	492.76	0.396	0.65	12.089	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	335.00	335.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.97	0.00	465.63	0.623	1.63	20.470	C
C-A	420.00	420.00	0.00	-	-	-	-	-
C-B	195.00	195.00	0.00	492.76	0.396	0.65	12.089	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	335.00	335.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, PM	2029 Reference	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	13.57	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	405.00	100.000
B	FLAT	✓	215.00	100.000
C	FLAT	✓	545.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	120.000	285.000
	B	180.000	0.000	35.000
	C	495.000	50.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.30	0.70
	B	0.84	0.00	0.16
	C	0.91	0.09	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.47	14.88	0.88	B
C-A	-	-	-	-
C-B	0.10	7.90	0.11	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	211.55	0.00	456.90	0.471	0.86	14.478	B
C-A	495.00	495.00	0.00	-	-	-	-	-
C-B	50.00	49.57	0.00	505.45	0.099	0.11	7.890	A
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	214.95	0.00	456.79	0.471	0.88	14.876	B
C-A	495.00	495.00	0.00	-	-	-	-	-
C-B	50.00	50.00	0.00	505.45	0.099	0.11	7.904	A
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	214.98	0.00	456.78	0.471	0.88	14.882	B
C-A	495.00	495.00	0.00	-	-	-	-	-
C-B	50.00	50.00	0.00	505.45	0.099	0.11	7.904	A
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	214.99	0.00	456.78	0.471	0.88	14.885	B
C-A	495.00	495.00	0.00	-	-	-	-	-
C-B	50.00	50.00	0.00	505.45	0.099	0.11	7.904	A
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, AM	2029 Design	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	17.57	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	500.00	100.000
B	FLAT	✓	290.00	100.000
C	FLAT	✓	630.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	155.000	345.000
	B	170.000	0.000	120.000
	C	430.000	200.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.59	0.00	0.41
	C	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.63	21.11	1.68	C
C-A	-	-	-	-
C-B	0.41	12.44	0.69	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	283.60	0.00	460.92	0.629	1.60	19.665	C
C-A	430.00	430.00	0.00	-	-	-	-	-
C-B	200.00	197.30	0.00	489.38	0.409	0.68	12.218	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	345.00	345.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.80	0.00	460.25	0.630	1.65	21.054	C
C-A	430.00	430.00	0.00	-	-	-	-	-
C-B	200.00	199.97	0.00	489.38	0.409	0.68	12.434	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	345.00	345.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.93	0.00	460.24	0.630	1.67	21.100	C
C-A	430.00	430.00	0.00	-	-	-	-	-
C-B	200.00	199.99	0.00	489.38	0.409	0.69	12.437	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	345.00	345.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	290.00	289.96	0.00	460.24	0.630	1.68	21.115	C
C-A	430.00	430.00	0.00	-	-	-	-	-
C-B	200.00	199.99	0.00	489.38	0.409	0.69	12.439	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	345.00	345.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, PM	2029 Design	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	13.71	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	420.00	100.000
B	FLAT	✓	215.00	100.000
C	FLAT	✓	560.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	130.000	290.000
	B	180.000	0.000	35.000
	C	505.000	55.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.84	0.00	0.16
	C	0.90	0.10	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.48	15.16	0.90	C
C-A	-	-	-	-
C-B	0.11	8.04	0.12	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	211.49	0.00	452.50	0.475	0.88	14.736	B
C-A	505.00	505.00	0.00	-	-	-	-	-
C-B	55.00	54.51	0.00	502.91	0.109	0.12	8.021	A
A-B	130.00	130.00	0.00	-	-	-	-	-
A-C	290.00	290.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	214.94	0.00	452.37	0.475	0.89	15.153	C
C-A	505.00	505.00	0.00	-	-	-	-	-
C-B	55.00	55.00	0.00	502.91	0.109	0.12	8.037	A
A-B	130.00	130.00	0.00	-	-	-	-	-
A-C	290.00	290.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	214.98	0.00	452.37	0.475	0.90	15.159	C
C-A	505.00	505.00	0.00	-	-	-	-	-
C-B	55.00	55.00	0.00	502.91	0.109	0.12	8.037	A
A-B	130.00	130.00	0.00	-	-	-	-	-
A-C	290.00	290.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	215.00	214.99	0.00	452.37	0.475	0.90	15.162	C
C-A	505.00	505.00	0.00	-	-	-	-	-
C-B	55.00	55.00	0.00	502.91	0.109	0.12	8.037	A
A-B	130.00	130.00	0.00	-	-	-	-	-
A-C	290.00	290.00	0.00	-	-	-	-	-

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction F - Nga Tsin Wai Road / Grampian Road**

Description: **2023 Existing Traffic Flow**

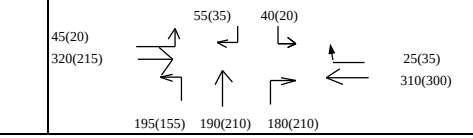
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) AM	Pro. Turning (%) PM	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	Total Revised Saturation Flow (pcu/hr) AM	Total Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Nga Tsin Wai Road	E	→	1	A	3.0	6.0	0	1	26%	18%	1915	3970	1795	1830	3850	3885	170	0.095	0.095	111	0.061	
		↱	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	195	0.095		124	0.060	
Nga Tsin Wai Road	W	←	1	A	3.0	0.0	0	0	0%	0%	2055	4110	2055	2055	4065	4045	169	0.082		170	0.083	0.083
		↰	1	A	3.0	0.0	10	0	15%	21%	2055	0	2010	1990	0	0	166	0.082		165	0.083	
Grampian Road	S	↕	3	C	5.5	6.0	6	1	42% / 58%	36% / 64%	1913	1913	1530	1530	1530	1530	95	0.062	0.062	55	0.036	0.036
Grampian Road	N	↰	4	D	3.2	7.0	0	1	100%	91%	1935	6085	1595	1620	5465	5470	195	0.122	0.122	170	0.105	0.105
	N	↱	4	D	3.2	0.0	10	0	4%	9%	2075	0	2065	2045	0	0	197	0.096		215	0.105	
	N	↱	4	D	3.2	0.0	10	0	100%	100%	2075	0	1805	1805	0	0	173	0.096		190	0.105	

Pedestrian Crossing			
	5p	1,2,3	Min. Crossing Time = 39Gm + 9FGm =48s
	6p	2	Min. Crossing Time = 8Gm + 11FGm =19s
	7p	2	Min. Crossing Time = 6Gm + 11FGm =17s
	8p	2	Min. Crossing Time = 10Gm + 11FGm =21s

Notes:

* 6s early cut off for phase 1 (Nga Tsin Wai Road EB) during the AM peak

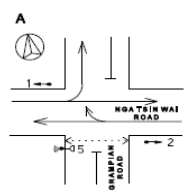
Traffic Flow (pcu / hr) Sunday AM Peak



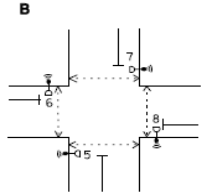
AM Peak Check Phase	
εy	0.279
L (sec)	43
C (sec)	120
y pract.	0.578
R.C. (%)	107%

PM Peak Check Phase	
εy	0.224
L (sec)	37
C (sec)	120
y pract.	0.623
R.C. (%)	178%

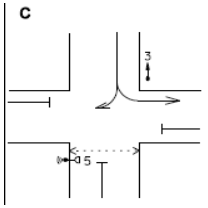
Stage / Phase Diagrams



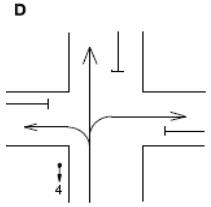
I/G = 15s (AM)



I/G = 17s+3s (AM)



I/G = 5s (AM)



I/G = 6s (AM)

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction F - Nga Tsin Wai Road / Grampian Road**

Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) AM	Pro. Turning (%) PM	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	Total Revised Saturation Flow (pcu/hr) AM	Total Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Nga Tsin Wai Road	E	→	1	A	3.0	6.0	0	1	23%	13%	1915	3970	1810	1855	3865	3910	218	0.120	0.120	152	0.082	
		↑→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	247	0.120		168	0.082	
Nga Tsin Wai Road	W	←	1	A	3.0	0.0	0	0	0%	0%	2055	4110	2055	2055	4070	4055	199	0.097		203	0.099	0.099
		←↑	1	A	3.0	0.0	10	0	13%	18%	2055	0	2015	2000	0	0	196	0.097		197	0.099	
Grampian Road	S	←→	3	C	5.5	6.0	6	1	40% / 60%	36% / 64%	1913	1913	1530	1530	1530	1530	100	0.065	0.065	55	0.036	0.036
Grampian Road	N	↰	4	D	3.2	7.0	0	1	100%	91%	1935	6085	1595	1620	5465	5470	205	0.129	0.129	182	0.112	0.112
	N	↱	4	D	3.2	0.0	10	0	4%	10%	2075	0	2065	2045	0	0	208	0.101		230	0.112	
	N	↱	4	D	3.2	0.0	10	0	100%	100%	2075	0	1805	1805	0	0	182	0.101		203	0.112	

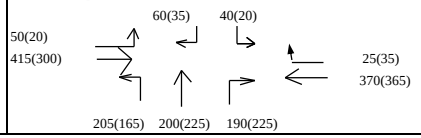
Pedestrian Crossing

5p	1,2,3	Min. Crossing Time = 39Gm + 9FGm =48s
6p	2	Min. Crossing Time = 8Gm + 11FGm =19s
7p	2	Min. Crossing Time = 6Gm + 11FGm =17s
8p	2	Min. Crossing Time = 10Gm + 11FGm =21s

Notes:

* 6s early cut off for phase 1 (Nga Tsin Wai Road EB) during the AM peak

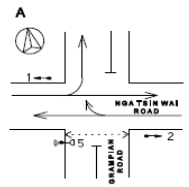
Traffic Flow (pcu / hr) Sunday AM Peak

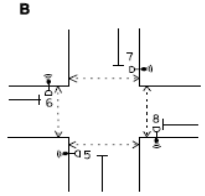


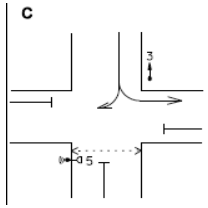
AM Peak Check Phase	
εy	0.314
L (sec)	43
C (sec)	120
y pract.	0.578
R.C. (%)	84%

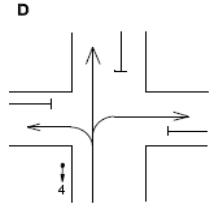
PM Peak Check Phase	
εy	0.247
L (sec)	37
C (sec)	120
y pract.	0.623
R.C. (%)	152%

Stage / Phase Diagrams









I/G = 15s (AM) I/G = 17s+3s (AM) I/G = 5s (AM) I/G = 6s (AM)

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction F - Nga Tsin Wai Road / Grampian Road**

Description: **2029 Design Traffic Flow**

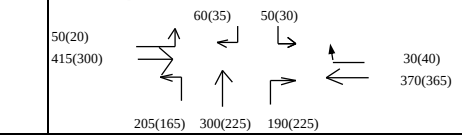
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) AM	Pro. Turning (%) PM	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	Total Revised Saturation Flow (pcu/hr) AM	Total Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Nga Tsin Wai Road	E	→	1	A	3.0	6.0	0	1	23%	13%	1915	3970	1810	1855	3865	3910	218	0.120	0.120	152	0.082	
		↑→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	247	0.120		168	0.082	
Nga Tsin Wai Road	W	←	1	A	3.0	0.0	0	0	0%	0%	2055	4110	2055	2055	4065	4050	202	0.098		206	0.100	0.100
		←↑	1	A	3.0	0.0	10	0	15%	20%	2055	0	2010	1995	0	0	198	0.098		200	0.100	
Grampian Road	S	←→	3	C	5.5	6.0	6	1	45% / 55%	46% / 54%	1913	1913	1530	1530	1530	1530	110	0.072	0.072	65	0.042	0.042
Grampian Road	N	←↑	4	D	3.2	7.0	0	1	100%	91%	1935	6085	1595	1620	5465	5470	205	0.129	0.129	182	0.112	0.112
	N	↑→	4	D	3.2	0.0	10	0	4%	10%	2075	0	2065	2045	0	0	208	0.101		230	0.112	
	N	→	4	D	3.2	0.0	10	0	100%	100%	2075	0	1805	1805	0	0	182	0.101		203	0.112	

Pedestrian Crossing			
	5p	1,2,3	Min. Crossing Time = 39Gm + 9FGm =48s
	6p	2	Min. Crossing Time = 8Gm + 11FGm =19s
	7p	2	Min. Crossing Time = 6Gm + 11FGm =17s
	8p	2	Min. Crossing Time = 10Gm + 11FGm =21s

Notes:

* 6s early cut off for phase 1 (Nga Tsin Wai Road EB) during the AM peak

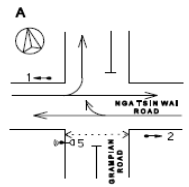
Traffic Flow (pcu / hr) Sunday AM Peak



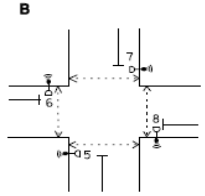
AM Peak Check Phase	
εy	0.321
L (sec)	43
C (sec)	120
y pract.	0.578
R.C. (%)	80%

PM Peak Check Phase	
εy	0.255
L (sec)	37
C (sec)	120
y pract.	0.623
R.C. (%)	144%

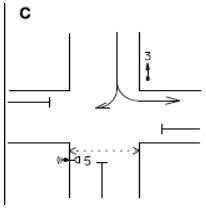
Stage / Phase Diagrams



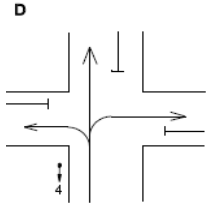
I/G = 15s (AM)



I/G = 17s+3s (AM)



I/G = 5s (AM)



I/G = 6s (AM)

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction G - Nga Tsin Wai Road / Junction Road**

Description: **2023 Existing Traffic Flow**

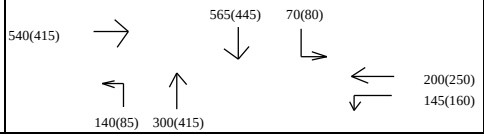
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Nga Tsin Wai Road	E	→	1	A	2.5	0.0	0	1	0%	0%	1865	3920	1865	1865	3920	3920	257	0.138	0.138	197	0.106	
	E	→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	283	0.138		218	0.106	
Nga Tsin Wai Road	W	←	1	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	194	0.092		230	0.109	0.109
	W	↰↓	1	A	2.5	10.0	0	1	96%	89%	1865	3970	1630	1645	3735	3750	151	0.092		180	0.109	
Junction Road	N	↰↑	3	C	4.0	12.0	0	1	32%	17%	2015	2015	1940	1975	1940	1975	440	0.227	0.227	500	0.253	0.253
Junction Road	S	↓	3	C	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	336	0.161		279	0.134	
	S	↓→	3	C	3.0	11.0	0	1	23%	33%	1915	4000	1855	1835	3940	3920	299	0.161		246	0.134	

Pedestrian Crossing			
	5p	A,B	Min. Crossing Time = 5Gm + 11FGm =16s
	6p	B	Min. Crossing Time = 5Gm + 11FGm =16s
	7p	B	Min. Crossing Time = 5Gm + 11FGm =16s
	8p	B	Min. Crossing Time = 5Gm + 11FGm =16s

Notes:

(Nil)

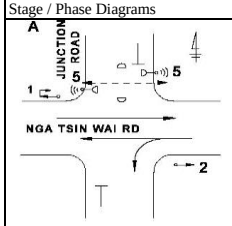
Traffic Flow (pcu / hr) Sunday AM Peak



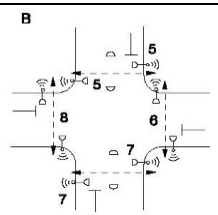
AM Peak Check Phase	
εy	0.365
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	85%

PM Peak Check Phase	
εy	0.362
L (sec)	30
C (sec)	110
y pract.	0.655
R.C. (%)	81%

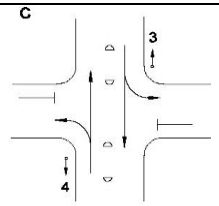
Stage / Phase Diagrams



I/G = 6



I/G = 7 + 16s



I/G = 3

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction G - Nga Tsin Wai Road / Junction Road**

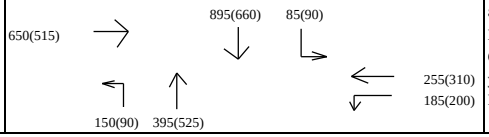
Description: **2029 Reference Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Nga Tsin Wai Road	E	→	1	A	2.5	0.0	0	1	0%	0%	1865	3920	1865	1865	3920	3920	309	0.166	0.166	245	0.131	0.136
	E	→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	341	0.166		270	0.131	
Nga Tsin Wai Road	W	←	2	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	248	0.118		286	0.136	
	W	↰↓	2	A	2.5	10.0	0	1	96%	89%	1865	3970	1630	1645	3735	3750	192	0.118		224	0.136	
Junction Road	N	↰↑	4	C	4.0	12.0	0	1	30%	15%	2015	2015	1940	1980	1940	1980	500	0.258	0.258	595	0.301	0.301
Junction Road	S	↓	3	C	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	517	0.248		397	0.191	
	S	↳↓	3	C	3.0	11.0	0	1	18%	26%	1915	4000	1870	1850	3955	3935	463	0.248		353	0.191	
Pedestrian Crossing		↔	5p	A,B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↕	6p	B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↔	7p	B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↕	8p	B		Min. Crossing Time = 5Gm + 11FGm =16s																

Notes:

(Nil)

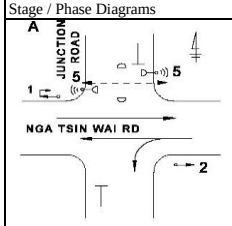
Traffic Flow (pcu / hr) Sunday AM Peak



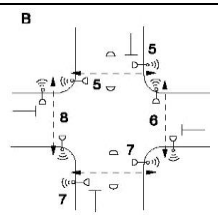
AM Peak Check Phase	
εy	0.424
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	59%

PM Peak Check Phase	
εy	0.437
L (sec)	30
C (sec)	110
y pract.	0.655
R.C. (%)	50%

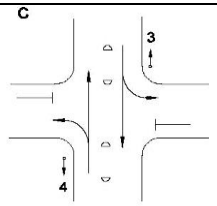
Stage / Phase Diagrams



I/G = 6



I/G = 7 + 16s



I/G = 3

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction G - Nga Tsin Wai Road / Junction Road**

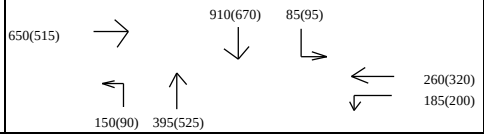
Description: **2029 Design Traffic Flow**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Nga Tsin Wai Road	E	→	1	A	2.5	0.0	0	1	0%	0%	1865	3920	1865	1865	3920	3920	309	0.166	0.166	245	0.131	0.139
	E	→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	341	0.166		270	0.131	
Nga Tsin Wai Road	W	←	2	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	251	0.119		292	0.139	
	W	↰↓	2	A	2.5	10.0	0	1	95%	88%	1865	3970	1630	1650	3735	3755	194	0.119		228	0.138	
Junction Road	N	↰↑	4	C	4.0	12.0	0	1	28%	15%	2015	2015	1950	1980	1950	1980	545	0.279	0.279	615	0.311	0.311
Junction Road	S	↓	3	C	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	525	0.252		406	0.194	
	S	↳↓	3	C	3.0	11.0	0	1	18%	26%	1915	4000	1870	1850	3955	3935	470	0.252		359	0.194	
Pedestrian Crossing		↔	5p	A,B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↕	6p	B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↔	7p	B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↕	8p	B		Min. Crossing Time = 5Gm + 11FGm =16s																

Notes:

(Nil)

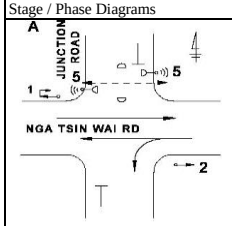
Traffic Flow (pcu / hr) Sunday AM Peak



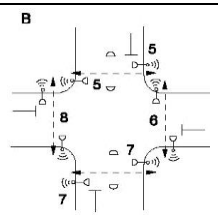
AM Peak Check Phase	
εy	0.445
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	52%

PM Peak Check Phase	
εy	0.449
L (sec)	30
C (sec)	110
y pract.	0.655
R.C. (%)	46%

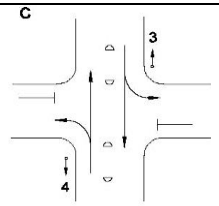
Stage / Phase Diagrams



I/G = 6



I/G = 7 + 16s



I/G = 3

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: Jun A (CONSTRUCTION).arc8
Path: F:\23041HK\2024-03-20
Report generation date: 20/3/2024 11:19:38

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2023 Existing							
Stream B-AC	0.18	6.93	0.15	A	0.16	6.71	0.14	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.25	8.48	0.20	A	0.07	7.05	0.06	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Design							
Stream B-AC	0.18	7.01	0.16	A	0.16	6.76	0.14	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.26	8.66	0.21	A	0.07	7.09	0.06	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Reference							
Stream B-AC	0.18	7.00	0.16	A	0.16	6.76	0.14	A
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.26	8.65	0.21	A	0.07	7.09	0.06	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM " model duration: 7:30 - 8:30
"D2 - 2023 Existing, PM" model duration: 17:00 - 18:00
"D3 - 2029 Reference, AM" model duration: 7:30 - 8:30
"D4 - 2029 Reference, PM" model duration: 17:00 - 18:00
"D5 - 2029 Design, AM" model duration: 7:30 - 8:30
"D6 - 2029 Design, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.5.523 at 20/3/2024 11:19:34

File summary

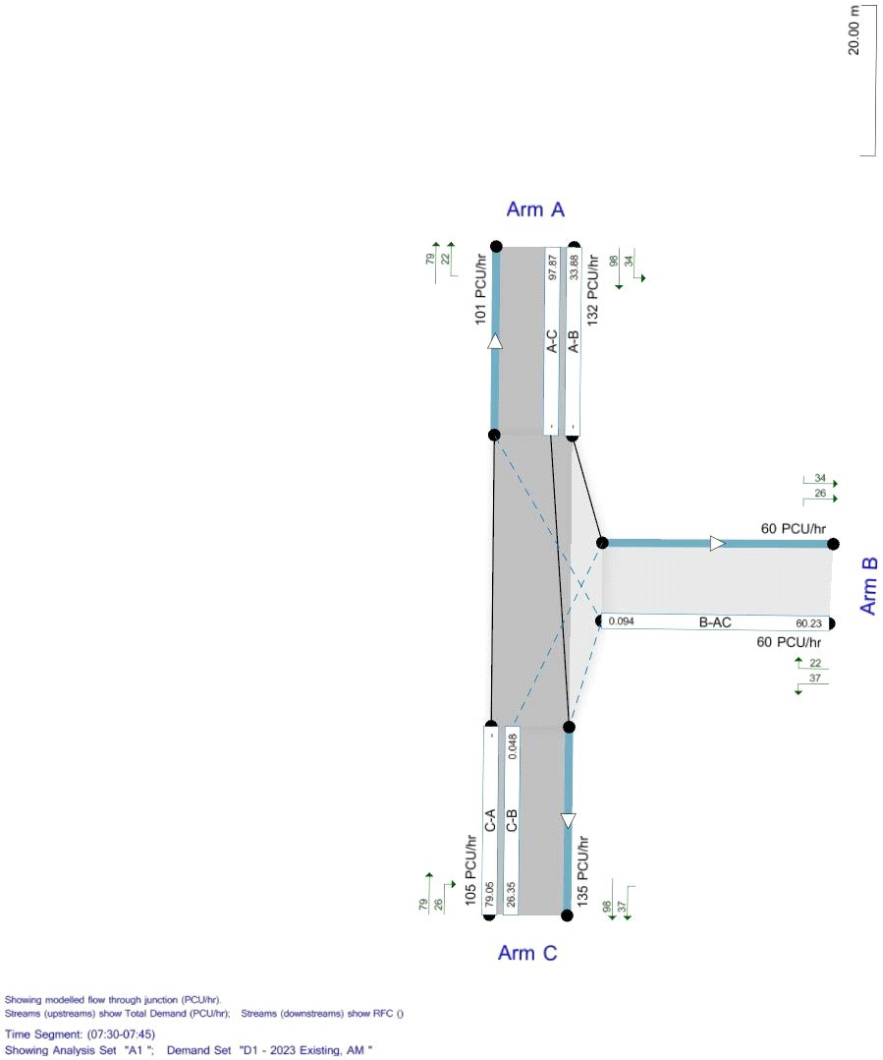
Title	23041HK
Location	
Site Number	
Date	8/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (07:30-07:45)
Showing Analysis Set "A1 "; Demand Set "D1 - 2023 Existing, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2023 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.74	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	270.00	100.000
B	FLAT	✓	95.00	100.000
C	FLAT	✓	290.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	105.000	165.000
	B	30.000	0.000	65.000
	C	185.000	105.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.32	0.00	0.68
	C	0.64	0.36	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.15	6.93	0.18	A
C-A	-	-	-	-
C-B	0.20	8.48	0.25	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	94.28	0.00	614.53	0.155	0.18	6.909	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	104.02	0.00	529.59	0.198	0.24	8.440	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	614.39	0.155	0.18	6.930	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	104.99	0.00	529.59	0.198	0.25	8.478	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	614.39	0.155	0.18	6.930	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	105.00	0.00	529.59	0.198	0.25	8.478	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	614.39	0.155	0.18	6.930	A
C-A	185.00	185.00	0.00	-	-	-	-	-
C-B	105.00	105.00	0.00	529.59	0.198	0.25	8.478	A
A-B	105.00	105.00	0.00	-	-	-	-	-
A-C	165.00	165.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2023 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.81	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	175.00	100.000
B	FLAT	✓	85.00	100.000
C	FLAT	✓	140.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	45.000	130.000
	B	35.000	0.000	50.000
	C	105.000	35.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.26	0.74
	B	0.41	0.00	0.59
	C	0.75	0.25	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.14	6.71	0.16	A
C-A	-	-	-	-
C-B	0.06	7.05	0.07	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	84.37	0.00	621.52	0.137	0.16	6.695	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	34.73	0.00	545.20	0.064	0.07	7.049	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	621.48	0.137	0.16	6.709	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	545.20	0.064	0.07	7.055	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	621.48	0.137	0.16	6.709	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	545.20	0.064	0.07	7.055	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	621.48	0.137	0.16	6.709	A
C-A	105.00	105.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	545.20	0.064	0.07	7.055	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	130.00	130.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, AM	2029 Reference	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.88	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	290.00	100.000
B	FLAT	✓	95.00	100.000
C	FLAT	✓	310.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	110.000	180.000
	B	30.000	0.000	65.000
	C	200.000	110.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.38	0.62
	B	0.32	0.00	0.68
	C	0.65	0.35	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	7.00	0.18	A
C-A	-	-	-	-
C-B	0.21	8.65	0.26	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	94.27	0.00	609.25	0.156	0.18	6.980	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	108.96	0.00	526.31	0.209	0.26	8.604	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	609.10	0.156	0.18	7.001	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	109.99	0.00	526.31	0.209	0.26	8.647	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	609.10	0.156	0.18	7.001	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	526.31	0.209	0.26	8.647	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	609.10	0.156	0.18	7.001	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	526.31	0.209	0.26	8.647	A
A-B	110.00	110.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, PM	2029 Reference	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.86	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	190.00	100.000
B	FLAT	✓	85.00	100.000
C	FLAT	✓	155.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	45.000	145.000
	B	35.000	0.000	50.000
	C	120.000	35.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.24	0.76
	B	0.41	0.00	0.59
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.14	6.76	0.16	A
C-A	-	-	-	-
C-B	0.06	7.09	0.07	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	84.37	0.00	617.32	0.138	0.16	6.744	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	34.73	0.00	542.74	0.064	0.07	7.083	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	617.27	0.138	0.16	6.762	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	542.74	0.064	0.07	7.089	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	617.27	0.138	0.16	6.762	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	542.74	0.064	0.07	7.089	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	617.27	0.138	0.16	6.762	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	542.74	0.064	0.07	7.089	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, AM	2029 Design	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	7.90	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	295.00	100.000
B	FLAT	✓	95.00	100.000
C	FLAT	✓	310.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	115.000	180.000
	B	30.000	0.000	65.000
	C	200.000	110.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.39	0.61
	B	0.32	0.00	0.68
	C	0.65	0.35	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	7.01	0.18	A
C-A	-	-	-	-
C-B	0.21	8.66	0.26	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	94.27	0.00	608.83	0.156	0.18	6.986	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	108.95	0.00	525.48	0.209	0.26	8.621	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	608.68	0.156	0.18	7.007	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	109.99	0.00	525.48	0.209	0.26	8.664	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	608.68	0.156	0.18	7.007	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	525.48	0.209	0.26	8.664	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	95.00	95.00	0.00	608.68	0.156	0.18	7.007	A
C-A	200.00	200.00	0.00	-	-	-	-	-
C-B	110.00	110.00	0.00	525.48	0.209	0.26	8.664	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	180.00	180.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, PM	2029 Design	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	6.86	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	190.00	100.000
B	FLAT	✓	85.00	100.000
C	FLAT	✓	155.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	45.000	145.000
	B	35.000	0.000	50.000
	C	120.000	35.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.24	0.76
	B	0.41	0.00	0.59
	C	0.77	0.23	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.14	6.76	0.16	A
C-A	-	-	-	-
C-B	0.06	7.09	0.07	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	84.37	0.00	617.32	0.138	0.16	6.744	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	34.73	0.00	542.74	0.064	0.07	7.083	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	617.27	0.138	0.16	6.762	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	542.74	0.064	0.07	7.089	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	617.27	0.138	0.16	6.762	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	542.74	0.064	0.07	7.089	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	85.00	85.00	0.00	617.27	0.138	0.16	6.762	A
C-A	120.00	120.00	0.00	-	-	-	-	-
C-B	35.00	35.00	0.00	542.74	0.064	0.07	7.089	A
A-B	45.00	45.00	0.00	-	-	-	-	-
A-C	145.00	145.00	0.00	-	-	-	-	-

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: Jun B (CONSTRUCTION).arc8
Path: F:\23041HK\2024-03-20
Report generation date: 20/3/2024 11:23:14

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2023 Existing							
Stream B-AC	0.78	11.30	0.44	B	0.83	11.30	0.45	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	6.58	0.02	A	0.12	7.13	0.11	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Design							
Stream B-AC	0.87	11.89	0.47	B	0.89	11.77	0.47	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	6.58	0.02	A	0.13	7.20	0.12	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Reference							
Stream B-AC	0.81	11.53	0.45	B	0.86	11.51	0.46	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.02	6.58	0.02	A	0.12	7.13	0.11	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM " model duration: 7:30 - 8:30
"D2 - 2023 Existing, PM" model duration: 17:00 - 18:00
"D3 - 2029 Reference, AM" model duration: 7:30 - 8:30
"D4 - 2029 Reference, PM" model duration: 17:00 - 18:00
"D5 - 2029 Design, AM" model duration: 7:30 - 8:30
"D6 - 2029 Design, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.5.523 at 20/3/2024 11:23:09

File summary

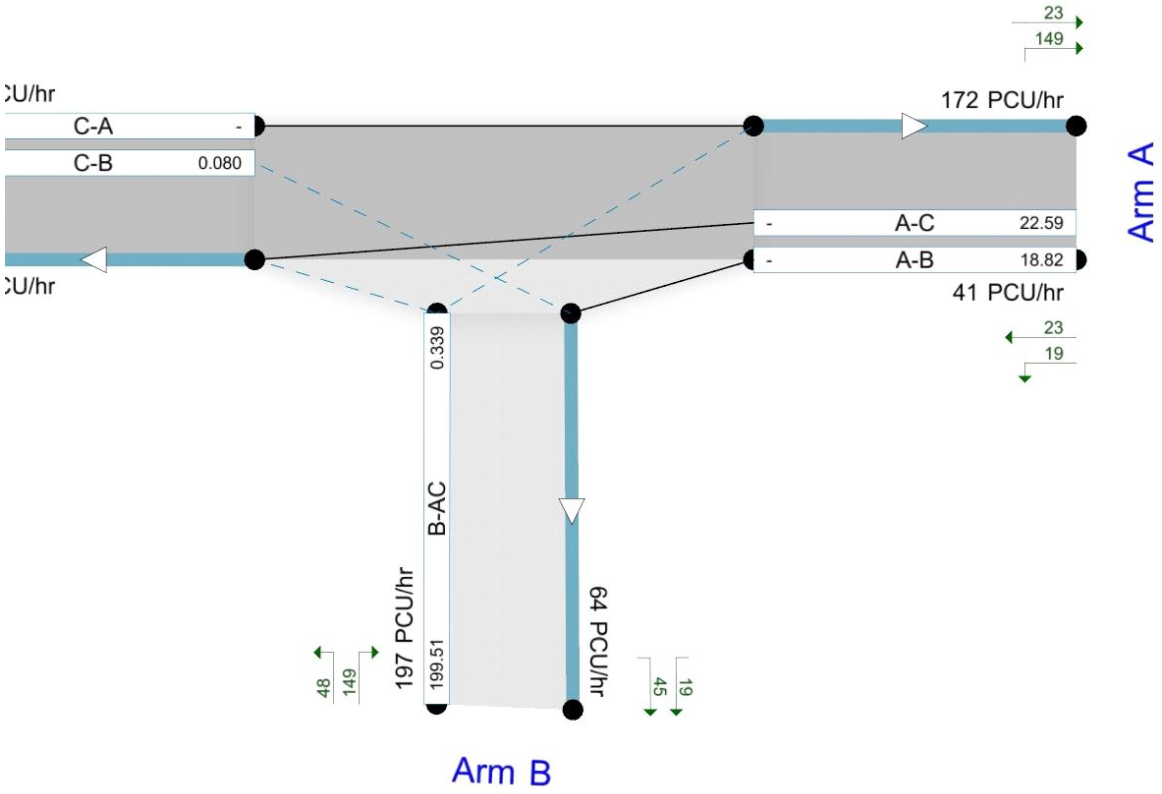
Title	23041HK
Location	
Site Number	
Date	8/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



Showing modelled flow through junction (PCU/hr).
Streams (upstreams) show Total Demand (PCU/hr); Streams (downstreams) show RFC ()
Time Segment: (07:30-07:45)
Showing Analysis Set "A1 "; Demand Set "D1 - 2023 Existing, AM "

The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2023 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.12	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	105.00	100.000
B	FLAT	✓	250.00	100.000
C	FLAT	✓	215.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	55.000
	B	190.000	0.000	60.000
	C	205.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.48	0.52
	B	0.76	0.00	0.24
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.44	11.30	0.78	B
C-A	-	-	-	-
C-B	0.02	6.58	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	246.93	0.00	568.58	0.440	0.77	11.092	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	249.97	0.00	568.56	0.440	0.78	11.295	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	249.99	0.00	568.56	0.440	0.78	11.298	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	250.00	249.99	0.00	568.56	0.440	0.78	11.300	B
C-A	205.00	205.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2023 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.53	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	55.00	100.000
B	FLAT	✓	265.00	100.000
C	FLAT	✓	85.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	25.000	30.000
	B	200.000	0.000	65.000
	C	25.000	60.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.45	0.55
	B	0.75	0.00	0.25
	C	0.29	0.71	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.45	11.30	0.83	B
C-A	-	-	-	-
C-B	0.11	7.13	0.12	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	261.75	0.00	583.53	0.454	0.81	11.080	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	59.53	0.00	564.92	0.106	0.12	7.117	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.96	0.00	583.42	0.454	0.82	11.300	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	583.42	0.454	0.83	11.302	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	583.42	0.454	0.83	11.305	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, AM	2029 Reference	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.34	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	105.00	100.000
B	FLAT	✓	255.00	100.000
C	FLAT	✓	220.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	55.000
	B	195.000	0.000	60.000
	C	210.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.48	0.52
	B	0.76	0.00	0.24
	C	0.95	0.05	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.45	11.53	0.81	B
C-A	-	-	-	-
C-B	0.02	6.58	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	251.81	0.00	567.25	0.450	0.80	11.303	B
C-A	210.00	210.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.96	0.00	567.23	0.450	0.81	11.524	B
C-A	210.00	210.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.99	0.00	567.23	0.450	0.81	11.526	B
C-A	210.00	210.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.99	0.00	567.23	0.450	0.81	11.529	B
C-A	210.00	210.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, PM	2029 Reference	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.72	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	55.00	100.000
B	FLAT	✓	270.00	100.000
C	FLAT	✓	85.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	25.000	30.000
	B	205.000	0.000	65.000
	C	25.000	60.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.45	0.55
	B	0.76	0.00	0.24
	C	0.29	0.71	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.46	11.51	0.86	B
C-A	-	-	-	-
C-B	0.11	7.13	0.12	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	270.00	266.63	0.00	582.79	0.463	0.84	11.272	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	59.53	0.00	564.92	0.106	0.12	7.117	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	270.00	269.96	0.00	582.68	0.463	0.85	11.508	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	270.00	269.99	0.00	582.68	0.463	0.86	11.510	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	270.00	269.99	0.00	582.68	0.463	0.86	11.512	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	60.00	60.00	0.00	564.92	0.106	0.12	7.128	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, AM	2029 Design	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	11.69	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	105.00	100.000
B	FLAT	✓	265.00	100.000
C	FLAT	✓	230.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	50.000	55.000
	B	200.000	0.000	65.000
	C	220.000	10.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.48	0.52
	B	0.75	0.00	0.25
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.47	11.89	0.87	B
C-A	-	-	-	-
C-B	0.02	6.58	0.02	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	261.58	0.00	567.86	0.467	0.85	11.630	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	9.93	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.96	0.00	567.85	0.467	0.86	11.881	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	567.85	0.467	0.87	11.884	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	265.00	264.99	0.00	567.85	0.467	0.87	11.886	B
C-A	220.00	220.00	0.00	-	-	-	-	-
C-B	10.00	10.00	0.00	556.71	0.018	0.02	6.584	A
A-B	50.00	50.00	0.00	-	-	-	-	-
A-C	55.00	55.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, PM	2029 Design	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.90	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	12.00		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.077	0.195	0.123	0.279
1	B-C	748.870	0.085	0.214	-	-
1	C-B	573.963	0.164	0.164	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	55.00	100.000
B	FLAT	✓	275.00	100.000
C	FLAT	✓	90.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	25.000	30.000
	B	210.000	0.000	65.000
	C	25.000	65.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.45	0.55
	B	0.76	0.00	0.24
	C	0.28	0.72	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.47	11.77	0.89	B
C-A	-	-	-	-
C-B	0.12	7.20	0.13	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	271.49	0.00	580.87	0.473	0.88	11.511	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	64.48	0.00	564.92	0.115	0.13	7.186	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	274.96	0.00	580.74	0.474	0.89	11.769	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	65.00	0.00	564.92	0.115	0.13	7.200	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	274.99	0.00	580.74	0.474	0.89	11.771	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	65.00	0.00	564.92	0.115	0.13	7.200	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	275.00	274.99	0.00	580.74	0.474	0.89	11.773	B
C-A	25.00	25.00	0.00	-	-	-	-	-
C-B	65.00	65.00	0.00	564.92	0.115	0.13	7.200	A
A-B	25.00	25.00	0.00	-	-	-	-	-
A-C	30.00	30.00	0.00	-	-	-	-	-

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction C - Dumbartion Road / Junction Road**

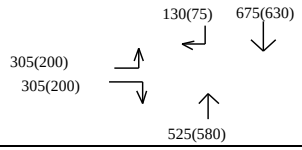
Description: **2026 Reference Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Dumbartion Road	E		1	C	3.0	10.0	0	1	100%	100%	1915	1915	1665	1665	1665	1665	305	0.183	0.183	200	0.120	0.120
	E		2	C	3.0	0.0	12	0	100%	100%	2055	2055	1825	1825	1825	1825	165	0.090		40	0.022	
Junction Road	S		1	A	3.3	0.0	0	1	0%	0%	1945	1945	1945	1945	1945	1945	675	0.347	0.347	630	0.324	0.324
	S		2	B	3.3	0.0	15	0	100%	100%	2085	2085	1895	1895	1895	1895	130	0.069	0.069	75	0.040	0.040
Junction Road	N		1	A	5.5	0.0	0	0	0%	0%	2305	2305	2305	2305	2305	2305	525	0.228		580	0.252	
Pedestrian Crossing			5p	A		Min. Crossing Time = 7Gm + 6FGm =13s																
			6p	B, C		Min. Crossing Time = 25Gm +5FGm =30s																
			7p	B, C		Min. Crossing Time = 6Gm + 5FGm =11s																

Notes:

(Nil)

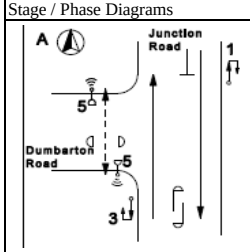
Traffic Flow (pcu / hr) Sunday AM Peak



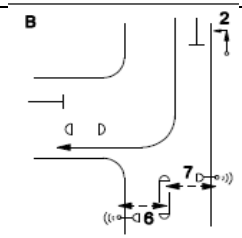
AM Peak Check Phase	
εy	0.599
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	28%

PM Peak Check Phase	
εy	0.484
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	59%

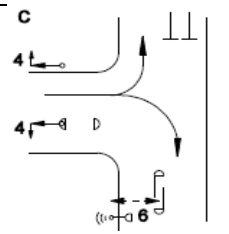
Stage / Phase Diagrams



I/G = 7s



I/G = 5s



I/G =7s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction C - Dumbartion Road / Junction Road**

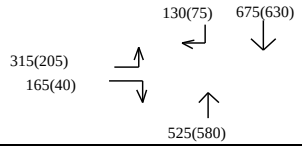
Description: **2026 Design Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Dumbartion Road	E		1	C	3.0	10.0	0	1	100%	100%	1915	1915	1665	1665	1665	1665	315	0.189	0.189	205	0.123	0.123
	E		2	C	3.0	0.0	12	0	100%	100%	2055	2055	1825	1825	1825	1825	165	0.090		40	0.022	
Junction Road	S		1	A	3.3	0.0	0	1	0%	0%	1945	1945	1945	1945	1945	1945	675	0.347	0.347	630	0.324	0.324
	S		2	B	3.3	0.0	15	0	100%	100%	2085	2085	1895	1895	1895	1895	130	0.069	0.069	75	0.040	0.040
Junction Road	N		1	A	5.5	0.0	0	0	0%	0%	2305	2305	2305	2305	2305	2305	525	0.228		580	0.252	
Pedestrian Crossing			5p	A		Min. Crossing Time = 7Gm + 6FGm =13s																
			6p	B, C		Min. Crossing Time = 25Gm +5FGm =30s																
			7p	B, C		Min. Crossing Time = 6Gm + 5FGm =11s																

Notes:

(Nil)

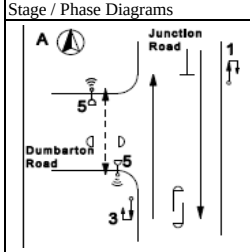
Traffic Flow (pcu / hr) Sunday AM Peak



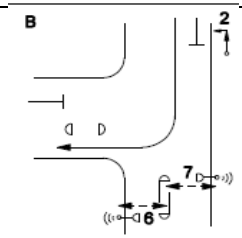
AM Peak Check Phase	
εy	0.605
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	27%

PM Peak Check Phase	
εy	0.487
L (sec)	16
C (sec)	108
y pract.	0.767
R.C. (%)	58%

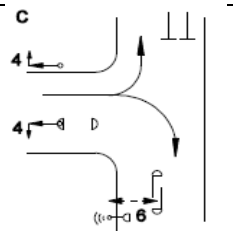
Stage / Phase Diagrams



I/G = 7s



I/G = 5s



I/G =7s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction D - Carpenter Road / Junction Road**

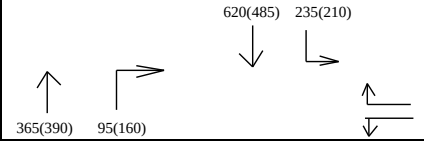
Description: **2026 Reference Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Junction Road	S	↓	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	461	0.224	0.224	376	0.183	0.183
	S	↓→	1	A	3.0	10.0	0	1	60%	66%	1915	3970	1760	1745	3815	3800	394	0.224		319	0.183	
Junction Road	N	↑	2,3	A,B	2.6	0.0	0	1	0%	0%	1875	1875	1875	1875	1875	1875	365	0.195		390	0.208	
	N	↱	3	B	2.7	0.0	15	0	100%	100%	2025	2025	1840	1840	1840	1840	95	0.052	0.052	160	0.087	0.087
Carpenter Road	W	↰	4	C	3.0	0.0	15	0	100%	100%	2055	2055	1870	1870	1870	1870	260	0.139	0.228	320	0.171	0.204
	W	↓	4	C	2.5	10.0	0	1	100%	100%	1865	1865	1620	1620	1620	1620	370	0.228		330	0.204	
Pedestrian Crossing		↕	5p	D		Min. Crossing Time = 7Gm + 7FGm =14s																
		↔	6p	D		Min. Crossing Time = 7Gm + 8FGm =15s																

Notes:

(Nil)

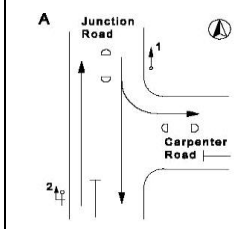
Traffic Flow (pcu / hr) Sunday AM Peak



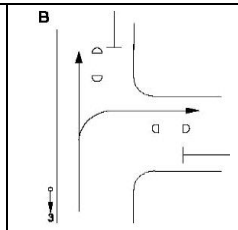
AM Peak Check Phase	
εy	0.504
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	20%

PM Peak Check Phase	
εy	0.474
L (sec)	39
C (sec)	110
y pract.	0.581
R.C. (%)	23%

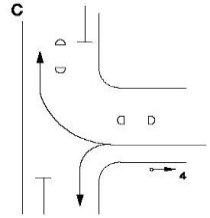
Stage / Phase Diagrams



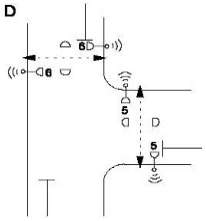
I/G = 3



I/G = 6



I/G = 5



I/G = 13 + 15s

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction D - Carpenter Road / Junction Road**

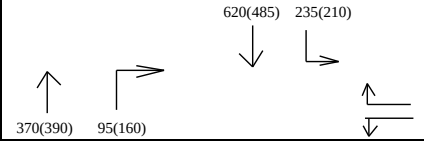
Description: **2026 Design Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Junction Road	S	↓	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	461	0.224	0.224	376	0.183	0.183
	S	↓→	1	A	3.0	10.0	0	1	60%	66%	1915	3970	1760	1745	3815	3800	394	0.224		319	0.183	
Junction Road	N	↑	2,3	A,B	2.6	0.0	0	1	0%	0%	1875	1875	1875	1875	1875	1875	370	0.197		390	0.208	
	N	↱	3	B	2.7	0.0	15	0	100%	100%	2025	2025	1840	1840	1840	1840	95	0.052	0.052	160	0.087	0.087
Carpenter Road	W	↰	4	C	3.0	0.0	15	0	100%	100%	2055	2055	1870	1870	1870	1870	265	0.142	0.231	325	0.174	0.207
	W	↓	4	C	2.5	10.0	0	1	100%	100%	1865	1865	1620	1620	1620	1620	375	0.231		335	0.207	
Pedestrian Crossing		↕	5p	D		Min. Crossing Time = 7Gm + 7FGm =14s																
		↔	6p	D		Min. Crossing Time = 7Gm + 8FGm =15s																

Notes:

(Nil)

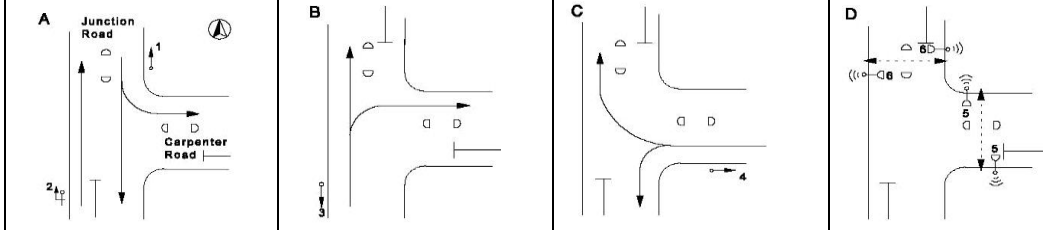
Traffic Flow (pcu / hr) Sunday AM Peak



AM Peak Check Phase	
εy	0.507
L (sec)	39
C (sec)	120
y pract.	0.608
R.C. (%)	20%

PM Peak Check Phase	
εy	0.477
L (sec)	39
C (sec)	110
y pract.	0.581
R.C. (%)	22%

Stage / Phase Diagrams



I/G = 3	I/G = 6	I/G = 5	I/G = 13 + 15s

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.5.523 [19102,19/06/2015]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk

Filename: Jun E (CONSRUCTION).arc8
Path: F:\23041HK\2024-03-20
Report generation date: 20/3/2024 11:23:28

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2023 Existing							
Stream B-AC	1.01	14.37	0.50	B	0.60	11.77	0.38	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.56	11.00	0.36	B	0.09	7.51	0.09	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Design							
Stream B-AC	1.55	19.87	0.61	C	0.84	14.53	0.46	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.66	12.19	0.40	B	0.11	7.92	0.10	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2029 Reference							
Stream B-AC	1.51	19.30	0.60	C	0.83	14.28	0.45	B
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.62	11.86	0.38	B	0.10	7.79	0.09	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2023 Existing, AM " model duration: 7:30 - 8:30
"D2 - 2023 Existing, PM" model duration: 17:00 - 18:00
"D3 - 2029 Reference, AM" model duration: 7:30 - 8:30
"D4 - 2029 Reference, PM" model duration: 17:00 - 18:00
"D5 - 2029 Design, AM" model duration: 7:30 - 8:30
"D6 - 2029 Design, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.5.523 at 20/3/2024 11:23:25

File summary

Title	23041HK
Location	
Site Number	
Date	8/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	user
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2023 Existing, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, AM	2023 Existing	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	12.95	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	365.00	100.000
B	FLAT	✓	255.00	100.000
C	FLAT	✓	540.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	120.000	245.000
	B	140.000	0.000	115.000
	C	355.000	185.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.33	0.67
	B	0.55	0.00	0.45
	C	0.66	0.34	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.50	14.37	1.01	B
C-A	-	-	-	-
C-B	0.36	11.00	0.56	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	251.06	0.00	506.05	0.504	0.98	13.916	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	182.78	0.00	512.22	0.361	0.55	10.857	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.93	0.00	505.53	0.504	1.00	14.354	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	184.98	0.00	512.22	0.361	0.56	10.999	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.98	0.00	505.52	0.504	1.01	14.363	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	184.99	0.00	512.22	0.361	0.56	11.001	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	255.00	254.99	0.00	505.52	0.504	1.01	14.366	B
C-A	355.00	355.00	0.00	-	-	-	-	-
C-B	185.00	185.00	0.00	512.22	0.361	0.56	11.001	B
A-B	120.00	120.00	0.00	-	-	-	-	-
A-C	245.00	245.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2023 Existing, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2023 Existing, PM	2023 Existing	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.94	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	295.00	100.000
B	FLAT	✓	185.00	100.000
C	FLAT	✓	470.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	95.000	200.000
	B	150.000	0.000	35.000
	C	425.000	45.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.32	0.68
	B	0.81	0.00	0.19
	C	0.90	0.10	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To			
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.38	11.77	0.60	B
C-A	-	-	-	-
C-B	0.09	7.51	0.09	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	182.63	0.00	490.83	0.377	0.59	11.595	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	44.63	0.00	524.06	0.086	0.09	7.504	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	184.98	0.00	490.73	0.377	0.60	11.772	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	524.06	0.086	0.09	7.513	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	184.99	0.00	490.73	0.377	0.60	11.774	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	524.06	0.086	0.09	7.513	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	185.00	185.00	0.00	490.73	0.377	0.60	11.774	B
C-A	425.00	425.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	524.06	0.086	0.09	7.513	A
A-B	95.00	95.00	0.00	-	-	-	-	-
A-C	200.00	200.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, AM	2029 Reference	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	16.32	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	475.00	100.000
B	FLAT	✓	285.00	100.000
C	FLAT	✓	595.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	145.000	330.000
	B	165.000	0.000	120.000
	C	405.000	190.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.58	0.00	0.42
	C	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.60	19.30	1.51	C
C-A	-	-	-	-
C-B	0.38	11.86	0.62	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	279.20	0.00	471.90	0.604	1.45	18.184	C
C-A	405.00	405.00	0.00	-	-	-	-	-
C-B	190.00	187.55	0.00	493.61	0.385	0.61	11.673	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	330.00	330.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.84	0.00	471.31	0.605	1.49	19.293	C
C-A	405.00	405.00	0.00	-	-	-	-	-
C-B	190.00	189.97	0.00	493.61	0.385	0.62	11.854	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	330.00	330.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.95	0.00	471.30	0.605	1.50	19.292	C
C-A	405.00	405.00	0.00	-	-	-	-	-
C-B	190.00	189.99	0.00	493.61	0.385	0.62	11.856	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	330.00	330.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.97	0.00	471.30	0.605	1.51	19.304	C
C-A	405.00	405.00	0.00	-	-	-	-	-
C-B	190.00	190.00	0.00	493.61	0.385	0.62	11.856	B
A-B	145.00	145.00	0.00	-	-	-	-	-
A-C	330.00	330.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Reference, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Reference, PM	2029 Reference	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	13.13	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	395.00	100.000
B	FLAT	✓	210.00	100.000
C	FLAT	✓	525.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	115.000	280.000
	B	175.000	0.000	35.000
	C	480.000	45.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.29	0.71
	B	0.83	0.00	0.17
	C	0.91	0.09	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.45	14.28	0.83	B
C-A	-	-	-	-
C-B	0.09	7.79	0.10	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	206.76	0.00	462.17	0.454	0.81	13.929	B
C-A	480.00	480.00	0.00	-	-	-	-	-
C-B	45.00	44.61	0.00	507.14	0.089	0.10	7.777	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	209.95	0.00	462.07	0.454	0.82	14.272	B
C-A	480.00	480.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	507.14	0.089	0.10	7.789	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	209.98	0.00	462.07	0.454	0.83	14.278	B
C-A	480.00	480.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	507.14	0.089	0.10	7.789	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	209.99	0.00	462.07	0.454	0.83	14.278	B
C-A	480.00	480.00	0.00	-	-	-	-	-
C-B	45.00	45.00	0.00	507.14	0.089	0.10	7.789	A
A-B	115.00	115.00	0.00	-	-	-	-	-
A-C	280.00	280.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, AM	2029 Design	AM		FLAT	07:30	08:30	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	16.75	C

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	495.00	100.000
B	FLAT	✓	285.00	100.000
C	FLAT	✓	610.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	155.000	340.000
	B	165.000	0.000	120.000
	C	415.000	195.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.31	0.69
	B	0.58	0.00	0.42
	C	0.68	0.32	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.61	19.87	1.55	C
C-A	-	-	-	-
C-B	0.40	12.19	0.66	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	279.05	0.00	466.58	0.611	1.49	18.660	C
C-A	415.00	415.00	0.00	-	-	-	-	-
C-B	195.00	192.42	0.00	490.22	0.398	0.65	11.988	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.83	0.00	465.94	0.612	1.53	19.827	C
C-A	415.00	415.00	0.00	-	-	-	-	-
C-B	195.00	194.97	0.00	490.22	0.398	0.65	12.191	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.61	19.87	1.55	C
C-A	-	-	-	-
C-B	0.40	12.19	0.66	B
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:30-07:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	279.05	0.00	466.58	0.611	1.49	18.660	C
C-A	415.00	415.00	0.00	-	-	-	-	-
C-B	195.00	192.42	0.00	490.22	0.398	0.65	11.988	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.83	0.00	465.94	0.612	1.53	19.827	C
C-A	415.00	415.00	0.00	-	-	-	-	-
C-B	195.00	194.97	0.00	490.22	0.398	0.65	12.191	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.94	0.00	465.94	0.612	1.55	19.863	C
C-A	415.00	415.00	0.00	-	-	-	-	-
C-B	195.00	194.99	0.00	490.22	0.398	0.66	12.193	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	285.00	284.97	0.00	465.93	0.612	1.55	19.869	C
C-A	415.00	415.00	0.00	-	-	-	-	-
C-B	195.00	195.00	0.00	490.22	0.398	0.66	12.193	B
A-B	155.00	155.00	0.00	-	-	-	-	-
A-C	340.00	340.00	0.00	-	-	-	-	-

(Default Analysis Set) - 2029 Design, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2029 Design, PM	2029 Design	PM		FLAT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	13.26	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	(untitled)		Major
B	B	(untitled)		Minor
C	C	(untitled)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	11.50		0.00		2.20	0.00		

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	5.00										0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	573.534	0.079	0.201	0.126	0.287
1	B-C	748.870	0.087	0.221	-	-
1	C-B	573.963	0.169	0.169	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	FLAT	✓	410.00	100.000
B	FLAT	✓	210.00	100.000
C	FLAT	✓	540.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	125.000	285.000
	B	175.000	0.000	35.000
	C	490.000	50.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.30	0.70
	B	0.83	0.00	0.17
	C	0.91	0.09	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.46	14.53	0.84	B
C-A	-	-	-	-
C-B	0.10	7.92	0.11	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	206.71	0.00	457.78	0.459	0.82	14.162	B
C-A	490.00	490.00	0.00	-	-	-	-	-
C-B	50.00	49.56	0.00	504.60	0.099	0.11	7.904	A
A-B	125.00	125.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	209.95	0.00	457.66	0.459	0.84	14.526	B
C-A	490.00	490.00	0.00	-	-	-	-	-
C-B	50.00	50.00	0.00	504.60	0.099	0.11	7.918	A
A-B	125.00	125.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	209.98	0.00	457.66	0.459	0.84	14.533	B
C-A	490.00	490.00	0.00	-	-	-	-	-
C-B	50.00	50.00	0.00	504.60	0.099	0.11	7.918	A
A-B	125.00	125.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	210.00	209.99	0.00	457.66	0.459	0.84	14.532	B
C-A	490.00	490.00	0.00	-	-	-	-	-
C-B	50.00	50.00	0.00	504.60	0.099	0.11	7.918	A
A-B	125.00	125.00	0.00	-	-	-	-	-
A-C	285.00	285.00	0.00	-	-	-	-	-

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction F - Nga Tsin Wai Road / Grampian Road**

Description: **2026 Reference Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Nga Tsin Wai Road	E		1	A	3.0	6.0	0	1	21%	13%	1915	3970	1820	1855	3875	3910	211	0.116	0.116	149	0.081	
			1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	239	0.116		166	0.081	
Nga Tsin Wai Road	W		1	A	3.0	0.0	10	0	13%	18%	2055	0	2015	2000	0	0	197	0.098		199	0.100	0.100
			1	A	3.0	0.0	0	1	0%	0%	1915	3970	1915	1915	3930	3915	188	0.098		191	0.100	
Grampian Road	S		3	C	5.5	6.0	6	1	42% / 58%	36% / 64%	1913	1913	1530	1530	1530	1530	95	0.062	0.062	55	0.036	0.036
Grampian Road	N		4	D	3.2	7.0	0	1	100%	92%	1935	6085	1595	1615	5465	5465	200	0.125	0.125	174	0.108	0.108
	N		4	D	3.2	0.0	10	0	4%	9%	2075	0	2065	2045	0	0	203	0.098		221	0.108	
	N		4	D	3.2	0.0	10	0	100%	100%	2075	0	1805	1805	0	0	177	0.098		195	0.108	

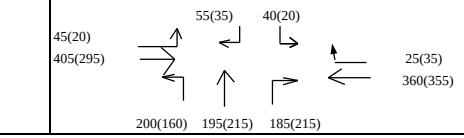
Pedestrian Crossing

5p	1,2,3	Min. Crossing Time = 39Gm + 9FGm =48s
6p	2	Min. Crossing Time = 8Gm + 11FGm =19s
7p	2	Min. Crossing Time = 6Gm + 11FGm =17s
8p	2	Min. Crossing Time = 10Gm + 11FGm =21s

Notes:

* 6s early cut off for phase 1 (Nga Tsin Wai Road EB) during the AM peak

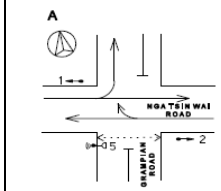
Traffic Flow (pcu / hr) Sunday AM Peak

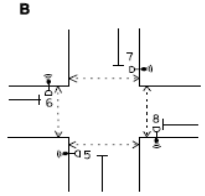


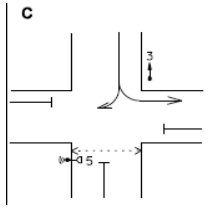
AM Peak Check Phase	
εy	0.304
L (sec)	43
C (sec)	120
y pract.	0.578
R.C. (%)	90%

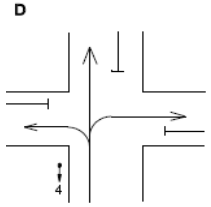
PM Peak Check Phase	
εy	0.244
L (sec)	37
C (sec)	120
y pract.	0.623
R.C. (%)	155%

Stage / Phase Diagrams









I/G = 15s (AM) I/G = 17s+3s (AM) I/G = 5s (AM) I/G = 6s (AM)

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction F - Nga Tsin Wai Road / Grampian Road**

Description: **2026 Design Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Pro. Turning (%) AM	Pro. Turning (%) PM	Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr) AM	Revised Saturation Flow (pcu/hr) PM	Total Revised Saturation Flow (pcu/hr) AM	Total Revised Saturation Flow (pcu/hr) PM	AM Peak Flow (pcu/hr)	AM Peak y Value	AM Peak Critical y	PM Peak Flow (pcu/hr)	PM Peak y Value	PM Peak Critical y
Nga Tsin Wai Road	E		1	A	3.0	6.0	0	1	21%	13%	1915	3970	1820	1855	3875	3910	211	0.116	0.116	149	0.081	
			1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	239	0.116		166	0.081	
Nga Tsin Wai Road	W		1	A	3.0	0.0	10	0	15%	20%	2055	0	2010	1995	0	0	200	0.099		202	0.101	0.101
			1	A	3.0	0.0	0	1	0%	0%	1915	3970	1915	1915	3925	3910	190	0.099		193	0.101	
Grampian Road	S		3	C	5.5	6.0	6	1	48% / 52%	46% / 54%	1913	1913	1530	1530	1530	1530	105	0.069	0.069	65	0.042	0.042
Grampian Road	N		4	D	3.2	7.0	0	1	100%	92%	1935	6085	1595	1615	5465	5465	200	0.125	0.125	174	0.108	0.108
	N		4	D	3.2	0.0	10	0	4%	9%	2075	0	2065	2045	0	0	203	0.098		221	0.108	
	N		4	D	3.2	0.0	10	0	100%	100%	2075	0	1805	1805	0	0	177	0.098		195	0.108	

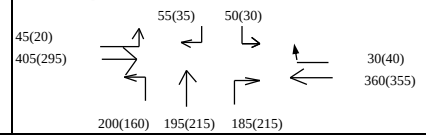
Pedestrian Crossing

5p	1,2,3	Min. Crossing Time = 39Gm + 9FGm =48s
6p	2	Min. Crossing Time = 8Gm + 11FGm =19s
7p	2	Min. Crossing Time = 6Gm + 11FGm =17s
8p	2	Min. Crossing Time = 10Gm + 11FGm =21s

Notes:

* 6s early cut off for phase 1 (Nga Tsin Wai Road EB) during the AM peak

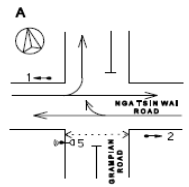
Traffic Flow (pcu / hr) Sunday AM Peak

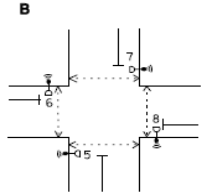


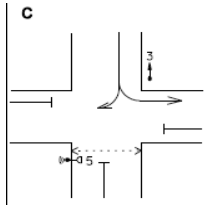
AM Peak Check Phase	
εy	0.310
L (sec)	43
C (sec)	120
y pract.	0.578
R.C. (%)	86%

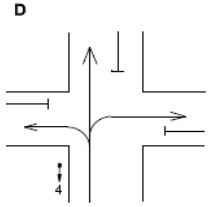
PM Peak Check Phase	
εy	0.252
L (sec)	37
C (sec)	120
y pract.	0.623
R.C. (%)	147%

Stage / Phase Diagrams









I/G = 15s (AM) I/G = 17s+3s (AM) I/G = 5s (AM) I/G = 6s (AM)

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction G - Nga Tsin Wai Road / Junction Road**

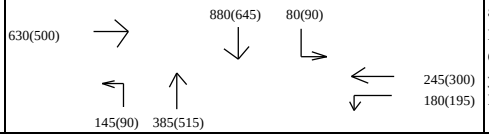
Description: **2026 Reference Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Nga Tsin Wai Road	E	→	1	A	2.5	0.0	0	1	0%	0%	1865	3920	1865	1865	3920	3920	300	0.161	0.161	238	0.128	0.132
	E	→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	330	0.161		262	0.128	
Nga Tsin Wai Road	W	←	2	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	240	0.114		278	0.132	
	W	↰↓	2	A	2.5	10.0	0	1	97%	90%	1865	3970	1630	1645	3735	3750	185	0.114		217	0.132	
Junction Road	N	↰↑	4	C	4.0	12.0	0	1	27%	15%	2015	2015	1950	1980	1950	1980	530	0.272	0.272	605	0.306	0.306
Junction Road	S	↓	3	C	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	506	0.243		390	0.187	
	S	↳↓	3	C	3.0	11.0	0	1	18%	26%	1915	4000	1870	1850	3955	3935	454	0.243		345	0.187	
Pedestrian Crossing		↔	5p	A,B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↕	6p	B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↔	7p	B		Min. Crossing Time = 5Gm + 11FGm =16s																
		↕	8p	B		Min. Crossing Time = 5Gm + 11FGm =16s																

Notes:

(Nil)

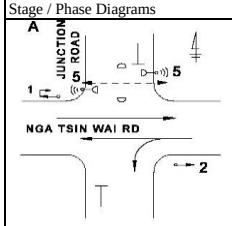
Traffic Flow (pcu / hr) Sunday AM Peak

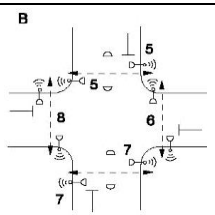


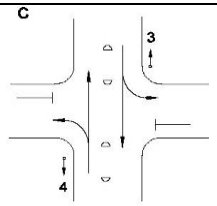
AM Peak Check Phase	
εy	0.433
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	56%

PM Peak Check Phase	
εy	0.438
L (sec)	30
C (sec)	110
y pract.	0.655
R.C. (%)	50%

Stage / Phase Diagrams







I/G = 6	I/G = 7 + 16s	I/G = 3

TRAFFIC SIGNALS CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: **Junction G - Nga Tsin Wai Road / Junction Road**

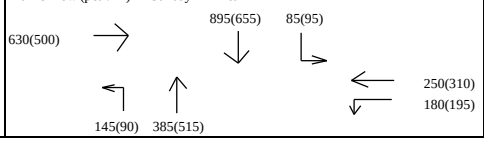
Description: **2026 Design Traffic Flow (Construction)**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m)		Nearside 0/1	Pro. Turning (%)		Saturation Flow (pcu/hr)	Total Saturation Flow (pcu/hr)	Revised Saturation Flow (pcu/hr)		Total Revised Saturation Flow (pcu/hr)		AM Peak			PM Peak		
						Left	Right		AM	PM			AM	PM	AM	PM	Flow (pcu/hr)	y Value	Critical y	Flow (pcu/hr)	y Value	Critical y
Nga Tsin Wai Road	E	→	1	A	2.5	0.0	0	1	0%	0%	1865	3920	1865	1865	3920	3920	300	0.161	0.161	238	0.128	0.135
	E	→	1	A	3.0	0.0	0	0	0%	0%	2055	0	2055	2055	0	0	330	0.161		262	0.128	
Nga Tsin Wai Road	W	←	2	A	3.5	0.0	0	0	0%	0%	2105	0	2105	2105	0	0	242	0.115		283	0.135	
	W	↰↓	2	A	2.5	10.0	0	1	96%	88%	1865	3970	1630	1650	3735	3755	188	0.115		222	0.134	
Junction Road	N	↰↑	4	C	4.0	12.0	0	1	27%	15%	2015	2015	1950	1980	1950	1980	530	0.272	0.272	605	0.306	0.306
Junction Road	S	↓	3	C	3.3	0.0	0	0	0%	0%	2085	0	2085	2085	0	0	517	0.248		398	0.191	
	S	↓→	3	C	3.0	11.0	0	1	18%	27%	1915	4000	1870	1845	3955	3930	463	0.248		352	0.191	
Pedestrian Crossing		↔	5p	A,B	Min. Crossing Time = 5Gm + 11FGm =16s																	
		↕	6p	B	Min. Crossing Time = 5Gm + 11FGm =16s																	
		↔	7p	B	Min. Crossing Time = 5Gm + 11FGm =16s																	
		↕	8p	B	Min. Crossing Time = 5Gm + 11FGm =16s																	

Notes:

(Nil)

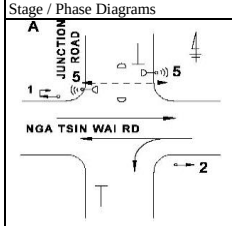
Traffic Flow (pcu / hr) Sunday AM Peak



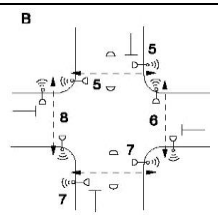
AM Peak Check Phase	
εy	0.433
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	56%

PM Peak Check Phase	
εy	0.440
L (sec)	30
C (sec)	110
y pract.	0.655
R.C. (%)	49%

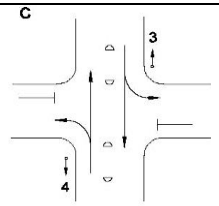
Stage / Phase Diagrams



I/G = 6



I/G = 7 + 16s



I/G = 3

JUNCTION DELAY CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: (C) Dumbarton Road/ Junction Road

Description: 2029 Design Scenario (Peak Hour)

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm

λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c

x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ss where S = saturation flow in veh/hour

c = Cycle time in seconds

g = Effective green time in seconds

q should be the flow in vehicles per second to give delay in seconds

Approach:	Dumbarton Road (EB) (LT+RT)		Junction Road (NB) (SRT)		Junction Road (SB) (SRT+RT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
q (veh/s)	408	208	446	496	692	600
g (sec)	28	23	34	48	63	69
c (sec)	108	108	108	108	108	108
s (veh/hr)	3,308	3,308	1,921	1,921	3,358	3,358
λ	0.26	0.22	0.32	0.44	0.59	0.64
x	0.47	0.29	0.73	0.58	0.35	0.28
M=qc	12.25	6.25	13.38	14.88	20.75	18.00
Delay						
d	34.18	36.00	36.61	24.42	12.03	8.95
Junction Delay (sec)	**25.0**	**19.1**				

From TPDM Vol4 Table 4.2.5

Average Queue N calculated by

N=q(r/2+d) or qr,whichever the greater

where r = effective red time

q = flow (in same units as r and d)

d = average delay per vehicle

Approach:	Dumbarton Road (EB) (LT+RT)		Junction Road (NB) (SRT)		Junction Road (SB) (SRT+RT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
r (sec)	80	85	74	60	45	39
N (veh)	**9**	**5**	**9**	**8**	**9**	**7**
Average Queue length (m)	**30.0**	**12.0**	**54.0**	**48.0**	**24.0**	**18.0**

JUNCTION DELAY CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: (D) Carpenter Road/ Junction Road

Description: 2029 Design Scenario (Peak Hour)

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda x)} + \frac{x}{2q(1-x)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} x^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm

λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c

x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Es where S = saturation flow in veh/hour

c = Cycle time in seconds

g = Effective green time in seconds

q should be the flow in vehicles per second to give delay in seconds

Approach:	Carpenter Road (SB) (LT+RT)		Junction Road (NB) (SRT+RT)		Junction Road (SB) (SRT+LT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
q (veh/s)	542	558	400	471	729	588
g (sec)	36	31	9	13	30	27
c (sec)	120	110	120	110	120	110
s (veh/hr)	3,267	3,267	3,250	3,250	3,358	3,358
λ	0.30	0.28	0.07	0.11	0.25	0.25
x	0.56	0.61	1.71	1.26	0.87	0.71
M=qc	18.06	17.06	13.33	14.39	24.31	17.95
Delay						
d	36.50	35.51	-8.73	5.16	51.97	39.57
Junction Delay (sec)	**32.4**	**28.1**				

From TPDM Vol4 Table 4.2.5

Average Queue N calculated by

N=q(r/2+d) or qr,whichever the greater

where r = effective red time

q = flow (in same units as r and d)

d = average delay per vehicle

Approach:	Carpenter Road (SB) (LT+RT)		Junction Road (NB) (SRT+RT)		Junction Road (SB) (SRT+LT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
r (sec)	84	79	111	97	90	83
N (veh)	**13**	**12**	**12**	**13**	**20**	**14**
Average Queue length (m)	**36.0**	**36.0**	**36.0**	**36.0**	**60.0**	**42.0**

JUNCTION DELAY CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: (F) Nga Tsin Wai Road / Grampian Road

Description: 2029 Design Scenario (Peak Hour)

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm

λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c

x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Es where S = saturation flow in veh/hour

c = Cycle time in seconds

g = Effective green time in seconds

q should be the flow in vehicles per second to give delay in seconds

Approach:	Grampian Road (SB) (LT+RT)		Grampian Road (NB) (SRT+RT+LT)		Nga Tsin Wai Road (WB) (SRT+RT)		Nga Tsin Wai Road (EB) (SRT+LT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
q (veh/s)	92	54	579	513	333	338	388	417
g (sec)	17	14	31	36	29	33	29	33
c (sec)	120	120	120	120	120	120	120	120
s (veh/hr)	1,594	1,594	5,071	5,071	3,425	3,425	3,308	3,308
λ	0.14	0.11	0.26	0.30	0.24	0.27	0.24	0.27
x	0.40	0.30	0.44	0.33	0.41	0.36	0.49	0.46
M=qc	3.06	1.81	19.31	17.08	11.11	11.25	12.92	13.89
Delay								
d	48.82	50.63	37.66	32.69	39.03	35.93	40.00	37.17
Junction Delay (sec)	**39.4**	**35.7**						

From TPDM Vol4 Table 4.2.5

Average Queue N calculated by

N=q(r/2+d) or qr,whichever the greater

where r = effective red time

q = flow (in same units as r and d)

d = average delay per vehicle

Approach:	Grampian Road (SB) (LT+RT)		Grampian Road (NB) (SRT+RT+LT)		Nga Tsin Wai Road (WB) (SRT+RT)		Nga Tsin Wai Road (EB) (SRT+LT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
r (sec)	103	106	89	84	91	87	91	87
N (veh)	**3**	**2**	**14**	**12**	**8**	**8**	**10**	**10**
Average Queue length (m)	**18.0**	**12.0**	**30.0**	**24.0**	**24.0**	**24.0**	**30.0**	**30.0**

JUNCTION DELAY CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: (G) Nga Tsin Wai Road / Junction Road

Description: 2029 Reference Scenario (Peak Hour)

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda x)} + \frac{x}{2q(1-x)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} x^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm

λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c

x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Es where S = saturation flow in veh/hour

c = Cycle time in seconds

g = Effective green time in seconds

q should be the flow in vehicles per second to give delay in seconds

Approach:	Junction Road (SB) (LT+RT)		Juntion Road (NB) (SRT+LT)		Nga Tsin Wai Road (WB) (SRT+LT)		Nga Tsin Wai Road (EB) (SRT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
q (veh/s)	813	625	454	513	367	425	542	429
g (sec)	55	54	55	54	33	24	33	24
c (sec)	120	110	120	110	120	110	120	110
s (veh/hr)	3,333	3,333	1,679	1,679	3,308	3,308	3,267	3,267
λ	0.46	0.49	0.46	0.49	0.28	0.22	0.28	0.22
x	0.53	0.38	0.59	0.62	0.40	0.59	0.60	0.60
M=qc	27.08	19.10	15.14	15.66	12.22	12.99	18.06	13.11
Delay								
d	24.04	18.09	26.17	22.73	36.12	39.63	38.79	39.84
Junction Delay (sec)	**30.2**	**28.6**						

From TPDM Vol4 Table 4.2.5

Average Queue N calculated by

N=q(r/2+d) or qr,whichever the greater

where r = effective red time

q = flow (in same units as r and d)

d = average delay per vehicle

Approach:	Junction Road (SB) (LT+RT)		Juntion Road (NB) (SRT+LT)		Nga Tsin Wai Road (WB) (SRT+LT)		Nga Tsin Wai Road (EB) (SRT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
r (sec)	65	56	65	56	87	86	87	86
N (veh)	**15**	**10**	**8**	**8**	**9**	**10**	**13**	**10**
Average Queue length (m)	**42.0**	**30.0**	**24.0**	**24.0**	**24.0**	**30.0**	**42.0**	**30.0**

JUNCTION DELAY CALCULATION Job No: 23041HK **CTA Consultants Ltd.**

Junction: (G) Nga Tsin Wai Road / Junction Road

Description: 2029 Design Scenario (Peak Hour)

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm

λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c

x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Es where S = saturation flow in veh/hour

c = Cycle time in seconds

g = Effective green time in seconds

q should be the flow in vehicles per second to give delay in seconds

Approach:	Junction Road (SB) (LT+RT)		Juntion Road (NB) (SRT+LT)		Nga Tsin Wai Road (WB) (SRT+LT)		Nga Tsin Wai Road (EB) (SRT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
q (veh/s)	829	638	454	513	371	433	542	429
g (sec)	55	54	55	54	33	24	33	24
c (sec)	120	110	120	110	120	110	120	110
s (veh/hr)	3,333	3,333	1,679	1,679	3,308	3,308	3,267	3,267
λ	0.46	0.49	0.46	0.49	0.28	0.22	0.28	0.22
x	0.54	0.39	0.59	0.62	0.41	0.60	0.60	0.60
M=qc	27.64	19.48	15.14	15.66	12.36	13.24	18.06	13.11
Delay								
d	24.21	18.18	26.17	22.73	36.17	39.79	38.79	39.84
Junction Delay (sec)	**30.2**	**28.6**						

From TPDM Vol4 Table 4.2.5

Average Queue N calculated by

N=q(r/2+d) or qr,whichever the greater

where r = effective red time

q = flow (in same units as r and d)

d = average delay per vehicle

Approach:	Junction Road (SB) (LT+RT)		Juntion Road (NB) (SRT+LT)		Nga Tsin Wai Road (WB) (SRT+LT)		Nga Tsin Wai Road (EB) (SRT)	
	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak	A.M. Peak	P.M. Peak
r (sec)	65	56	65	56	87	86	87	86
N (veh)	**15**	**10**	**8**	**8**	**9**	**10**	**13**	**10**
Average Queue length (m)	**42.0**	**30.0**	**24.0**	**24.0**	**24.0**	**30.0**	**42.0**	**30.0**