Appendix A

Traffic Impact Assessment

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Traffic Impact Assessment (TIA)

For

Section 16 Application

For

Proposed Temporary Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop

For a Period of 3 Years

and Associated Filling of Land and Pond

at the Remaining Portion (RP) of 342 (Part)and RP of 343

in Demarcation District (D.D.) 87,

North New Territories, Hong Kong

Proposed by: **Prudential Surveyors International Limited**
Revision: **-**
Date: **December 2023**

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1 Introduction

1.1 Background

1.1.1 Prudential Surveyor International Limited (PSIL) was commissioned by the Applicant to conduct a Traffic Impact Assessment (TIA) study to support the Section 16 Application of the Town Planning Ordinance (TPO) to the Town Planning Board (TPB) for the proposed development at the Remaining Portion (RP) of 342 (Part) and RP of 343 in Demarcation District (D.D.) 87, North New Territories, Hong Kong (the Site). **Figure 1.1** indicated the location of the development site. The application is for a proposed temporary Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop for a period of 3 Years and Associated Filling of Land and Pond.

1.1.2 This Study is to examine the impact of the traffic generated by the proposed development on the road networks in the near vicinity. Any deficiency would be identified, and improvement proposals would be recommended if necessary to resolve any foreseeable problems.

1.2 Study Objectives

1.2.1 The main objectives of the study are as follow:

- to assess the existing traffic conditions in the vicinity of the proposed development;
- to forecast traffic demands on the adjacent road network;
- to estimate the likely traffic trips generated by the proposed development based on the updated planning parameters;
- to assess the impacts of traffic generated by the proposed development on the adjacent road network and pedestrian facilities; and
- to recommend improvement measures, if necessary, to alleviate any traffic or pedestrian problems on the road network or pedestrian facilities.

1.3 Report Structure

1.3.1 The structure of this TIA consists the following:

- Chapter 1 – Introduction
- Chapter 2 – Proposed Development Parameters
- Chapter 3 – Existing Traffic Conditions
- Chapter 4 – Traffic Forecast
- Chapter 5 – Traffic Impact Assessment
- Chapter 6 – Summary and Conclusion

2 Proposed Development Parameters

2.1 Site Location

2.1.1 As shown in **Figure 1.1**, the proposed development is located at the Remaining Portion (RP) of 342 (part) and RP of 343 in Demarcation District (D.D.) 87, North New Territories, Hong Kong.

2.2 Proposed Development

2.2.1 The proposed development is for a temporary Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop for a period of 3 Years and Associated Filling of Land and Pond. The proposed Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop will consist of container freight area, a site office, a loading and unloading area, and a container vehicle repair workshop, parking and loading/unloading.

2.2.2 The development parameters for the proposed development are shown in **Table 2.1.**

Major Development Parameters	**Proposed Development**
Site area	About 3,060 m^2
Applied Use	Temporary Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop for a period of 3 Years and Associated Filling of Land and Pond
No. of Temporary Structures	1 nos. structure for Freight Working Area *(h: not exceeding 7m, l: not exceeding 20m, w: not exceeding 13m)* 1 nos. of Site Office *(h: not exceeding 3m, l: not exceeding 7m, w: not exceeding 3m)* 1 nos. of Vehicle Repair Workshop *(h: not exceeding 7m, d: not exceeding 25m, w: not exceeding 20m)*
Storage of Containers	Containers will be stored and stacked in the container freight area. (With maximum of 4 containers stacked (approx. 12m)
Parking Provision	Nos. 1 Private Parking *(l: 5m, w: 3.5m)* Nos. 1 Lorry *(l: 11m, w: 3.5m)*

Table 2.1 Development Parameters of the Proposed Development

2.2.3 The Site is accessible via Kong Nga Po Road.

2.3 Parking Provision of Proposed Development

2.3.1 Based on the operational requirements put forward by the Applicant, the proposed parking provision for the development are summarized below:

Type of Development	HKPSG Requirements	Provision
Rural Based Industrial Use: 1 Establishment Total GFA: approx. 581m²	• 1 parking space per establishment or 1 parking space for every 900m² GFA of the establishment, whichever is the greater, for lorry/visitor parking • One half of spaces set aside for lorries should be able to be used for loading/unloading	1 Accessible Parking / Private Parking (5m x 3.5m) + 1 Lorry Parking (11m x 3.5m)

Table 2.2 Parking and Loading/Unloading Provision in the Proposed Development

2.3.2 As shown in **Figure 2.1**, the Site is about 1.6km from Man Kam To Road with minibus and franchised bus services. As there will be no visitors, and staff would assess the proposed development location by own transport, the demand of parking induced by site users is therefore predicted to be relatively low and can be self-managed.

2.4 Vehicular Accesses of the Proposed Development

2.4.1 The vehicular access entrance to the Site will be via Kong Nga Po Road. At present, Kong Nga Po Road is a single-2 lane two-way rural road running in east-west direction and connected to Man Kam To Road at the west end.

2.4.2 As shown in the swept path (**Figure 2.2**), the 16m long tractor unit may turnaround within the site and complete the loading/unloading of container box.

2.4.3 After the loading/unloading of cargo within the site, the tractor unit can turn right to the access road connecting Kong Nga Po Road directly. Therefore no tail-back is required at the run-in/out.

3 Existing Traffic Conditions

3.1 Study Area

3.1.1 In order to assess the junctions which may be affected by the Proposed Development, the extent of Area of Influences (AOI) is therefore proposed to cover the junctions that along the major vehicular access routes of the Proposed Development. The extent of AOI for the TIA study are indicated on **Figure 1.1**.

3.2 Existing Road Network

3.2.1 The existing road network that serves the Proposed Development has indicated that the Site is mainly served by Kong Nga Po Road.

3.2.2 Kong Nga Po Road is a single-2 lane two-way rural road running in east-west direction and connected to Man Kam To Road at the west end.

3.2.3 Man Kam To Road is a rural road with 3 to 4 traffic lanes running in north-south direction and connected to Man Kam To Control Point and north of Sheung Shui Area.

3.3 Existing Public Transport Services

3.3.1 The nearest rail station to the subject site would be the Sheung Shui MTR station, which is located around 3 km away from the Site. At present, there is one franchised bus route operating from the vicinity to the Site. The public transport service is summarised in **Figure 2.1** and illustrated in **Table 3.1** below.

Bus Route	Service Provider	Destinations	Frequency
73K	KMB	Sheung Shui/ Man Kam To (San Uk Ling)	15-30 mins

Table 3.1 Existing Public Transport Services in the vicinity

3.3.2 As there are minimal visitors for the Proposed Development, the generated public transport passengers will be absorbed by existing services.

3.4 Traffic Survey

3.4.1 Manual classified traffic count surveys have been conducted on 14th November, 2023, a normal weekday during the morning and evening peak period (0730 to 1030 and 1530 to 1830 hours) at the identified key junctions.

3.4.2 Since the nearest junction of main roads in the vicinity is Man Kam To Road / Kong Nga Po Road which is about 2km from the Site, the identified key junctions along the anticipated vehicular access routes to/from the Site are limited and listed in **Table 3.2**.

Junction	Location	Control Method
J1	Man Kam To Road / Kong Nga Po Road	Priority
J2	Kong Nga Po Road / Access Road to the Site	Priority

Table 3.2 Identified Key Junctions

3.4.3 As indicated by the survey results, the peak hour traffic of the local area would occur during 0900 to 1000 and 1615 to 1715 in the morning and evening periods respectively. The observed peak hour traffic flows at the identified key junction and road links are presented in **Figure 3.1**.

3.5 Existing Traffic Conditions

3.5.1 Junction capacity assessments were carried out at the key junctions as listed in **Table 3.2** based on the observed peak hour traffic flows. The results are summarized in **Table 3.3** and the detailed calculation sheets are shown in **Appendix A**.

Junction	Road	Type	2023 RC/DFC	
			AM Peak	PM Peak
J1	Man Kam To Road / Kong Nga Po Road	Priority	0.30	0.19
J2	Kong Nga Po Road / Access Road to the Site	Priority	0.07	0.07

Table 3.3 Operational Performance of Critical Junctions in 2023

3.5.2 The above assessment result showed the junctions are currently operating with ample capacities during both AM and PM peak hours.

4 Traffic Forecast

4.1 Methodology

4.1.1 The construction of the Proposed Development is tentatively programmed for commencement in early 2024 and completion by late 2024. Therefore, it is proposed to adopt 2027 (3 years after completion) as the design year for this TIA study.

4.1.2 The growth rate used was derived by referring to the past traffic growth trend and the latest Territorial Population and Employment Data Matrix (TPEDM) of the New Territories Northeast Area. The detailed growth factor methodology will be covered in **Section 4.2**.

4.1.3 The major developments under planning within the local area will also be considered in the traffic forecast. There is currently one planned police facility in the vicinity and will be considered in this study.

4.1.4 Trip generation were estimated based on the daily operation arrangement of the Proposed Development. The traffic generations were then assigned to the surrounding road network based on the existing traffic pattern and superimposed onto the reference traffic forecasts to create the design year forecasts for assessment use.

4.2 Growth Rate Determination

4.2.1 The background traffic forecasts at design year 2027 were projected by applying a growth rate to the adjusted model traffic flow and the observed traffic flow. The growth rates were determined with reference to the Annual Traffic Census (ATC) Reports published by TD and 2019-based TPEDM planning data published on the website of Planning Department (PlanD). The derivation of the growth rate is presented in the following paragraphs.

Annual Traffic Census

4.2.2 The historical traffic growth trend of the major roads in the vicinity of the Proposed Development was reviewed by making reference to the ATC reports. The Annual Average Daily Traffic (AADT) data from year 2016 to year 2022 were extracted and the estimated average annual growth rate is given in **Table 4.1**.

Station No.	Road Link	Average Annual Daily Traffic (AADT)							Growth Rate (p.a.)
		2016	2017	2018	2019	2020	2021	2022	2016 - 2022
5465	Man Kam To Road (Rural Road)	16,990	16,720	17,130	16,900	17,270	17,960	17,410	**+0.41%**

Table 4.1 Average Annual Daily Traffic Data

4.2.3 As shown in **Table 4.1**, it is recorded that there is a slight increase of +0.41% p.a. of AADT flows of ATC from 2016 to 2022.

Territorial Population and Employment Data Matrix

4.2.4 Reference was also made to the open version of the latest 2019-based TPEDM from year 2019 to year 2027 in the "NORTHEAST NEW TERRITORIES". The average annual growth rates in terms of population and employment from year 2019 to 2027 and the estimated growth rates are illustrated in **Table 4.2**.

Northeast New territories	Population	Employment	Population + Employment	Growth Rate from 2019 to 2026 (p.a.)
Year 2019	*1 316 700*	*421 000*	*1 737 700*	+0.85%
Year 2026	*1 431 950*	*411 500*	*1 843 450*	**Growth Rate from 2026 to 2027 (p.a.)**
Year 2027	*1 547 650*	*438 000*	*1 985 650*	+1.50%

Table 4.2 Territorial Population and Employment Data Matrix Planning Data

4.2.5 As shown in **Table 4.2**, the annual growth rate determined from the sum of population and employment are about +0.85% p.a. from 2019 to 2026 year and +1.5% p.a. from year 2026 to year 2027.

Adopted Growth Rate

4.2.6 As the derived growth rate from AADT historical data and planning data in ATC reports is the highest amount from the two sets of data, a growth rate of +1.5% p.a. from 2022 to 2027 year will be adopted to produce the year 2027 background traffic flows in order to conduct a conservative assessment.

4.3 Planned Development

4.3.1 Several planned developments have been identified in the local area and considered in the TIA study. Locations of the planned developments are illustrated in **Figure 4.1** and their details are descripted as follows:

- The Planned Police Facilities will include various existing police facilities in the North District including the Lo Wu and Ma Tso Lung firing ranges, the police driving and traffic training facilities and weapons training facilities at Fanling, and other proposed police training facilities. The police facilities to be accommodated at the Kong Nga Po site will have a total floor area of about 35,000m^2 and a maximum building height of 5 storeys which will be subject to change at the detailed design stage.

Project	Parameter	Assumed Traffic Generation (pcu/hr)			
		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
Planned Police Facilities	**GFA 35,000 m^2**	60	86	55	41

Table 4.3 Traffic Generation of Planned Development in the Area

4.3.2 The potential cumulative effect of the traffic impact induced by the above-mentioned planned development will be taken into account when deriving the 2027 reference traffic forecasts. The 2027 year reference traffic flows are shown in **Figure 4.2**.

5 Traffic Impact Assessment

5.1 Methodology

5.1.1 The operational performance of junctions has been assessed based on the traffic forecast produced in **Section 4** according to the procedures outlined in TPDM under both Reference (without the Proposed Development) and Design (with the Proposed Development) scenarios at the design year 2027.

5.2 Development Traffic Generation

5.2.1 Trip generation were estimated based on the daily operation arrangement of the Proposed Development.

5.2.2 Users of the Proposed Development will be solely for internal operations of the Applicant. The estimated daily number of trips is estimated as follows:

Services	Type of Vehicles	Estimated Trips (To and from the Premises)	Time Period
Cargo delivery	Tractor Unit	2 per hour (6pcu/hour)	0800 to 1100
		2 per hour (6pcu/hour)	1500 to 1800

Table 5.1 Estimated Vehicle Trip Generated from the Proposed Development

5.2.3 As presented in the above table, the Proposed Development will produce approx. 6pcu/hr during morning and evening peak hour periods. For conservative assessment, 6pcu/hr of one-way or 12pcu/hr of two-way development traffic is assigned to different directions of the road network. The traffic generated by the Proposed Development will be assigned onto the surrounding road network and superimposed onto the 2027 reference traffic flows to produce the 2027 design traffic flows (with the Development). The 2027 design traffic forecasts are shown in **Figure 5.1**.

5.3 Junction Capacity Assessment

5.3.1 Junction operational assessment has been carried out at the key junctions for the year 2027 Reference and Design scenarios. It covers total of two junctions within the extent of AOI of the study. The results of different assessment scenarios are shown in **Table 5.2** and the detail calculation sheets are shown in **Appendix A**.

Reference	Junction	Type	2027 RC/DFC			
			Reference Scenario (Without development)		Design Scenario (With Development)	
			AM	PM	AM	PM
J1	Man Kam To Road / Kong Nga Po Road	Priority	0.48	0.34	0.49	0.35
J2	Kong Nga Po Road / Access Road to the Site	Priority	0.07	0.08	0.08	0.09

Table 5.2 Junction Capacity Assessment of Critical Junctions in 2027

5.3.2 As shown in the above table, all of the identified key junctions are still operated within its capacity limit even with the operation of the Proposed Development in design year 2027.

6 Summary and Conclusion

6.1 Summary

6.1.1 This report presents the traffic impact of the Proposed Development at the Remaining Portion (RP) of 342 (part) and RP of 343 in Demarcation District (D.D.) 87, North New Territories, Hong Kong. The construction of Proposed Development is tentatively to be commenced in early 2024 and completed by late 2024.

6.1.2 The vehicle accessing the subject site will be travel via Kong Nga Po Road from Man Kam To Road.

6.1.3 The existing traffic condition has been reviewed. It is not expected that the on-site staff members will require public transport facilities to access the Site, instead they will be commuting via private vehicles. Thus, additional public transport provision is considered not required.

6.1.4 The trip generation and attraction to be generated by the Proposed Development have been estimated based on Daily Operation of the Site.

6.1.5 Design year at 3 years after the completion of the Proposed Development has been adopted for the traffic assessment. Traffic forecasts have been carried out for the design year of 2027.

6.1.6 The junction assessment results indicate that all of the identified key junctions are still operated within its capacity limit even with the operation of the Proposed Development in design year 2027.

6.2 Conclusion

6.2.1 It is concluded that the proposed Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop is acceptable from traffic engineering perspective.

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Figures

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KEY PLAN

LEGEND

- Site Boundary
- Area of Influence
- 500m Radius
- Key Junctions (J1)

Source: HKMS 2.0 iB5000 3-NW-C (07.11.2023) and Topographical Survey on 14.11.2023

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File Name : . .
Source : . .

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JOB TITLE:
Section 16 Application for Proposed Temporary Logistic Centre, Warehouse (excluding Dangerous Goods) and Vehicle Repair Workshop for a Period of 3 Years and Associated Filling of Land and Pond at the Remaining Portion (RP) of 342 (part) and RP of 343 in Demarcation District (D.D.) 87, North New Territories, Hong Kong

Drawing Title
STUDY AREA AND AREA OF INFLUENCE

Rev	Description	Date

Drawn	Date	Drawing No.
CN	20/11/2023	Figure 1.1
Checked	Approved	
RT	RT	
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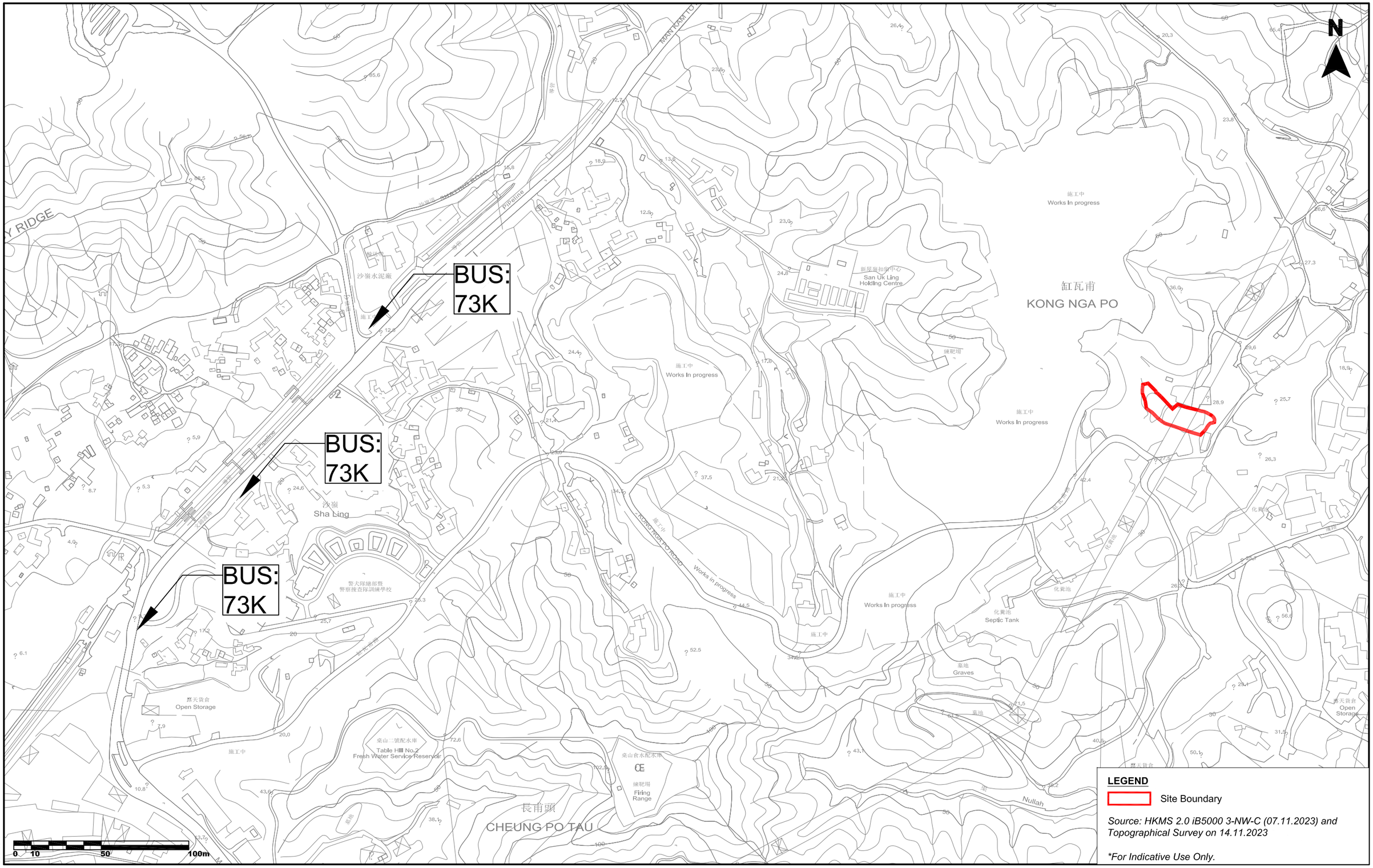

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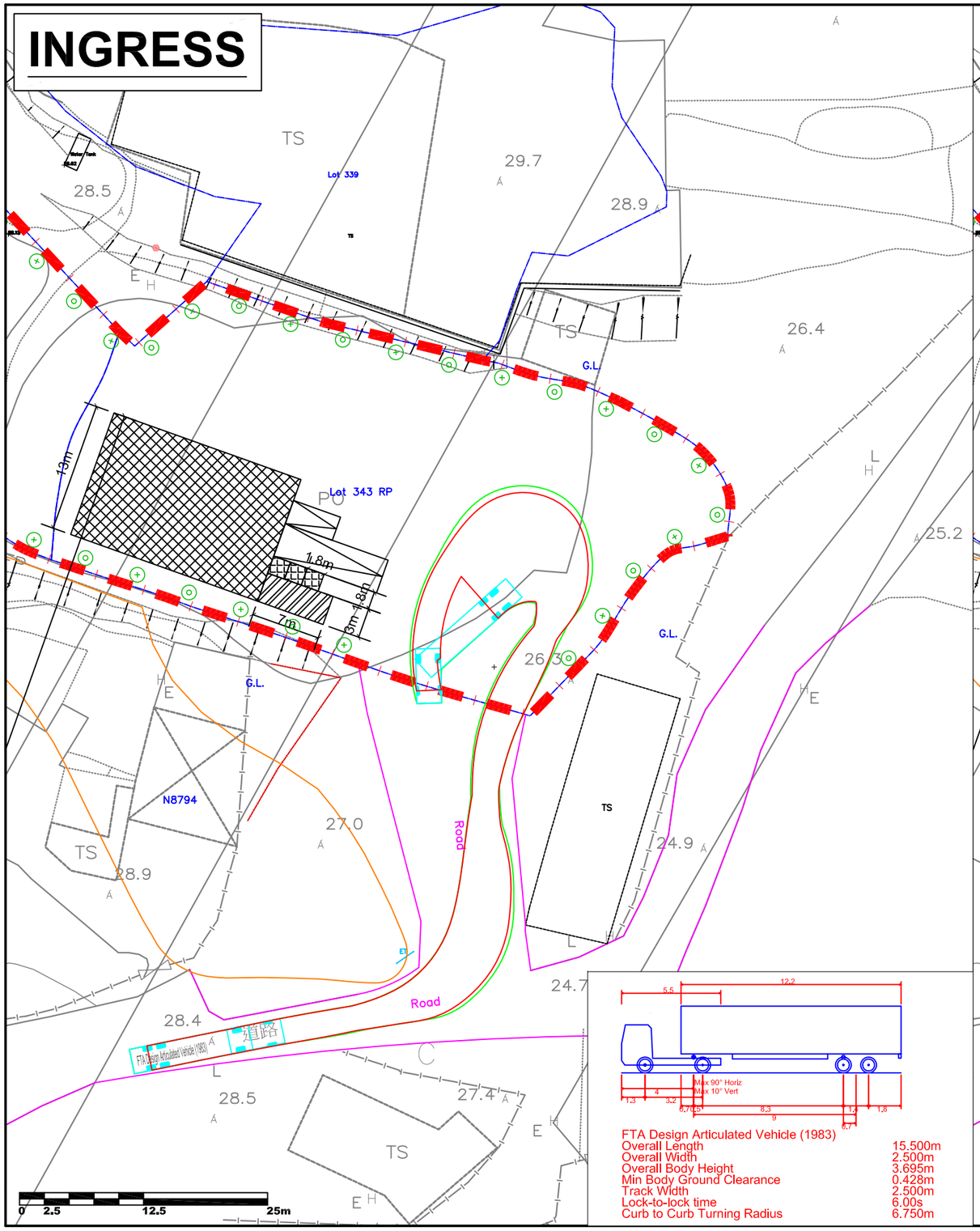
Drawing Title
LOCATION OF PUBLIC TRANSIT

Rev	Description	Date

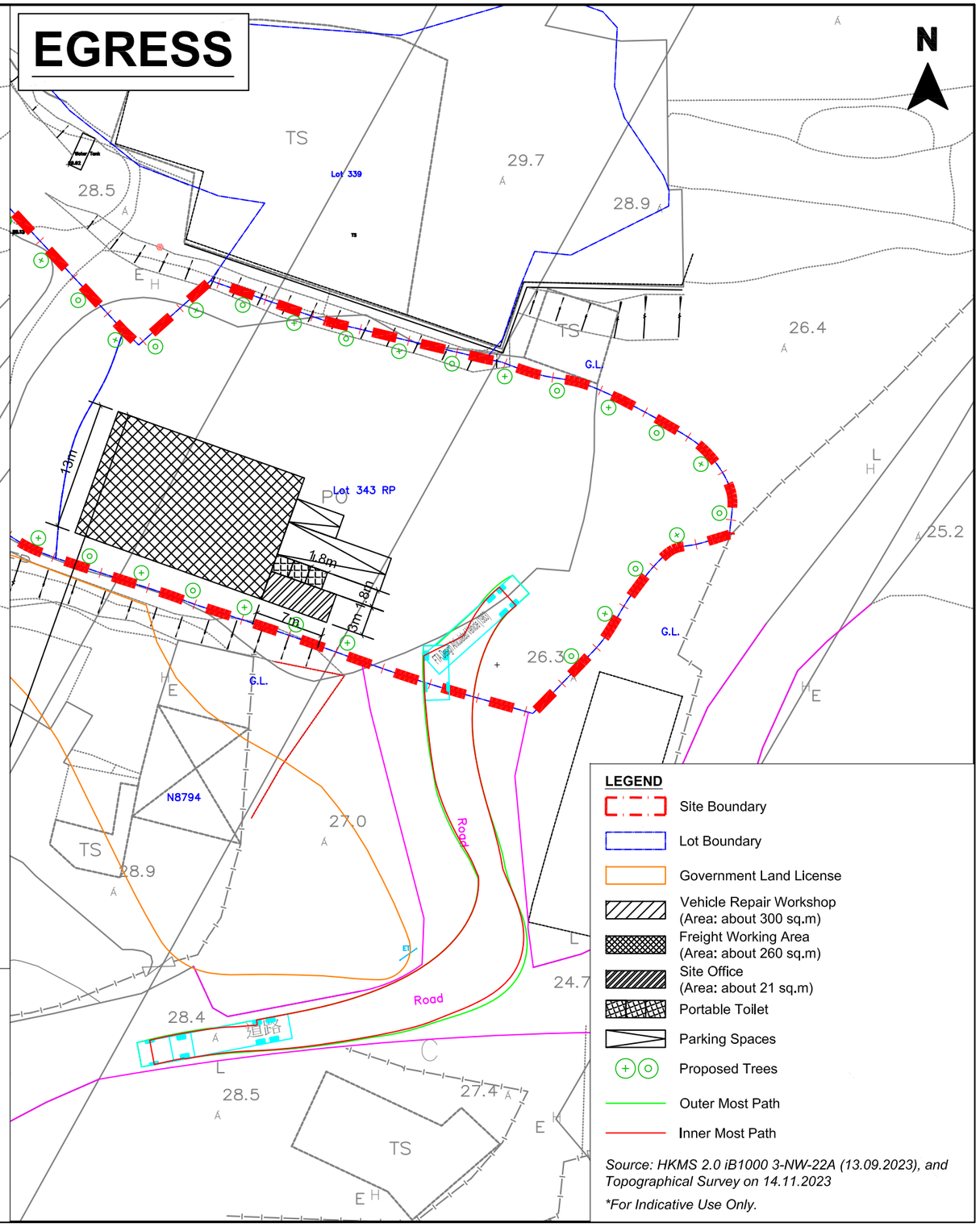
Drawn	Date	Drawing No.
CN	20/11/2023	Figure 2.1
Checked	Approved	
RT	RT	
Scale: 1:2000 @ A3		Rev. -

INGRESS



FTA Design Articulated Vehicle (1983)	
Overall Length	15.500m
Overall Width	2.500m
Overall Body Height	3.695m
Min Body Ground Clearance	0.428m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	6.750m

EGRESS



LEGEND

- Site Boundary
- Lot Boundary
- Government Land License
- Vehicle Repair Workshop (Area: about 300 sq.m)
- Freight Working Area (Area: about 260 sq.m)
- Site Office (Area: about 21 sq.m)
- Portable Toilet
- Parking Spaces
- Proposed Trees
- Outer Most Path
- Inner Most Path

Source: HKMS 2.0 iB1000 3-NW-22A (13.09.2023), and Topographical Survey on 14.11.2023

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Drawing Title
SWEPT PATH ANALYSIS

Rev	Description	Date

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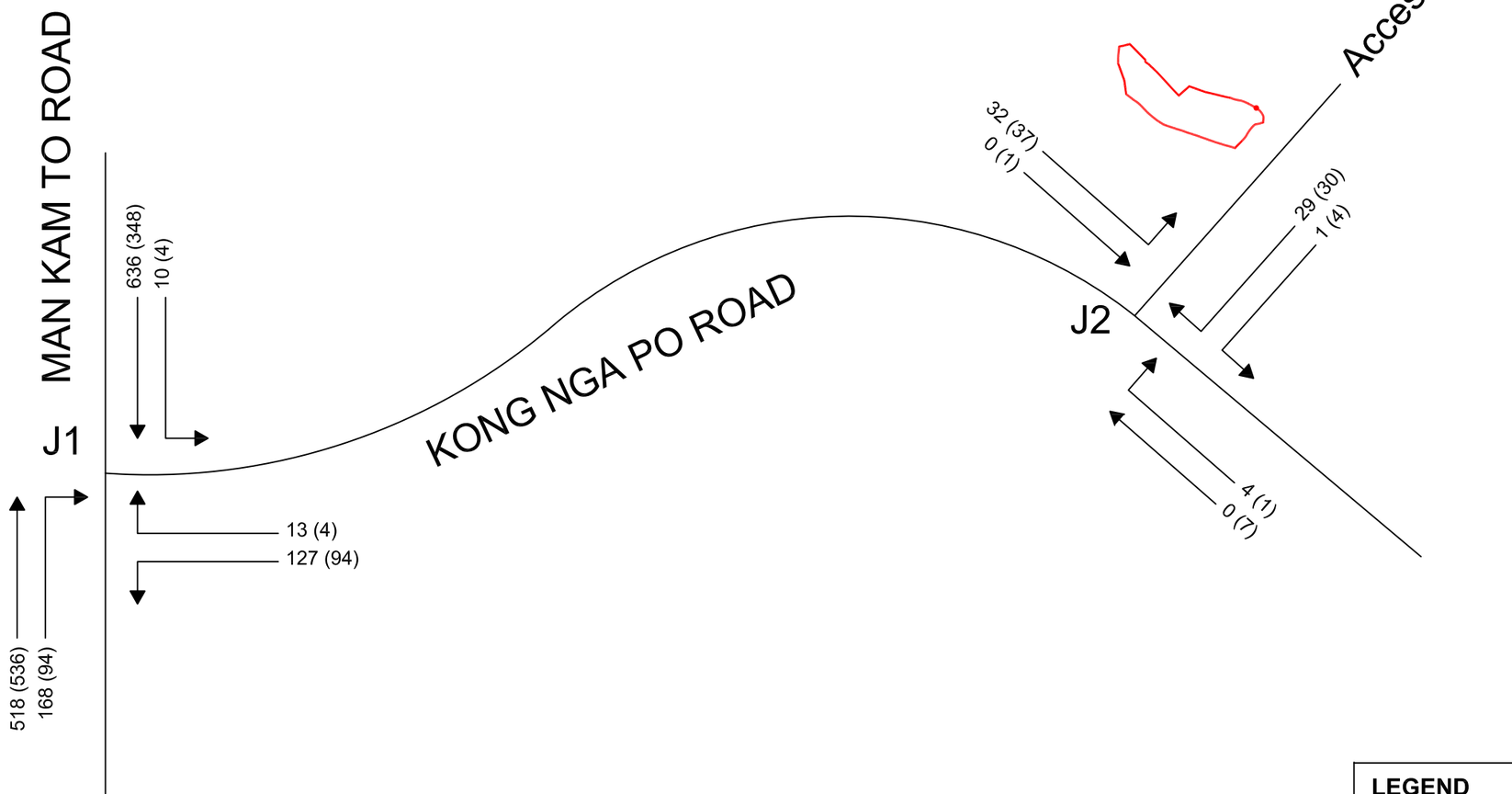

LEGEND

	SITE BOUNDARY
J1	KEY JUNCTIONS
XX (XX)	WEEKDAY AM (WEEKDAY PM) PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name : -
Source : -

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Drawing Title
2023 YEAR OBSERVED TRAFFIC FLOW

Rev	Description	Date

Drawn: CN	Date: 20/11/2023	Drawing No.: Figure 3.1	
Checked: RT	Approved: RT		
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KEY PLAN

LEGEND

Site Boundary

Planned Development

Source: HKMS 2.0 iB5000 3-NW-C (07.11.2023) and Topographical Survey on 14.11.2023

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Drawing Title

LOCATION OF PLANNED DEVELOPMENTS

Rev	Description	Date

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Drawing No.: Figure 4.1

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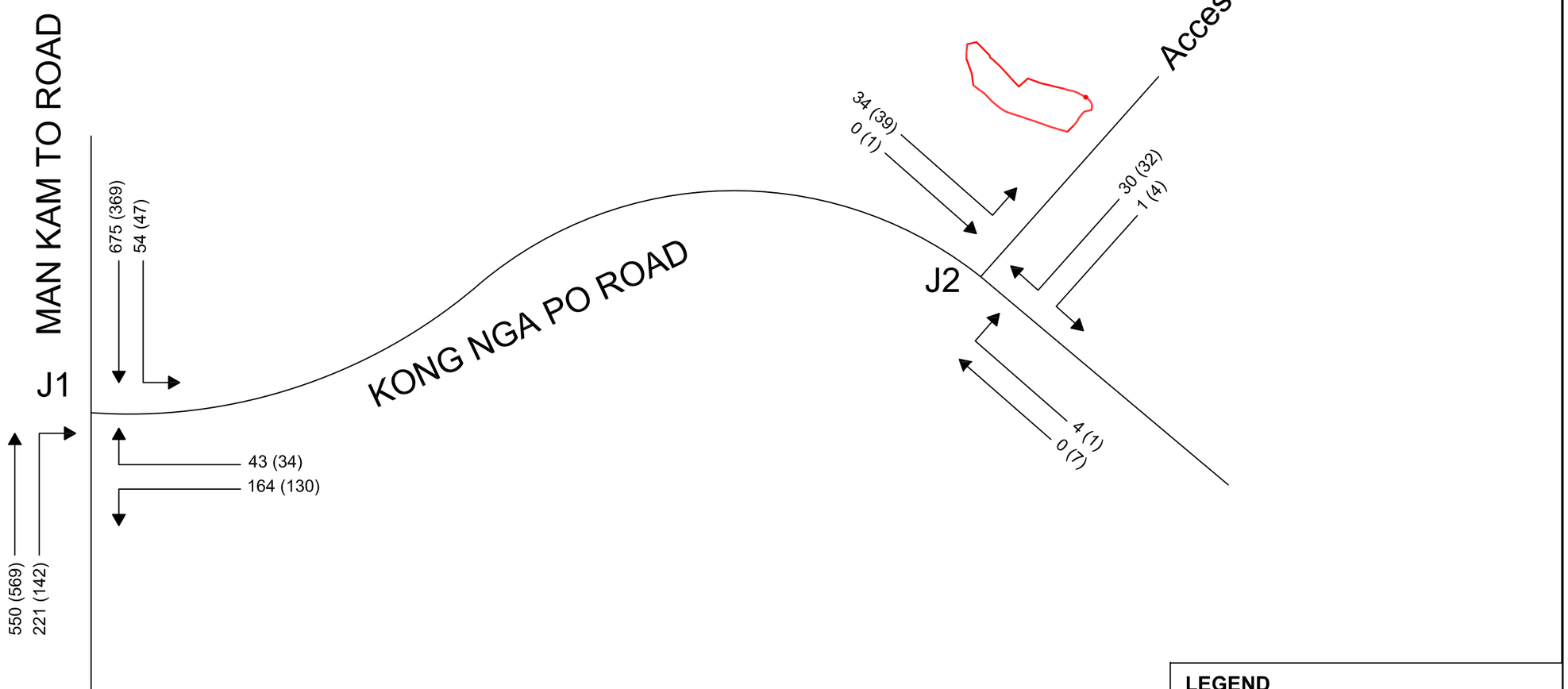

LEGEND

	SITE BOUNDARY
J1	KEY JUNCTIONS
XX (XX)	WEEKDAY AM (WEEKDAY PM) PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name : -
Source : -

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Drawing Title
2027 YEAR REFERENCE TRAFFIC FLOW

Rev	Description	Date

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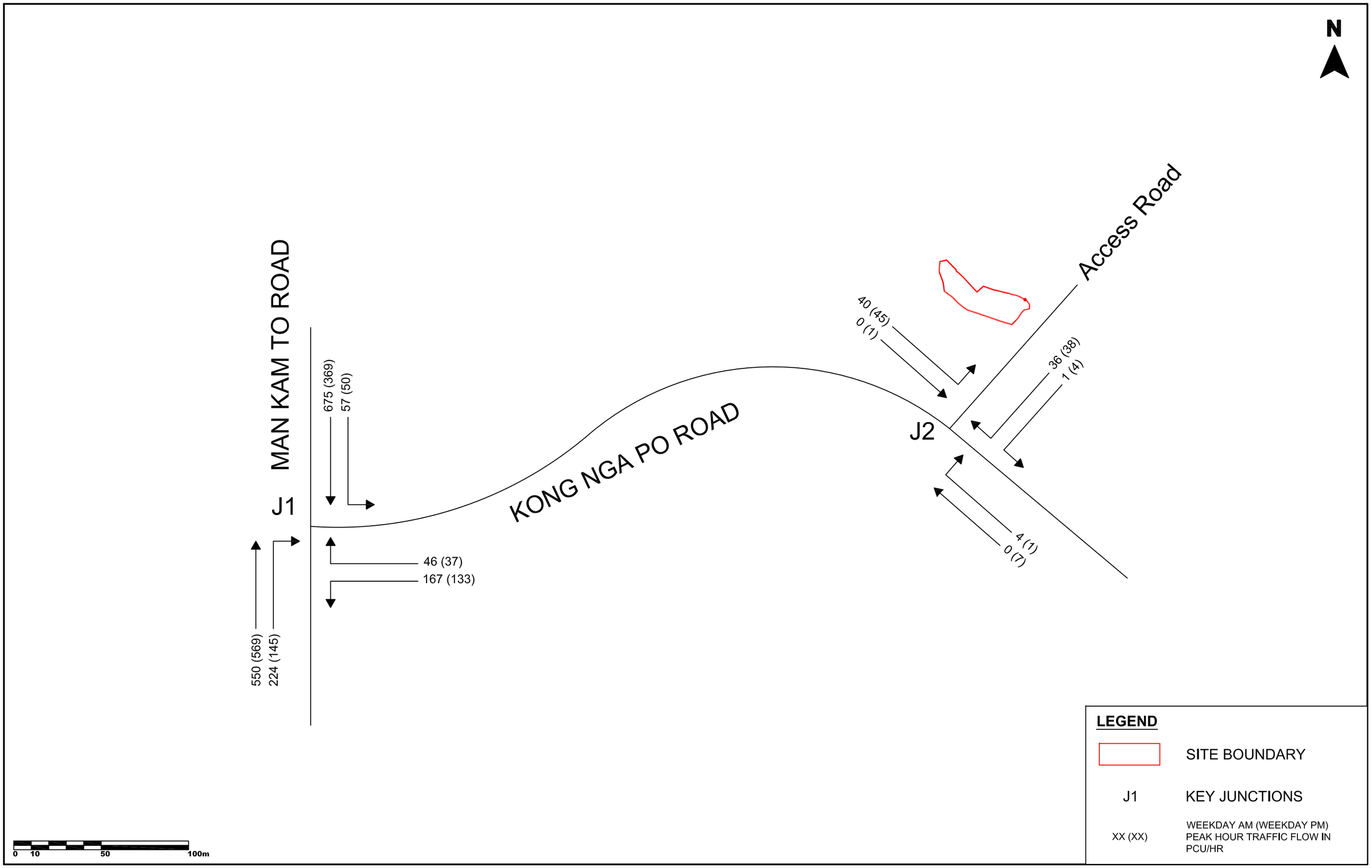

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Drawing Title
2027 YEAR DESIGN TRAFFIC FLOW

Rev	Description	Date

Drawn	Date	Drawing No.
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Appendix A

Junction Capacity Assessment

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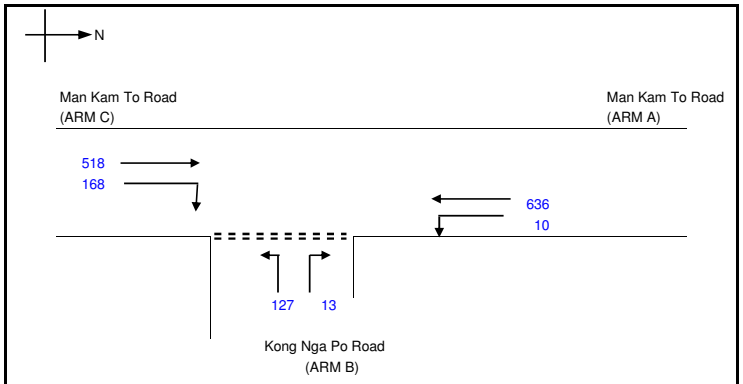
PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2023AM	PROJECT NO.: PREPARED BY:		
J1 - Man Kam To Road / Kong Nga Po Road		FILENAME : CHECKED BY:		
2023 Observed AM Peak Hour Traffic Flows		J1_MKTR-KNPR.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	14.00	(metres)
W cr	=	3.5	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	636	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	50	(metres)
q c-a	=	518	(pcu/hr)
q c-b	=	168	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	13	(pcu/hr)
q b-c	=	127	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.744171
E	=	0.7916713
F	=	0.9237883
Y	=	0.517

THE CAPACITY OF MOVEMENT :

Q b-a	=	334			
Q b-c	=	494	Q b-c (O) =	489.2	
Q c-b	=	576			
Q b-ac	=	473.1			

TOTAL FLOW = 1332.5 (PCU/HR)

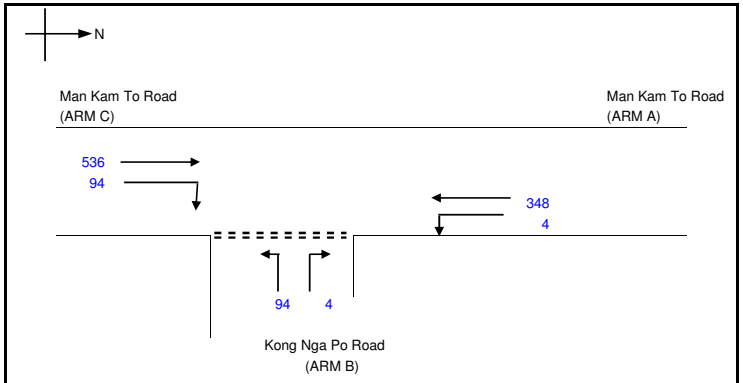
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0386
DFC b-c	=	0.2569
DFC c-b	=	0.2915
DFC b-c (share lane)	=	0.2682
DFC b-ac	=	0.2955

CRITICAL DFC = 0.30

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2023PM	PROJECT NO.: PREPARED BY:		
J1 - Man Kam To Road / Kong Nga Po Road		FILENAME : CHECKED BY:		
2023 Observed PM Peak Hour Traffic Flows		J1_MKTR-KNPR.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	14.00	(metres)
W cr	=	3.5	(metres)
q a-b	=	4	(pcu/hr)
q a-c	=	348	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	50	(metres)
q c-a	=	536	(pcu/hr)
q c-b	=	94	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	4	(pcu/hr)
q b-c	=	94	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.744171
E	=	0.7916713
F	=	0.9237883
Y	=	0.517

THE CAPACITY OF MOVEMENT :

Q b-a	=	388			
Q b-c	=	538	Q b-c (O) =	536.6	
Q c-b	=	627			
Q b-ac	=	529.5			

TOTAL FLOW = 981.4 (PCU/HR)

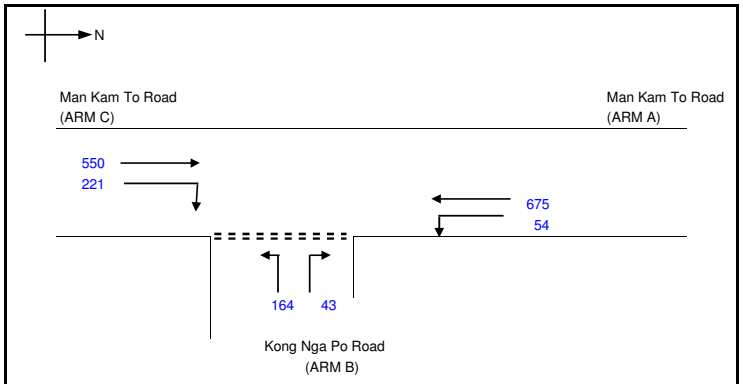
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0106
DFC b-c	=	0.1755
DFC c-b	=	0.1491
DFC b-c (share lane)	=	0.1783
DFC b-ac	=	0.1860

CRITICAL DFC = 0.19

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027REFam	PROJECT NO.: PREPARED BY:		
J1 - Man Kam To Road / Kong Nga Po Road		FILENAME : CHECKED BY:		
2027 Reference AM Peak Hour Traffic Flows		J1_MKTR-KNPR.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	14.00	(metres)
W cr	=	3.5	(metres)
q a-b	=	54	(pcu/hr)
q a-c	=	675	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	50	(metres)
q c-a	=	550	(pcu/hr)
q c-b	=	221	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	43	(pcu/hr)
q b-c	=	164	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.744171
E	=	0.7916713
F	=	0.9237883
Y	=	0.517

THE CAPACITY OF MOVEMENT :

Q b-a	=	313		
Q b-c	=	486	Q b-c (O) =	469.1
Q c-b	=	562		
Q b-ac	=	435.6		

TOTAL FLOW = 1500.086931 (PCU/HR)

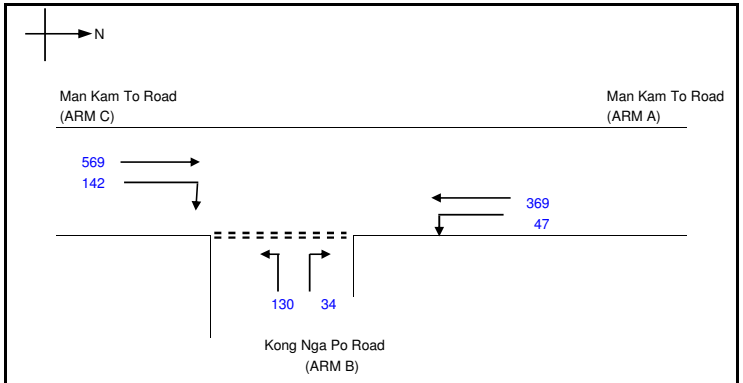
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1390
DFC b-c	=	0.3385
DFC c-b	=	0.3934
DFC b-c (share lane)	=	0.3776
DFC b-ac	=	0.4774

CRITICAL DFC = 0.48

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027REFPM	PROJECT NO.: PREPARED BY:		
J1 - Man Kam To Road / Kong Nga Po Road		FILENAME : CHECKED BY:		
2027 Reference PM Peak Hour Traffic Flows		J1_MKTR-KNPR.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	14.00	(metres)
W cr	=	3.5	(metres)
q a-b	=	47	(pcu/hr)
q a-c	=	369	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	50	(metres)
q c-a	=	569	(pcu/hr)
q c-b	=	142	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	34	(pcu/hr)
q b-c	=	130	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.744171
E	=	0.7916713
F	=	0.9237883
Y	=	0.517

THE CAPACITY OF MOVEMENT :

Q b-a	=	370		
Q b-c	=	532	Q b-c (O) =	519.7
Q c-b	=	616		
Q b-ac	=	487.6		

TOTAL FLOW = 1127.442189 (PCU/HR)

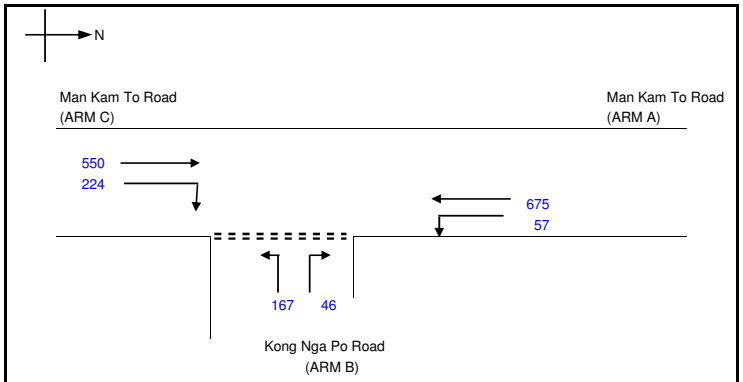
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0923
DFC b-c	=	0.2444
DFC c-b	=	0.2308
DFC b-c (share lane)	=	0.2666
DFC b-ac	=	0.3367

CRITICAL DFC = 0.34

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027desAM	PROJECT NO.: PREPARED BY:		
J1 - Man Kam To Road / Kong Nga Po Road		FILENAME : CHECKED BY:		
2027 Design AM Peak Hour Traffic Flows		J1_MKTR-KNPR.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	14.00	(metres)
W cr	=	3.5	(metres)
q a-b	=	57	(pcu/hr)
q a-c	=	675	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	50	(metres)
q c-a	=	550	(pcu/hr)
q c-b	=	224	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	46	(pcu/hr)
q b-c	=	167	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.744171
E	=	0.7916713
F	=	0.9237883
Y	=	0.517

THE CAPACITY OF MOVEMENT :

Q b-a	=	312		
Q b-c	=	486	Q b-c (O) =	467.9
Q c-b	=	561		
Q b-ac	=	433.5		

TOTAL FLOW = 1506.086931 (PCU/HR)

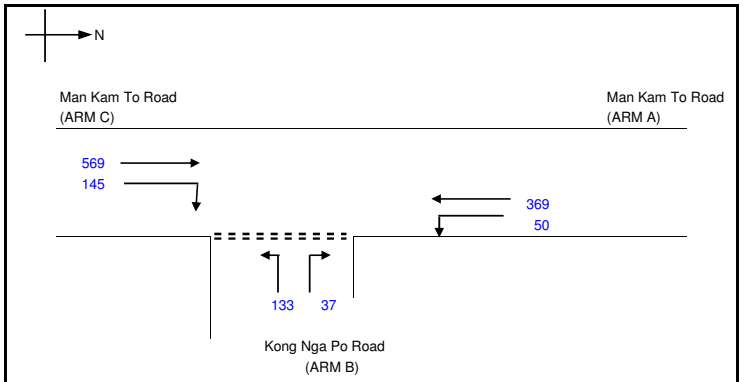
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1490
DFC b-c	=	0.3446
DFC c-b	=	0.3995
DFC b-c (share lane)	=	0.3864
DFC b-ac	=	0.4936

CRITICAL DFC = 0.49

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027desPM	PROJECT NO.: PREPARED BY:		
J1 - Man Kam To Road / Kong Nga Po Road		FILENAME : CHECKED BY:		
2027 Design PM Peak Hour Traffic Flows		J1_MKTR-KNPR.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	14.00	(metres)
W cr	=	3.5	(metres)
q a-b	=	50	(pcu/hr)
q a-c	=	369	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.50	(metres)
Vr c-b	=	50	(metres)
q c-a	=	569	(pcu/hr)
q c-b	=	145	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	50	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	37	(pcu/hr)
q b-c	=	133	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.744171
E	=	0.7916713
F	=	0.9237883
Y	=	0.517

THE CAPACITY OF MOVEMENT :

Q b-a	=	369		
Q b-c	=	532	Q b-c (O) =	518.6
Q c-b	=	615		
Q b-ac	=	485.2		

TOTAL FLOW = 1133.442189 (PCU/HR)

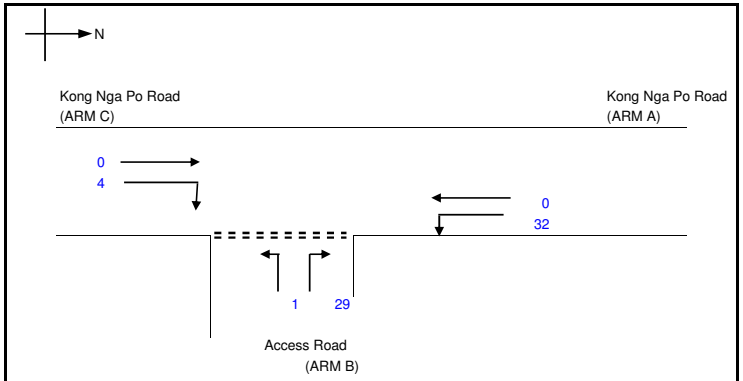
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1007
DFC b-c	=	0.2500
DFC c-b	=	0.2360
DFC b-c (share lane)	=	0.2741
DFC b-ac	=	0.3507

CRITICAL DFC = 0.35

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2023AM	PROJECT NO.: PREPARED BY:		
J2 - Kong Nga Po Road / Access Road		FILENAME : CHECKED BY:		
2023 Observed AM Peak Hour Traffic Flows		J2_KNPR-ACCESS.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.00	(metres)
W cr	=	0	(metres)
q a-b	=	32	(pcu/hr)
q a-c	=	0	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	30	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	4	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	30	(metres)
Vr b-a	=	30	(metres)
Vr b-c	=	30	(metres)
q b-a	=	29	(pcu/hr)
q b-c	=	1	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.7205578
E	=	0.7764631
F	=	0.9492351
Y	=	0.724

THE CAPACITY OF MOVEMENT :

Q b-a	=	448			
Q b-c	=	576	Q b-c (O) =	566.8	
Q c-b	=	699			
Q b-ac	=	451.7			

TOTAL FLOW = 36.3 (PCU/HR)

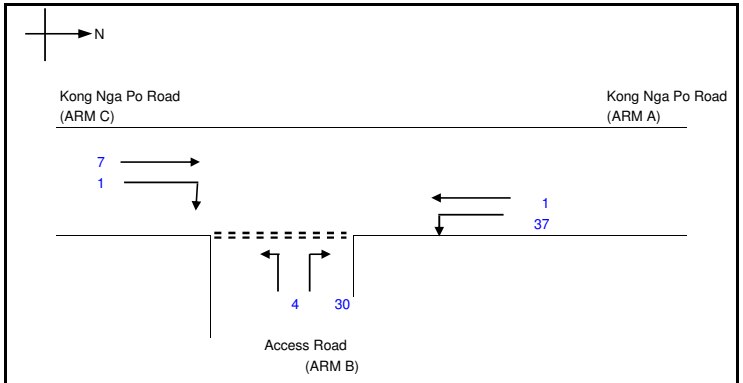
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0636
DFC b-c	=	0.0019
DFC c-b	=	0.0059
DFC b-c (share lane)	=	0.0024
DFC b-ac	=	0.0655

CRITICAL DFC = 0.07

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2023PM	PROJECT NO.: PREPARED BY:		
J2 - Kong Nga Po Road / Access Road		FILENAME : CHECKED BY:		
2023 Observed PM Peak Hour Traffic Flows		J2_KNPR-ACCESS.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.00	(metres)
W cr	=	0	(metres)
q a-b	=	37	(pcu/hr)
q a-c	=	1	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	30	(metres)
q c-a	=	7	(pcu/hr)
q c-b	=	1	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	30	(metres)
Vr b-a	=	30	(metres)
Vr b-c	=	30	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	4	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.7205578
E	=	0.7764631
F	=	0.9492351
Y	=	0.724

THE CAPACITY OF MOVEMENT :

Q b-a	=	448			
Q b-c	=	575	Q b-c (O) =	565.3	
Q c-b	=	698			
Q b-ac	=	459.9			

TOTAL FLOW = 46 (PCU/HR)

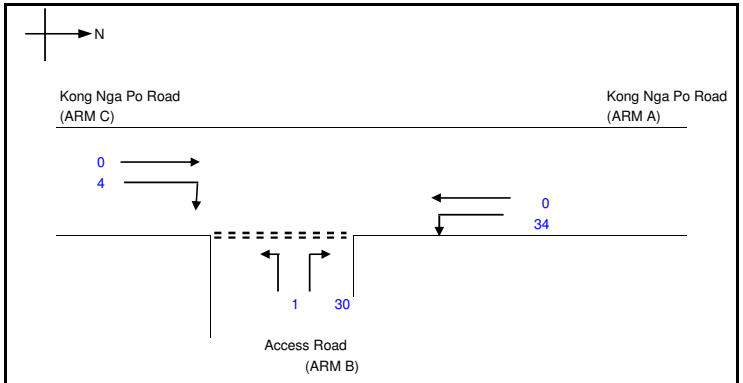
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0674
DFC b-c	=	0.0070
DFC c-b	=	0.0016
DFC b-c (share lane)	=	0.0087
DFC b-ac	=	0.0744

CRITICAL DFC = 0.07

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027refAM	PROJECT NO.: PREPARED BY:		
J2 - Kong Nga Po Road / Access Road		FILENAME : CHECKED BY:		
2027 Reference AM Peak Hour Traffic Flows		J2_KNPR-ACCESS.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.00	(metres)
W cr	=	0	(metres)
q a-b	=	34	(pcu/hr)
q a-c	=	0	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	30	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	4	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	30	(metres)
Vr b-a	=	30	(metres)
Vr b-c	=	30	(metres)
q b-a	=	30	(pcu/hr)
q b-c	=	1	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.7205578
E	=	0.7764631
F	=	0.9492351
Y	=	0.724

THE CAPACITY OF MOVEMENT :

Q b-a	=	448			
Q b-c	=	576	Q b-c (O) =	566.3	
Q c-b	=	699			
Q b-ac	=	451.7			

TOTAL FLOW = 38.52749689 (PCU/HR)

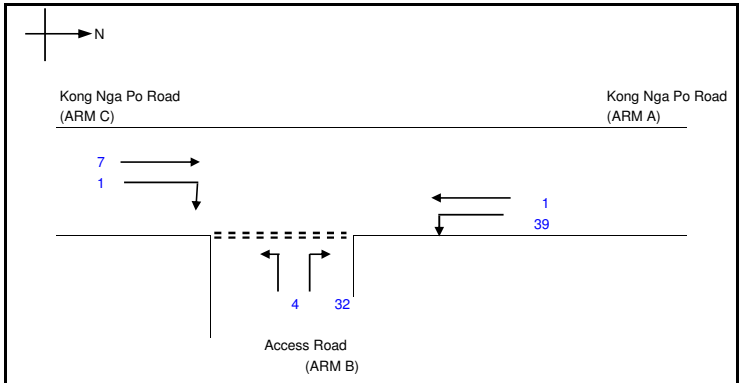
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0675
DFC b-c	=	0.0020
DFC c-b	=	0.0062
DFC b-c (share lane)	=	0.0026
DFC b-ac	=	0.0695

CRITICAL DFC = 0.07

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027refPM	PROJECT NO.: PREPARED BY:		
J2 - Kong Nga Po Road / Access Road		FILENAME : CHECKED BY:		
2027 Reference PM Peak Hour Traffic Flows		J2_KNPR-ACCESS.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.00	(metres)
W cr	=	0	(metres)
q a-b	=	39	(pcu/hr)
q a-c	=	1	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	30	(metres)
q c-a	=	7	(pcu/hr)
q c-b	=	1	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	30	(metres)
Vr b-a	=	30	(metres)
Vr b-c	=	30	(metres)
q b-a	=	32	(pcu/hr)
q b-c	=	4	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.7205578
E	=	0.7764631
F	=	0.9492351
Y	=	0.724

THE CAPACITY OF MOVEMENT :

Q b-a	=	447		
Q b-c	=	575	Q b-c (O) =	564.7
Q c-b	=	697		
Q b-ac	=	458.9		

TOTAL FLOW = 48.82272333 (PCU/HR)

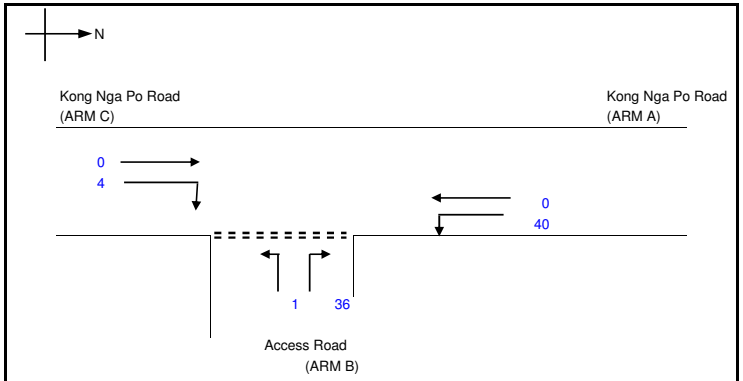
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0717
DFC b-c	=	0.0074
DFC c-b	=	0.0017
DFC b-c (share lane)	=	0.0093
DFC b-ac	=	0.0791

CRITICAL DFC = 0.08

PRIORITY JUNCTION CALCULATION

				INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027desAM	PROJECT NO.:	PREPARED BY:		
J2 - Kong Nga Po Road / Access Road		FILENAME :	CHECKED BY:		
2027 Design AM Peak Hour Traffic Flows		J2_KNPR-ACCESS.xls	REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.00	(metres)
W cr	=	0	(metres)
q a-b	=	40	(pcu/hr)
q a-c	=	0	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	30	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	4	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	30	(metres)
Vr b-a	=	30	(metres)
Vr b-c	=	30	(metres)
q b-a	=	36	(pcu/hr)
q b-c	=	1	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.7205578
E	=	0.7764631
F	=	0.9492351
Y	=	0.724

THE CAPACITY OF MOVEMENT :

Q b-a	=	448			
Q b-c	=	575	Q b-c (O) =	563.4	
Q c-b	=	697			
Q b-ac	=	451.1			

TOTAL FLOW = 44.52749689 (PCU/HR)

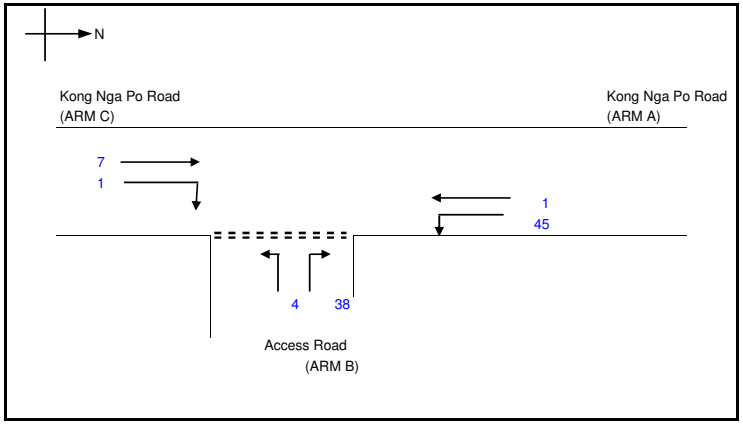
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0809
DFC b-c	=	0.0020
DFC c-b	=	0.0062
DFC b-c (share lane)	=	0.0026
DFC b-ac	=	0.0829

CRITICAL DFC = 0.08

PRIORITY JUNCTION CALCULATION

			INITIALS	DATE
S16 For Temp Logistic Centre, Warehouse (excluding dangerous goods) and Vehicle Repair Workshop and associated filling of land and pond at RP 342 and RP 343 in D.D.87	2027desPM	PROJECT NO.: PREPARED BY:		
J2 - Kong Nga Po Road / Access Road		FILENAME : CHECKED BY:		
2027 Design PM Peak Hour Traffic Flows		J2_KNPR-ACCESS.xls REVIEWED BY:		



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	8.00	(metres)
W cr	=	0	(metres)
q a-b	=	45	(pcu/hr)
q a-c	=	1	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	4.00	(metres)
Vr c-b	=	30	(metres)
q c-a	=	7	(pcu/hr)
q c-b	=	1	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	2.00	(metres)
W b-c	=	2.00	(metres)
Vl b-a	=	30	(metres)
Vr b-a	=	30	(metres)
Vr b-c	=	30	(metres)
q b-a	=	38	(pcu/hr)
q b-c	=	4	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.7205578
E	=	0.7764631
F	=	0.9492351
Y	=	0.724

THE CAPACITY OF MOVEMENT :

Q b-a	=	447		
Q b-c	=	575	Q b-c (O) =	562.8
Q c-b	=	696		
Q b-ac	=	457.2		

TOTAL FLOW = 54.82272333 (PCU/HR)

COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0851
DFC b-c	=	0.0074
DFC c-b	=	0.0017
DFC b-c (share lane)	=	0.0093
DFC b-ac	=	0.0925

CRITICAL DFC = 0.09