Annex B

Updated Report of the Water Supply Impact Assessment

Prepared for

Glory Queen Ltd.

Prepared by

Ramboll Hong Kong Limited

REZONING APPLICATION ON THE APPROVED MAI PO & FAIRVIEW PARK OZP NO. S/YL-MP/8 REZONING FROM "R(D)" TO "R(C)2" ZONE AT LOT 4822 IN D.D. 104 & ADJOINING GOVERNMENT LAND, EAST OF KAM POK ROAD, MAI PO, YUEN LONG, N.T.

WATER SUPPLY IMPACT ASSESSMENT

Date	**December 2025**
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Signed	
Project Reference	**HENKPRRDEI03**
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1. INTRODUCTION

1.1 Background and Objectives

1.1.1 The Application Site is located at Lot 4822 in D.D. 104 & adjoining government land, east of Kam Pok Road, Mai Po, Yuen Long. It is currently zoned as "Residential (D)" ("R(D)") on the Approved Mai Po & Fairview Park Outline Zoning Plan No. S/YL-MP/8.

1.1.2 The Applicant intends to increase the maximum domestic plot ratio up to 1.5, for the residential development with a maximum building height of +59.85 mPD and one block of 2-storey facility compound comprises a clubhouse, a 6-classroom kindergarten and one neighbourhood elderly centre ("NEC"). This change requires a S12A Planning Application to the approval of Town Planning Board. The forecast occupation year is 2031.

1.1.3 Ramboll Hong Kong Limited is commissioned by the Client to conduct this Water Supply Impact Assessment (WSIA) for the said residential development. Architectural drawings of the Proposed Commercial Development are provided by the project architect.

1.2 The Application Site and its Environs

1.2.1 The Application Site is bounded by Kam Pok Road to its immediate west, Fung Chuk Road to its immediate north, Ha Chuk Yuen Road to its immediate east and Ha San Wai Road to its south. Existing Ngau Tam Mei Channel is located to its farther west separated by Kam Pok Road. A "Village Type Development" ("V") zone (covering Ha San Wai Tsuen, Chuk Yuen Tsuen and Hang Fook Garden) and a Commercial/Residential ("C/R") zone are located to its farther southeast. Further to the west, north-west and south-west of the site across the said drainage channel, Yau Pok Road temporary light public housing zones and Fairview Park are located in the recreation ("REC") zone and residential ("R(C)") zone respectively.

1.2.2 **Figure 1.1** shows the location of the Application Site and its environs.

1.3 The Proposed Development

1.3.1 The proposed scheme is a medium-density residential development. With a proposed domestic plot ratio of 1.5, the proposed scheme comprises five residential blocks (namely Tower 1, Tower 2, Tower 3, Tower 5, and Tower 6) with 16 residential storeys and a maximum building height of +59.85 mPD, and one 2-storey facility compound block containing a 6-classroom kindergarten, clubhouse and one NEC. Ancillary facilities such as a basement carpark, outdoor swimming pool, E&M facilities, and sewage pumping station (SPS) are also planned. The mean site formation level proposed under the proposed scheme is about +5.4 mPD.

1.3.2 The Master Layout Plan (MLP) and section plan of the Proposed Development are shown in **Appendix 1.1**. The details of the Proposed Development schedule are summarized in **Table 1.1** below.

Table 1.1 Development Schedule

Major Development Parameters	Proposed Scheme
Application Site Area (m^2)	~37,870
Domestic GFA (m^2)	~56,805
Non-domestic GFA (m^2)	~930 (1)
No. of Units	1,303
Population	3,928 (2)

Remark:

(1) Include kindergarten (~380m^2) and NEC (~550m^2).

(2) Include both domestic population and non-domestic population.

2. WATER SUPPLY IMPACT ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this study is to assess whether the capacity of the existing water supply facilities serving the Application Site are sufficient to cope with the water demands from the Proposed Development. Data and record plans from Water Supplies Department (WSD) were obtained to facilitate the Water Supply Impact Assessment (WSIA).

2.2 Existing Water Main

2.2.1 As shown in **Appendix 2.2**, there is currently one dia 200mm freshwater main serving the Application Site along Kam Pok Road and along Ha Chuk Yuen Road. There are no saltwater mains in the vicinity of the Application Site.

2.3 Assessment Criteria and Methodology

2.3.1 The Application Site is located within the freshwater supply zone of Ngau Tam Mei Fresh Water Primary Service Reservoir (NTMFWPSR), which currently has a capacity of about 40,750m^3. The NTMFWPSR will be expanded by 2031, which will gain an additional capacity of 54,000m^3. There is no existing or planned saltwater reservoir serving the Application Site.

2.3.2 The water demand of the Proposed Development will be mainly originated from the future domestic population, clubhouse, kindergarten, NEC and fire fighting services.

2.3.3 The daily unit water demand for various classes of consumer is referenced to the Water Service Department's Departmental Instruction 1309 (WSD DI 1309). The adopted water unit demand are summarized in **Table 2.1**.

Table 2.1 Adopted Freshwater and Flushing Water Demand

Development Type	Unit	Freshwater Daily Unit Demand	Flushing water Daily Unit Demand	Reference
Residential R2	m^3/head/day	0.34 (1)	0.07	DI No. 1309
Fire service	m^3/day	6,000	-	DI No. 1309

Remark:

(1) Service trade of 40 L/head/day (Yuen Long) is adopted. Service trade consumption includes the water demand from clubhouse, kindergarten, and NEC.

2.3.4 The calculations for the water demands of the Proposed Development is indicated in **Appendix 2.1**.

2.4 Assessment of Water Supply Impact

Freshwater Supply System

2.4.1 Currently there is no saltwater main in the vicinity of the Application Site, it is assumed that freshwater will be supplied for toilet flushing within the site.

2.4.2 According to the calculation shown in **Appendix 2.1**, the future daily freshwater (including flushing water) demand for the Proposed Development is estimated to be 1610.5 m^3/day, which is less than 4% of the existing NTMFWPSR's current capacity. Given that the contribution is insignificant and that the capacity at NTMFWPSR will be further expanded by the time of operation of Proposed Development, there should be

adequate capacity at NTMFWPSR and the Proposed Development would unlikely pose any adverse impact on NTMFWPSR.

2.4.3 The Application Site is currently connected with a 200mm dia. freshwater main along Kam Pok Road. However, it does not have enough capacity to serve the Proposed Development. It is understood the existing water main is reserved for fire-fighting service for the surrounding developments. As the nearby existing freshwater main cannot cater the demand for the Proposed Development, it is proposed to construct a 300mm dia. freshwater main along Kam Pok Road and with connection to the existing 600mm dia. freshwater main underneath San Tam Road, for the future condition of the Application Site. The proposed 300mm dia. water main will serve both freshwater and flushing water demand for the Proposed Development.

2.4.4 It is noted that a new 300mm dia. freshwater main is also proposed at Kam Pok Road by the adjacent development under planning application no. Y/YL-MP/10, which will also be connected to the existing 600mm dia. freshwater main underneath San Tam Road. The adjacent development is expected to be completed by 2031. The alignment of the proposed water main under this Application (Y/YL-MP/11 refers) depends on the availability of the new 300mm dia. freshwater main under the adjacent development. There are two scenarios for the construction of freshwater main proposed under this Application (Y/YL-MP/11 refers):

Scenario 1: The construction of the 300mm dia. freshwater main under the adjacent development (Y/YL-MP/10) is completed/ available and ready for use, the proposed 300m dia. freshwater main under this Application Site (Y/YL-MP/11) will be constructed and connected to the said 300mm dia. freshwater main.

Scenario 2: The 300mm dia. freshwater main under the adjacent development (Y/YL-MP/10) is not available, this project (Y/YL-MP/11) will be responsible to construct the entire section of 300mm dia. freshwater main from the Application Site (Y/YL-MP/11) for connection to the existing 600mm dia. freshwater main underneath San Tam Road.

2.4.5 The alignment of the proposed freshwater main under the two scenarios are shown in **Figure 2.1** and **Figure 2.2**. The proposed freshwater main, which is communal, will be handed over to the HKSAR Government for maintenance.

2.4.6 According to the hydraulic capacity calculations shown in **Appendix 2.1**, the water demand for the Proposed Development will utilize about 26% of the proposed 300mm dia. freshwater main and about 7% of the existing 600mm dia. freshwater main. If the water demand for fire-fighting services is considered, the Proposed Development will utilize about 42% of the proposed 300mm dia. freshwater main and about 10% of the existing 600mm dia. freshwater main.

2.4.7 The above estimation is preliminary only, which is subject to later on detailed design stage. Similarly, the size of water main for fire-fighting system will be subject to detailed design stage. The Applicant will be responsible for all costs related to the proposed waterworks outside the Application Site boundary for the purpose of supplying water to the lot. The works shall be designed and implemented to the satisfaction of WSD.

3. OVERALL CONCLUSION

3.1.1 The potential water supply impact has been quantitatively addressed.

3.1.2 The future daily freshwater (including flushing water) demand for the Proposed Development is less than 4% of the existing freshwater service reservoir's current capacity at NTMFWPSR. Therefore, NTMFWPSR have adequate capacity to cater the water demand of the Proposed Development. No adverse water supply impact is anticipated due to the Proposed Development.

3.1.3 As the nearby existing freshwater main cannot cater the demand for the Proposed Development, a new 300mm dia. freshwater main with connection to the existing 600mm dia. freshwater main underneath San Tam Road is thus proposed to serve the Proposed Development. Based on the assessment result, the hydraulic capacity of the proposed 300mm dia. freshwater main and the existing 600mm dia. freshwater main are capable to handle both the freshwater and flushing water demand of Proposed Development.

Figures

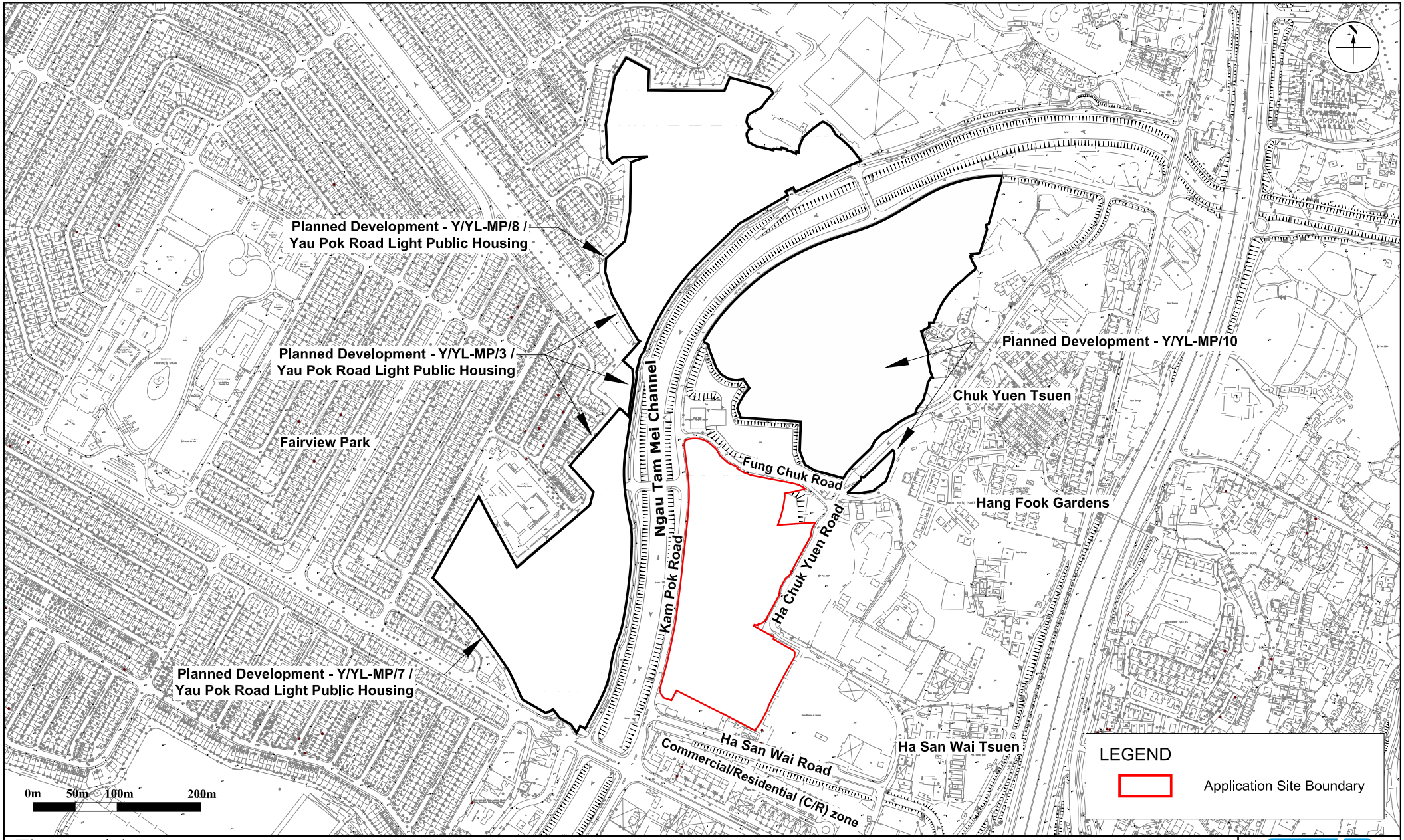

Figure: 1.1	RAMBOLL
Title: Location of the Application Site and its Environs	Drawn by: EC Checked by: HN
Project: Rezoning Application from "Residential (Group D)" to "Residential (Group C)2" Zone at Lot 4822 in D.D. 104 and Adjoining Government Land, East of Kam Pok Road, Mai Po, Yuen Long, New Territories	Rev.: 1.0 Date: Nov 2025

Q:\Projects\HENKPRRDEI03\04 Deliverables\03 WSIA\01 Figures\R9962_v1.0\Source\Figure 1.1 Location of the Application Site and its Environ.dwg

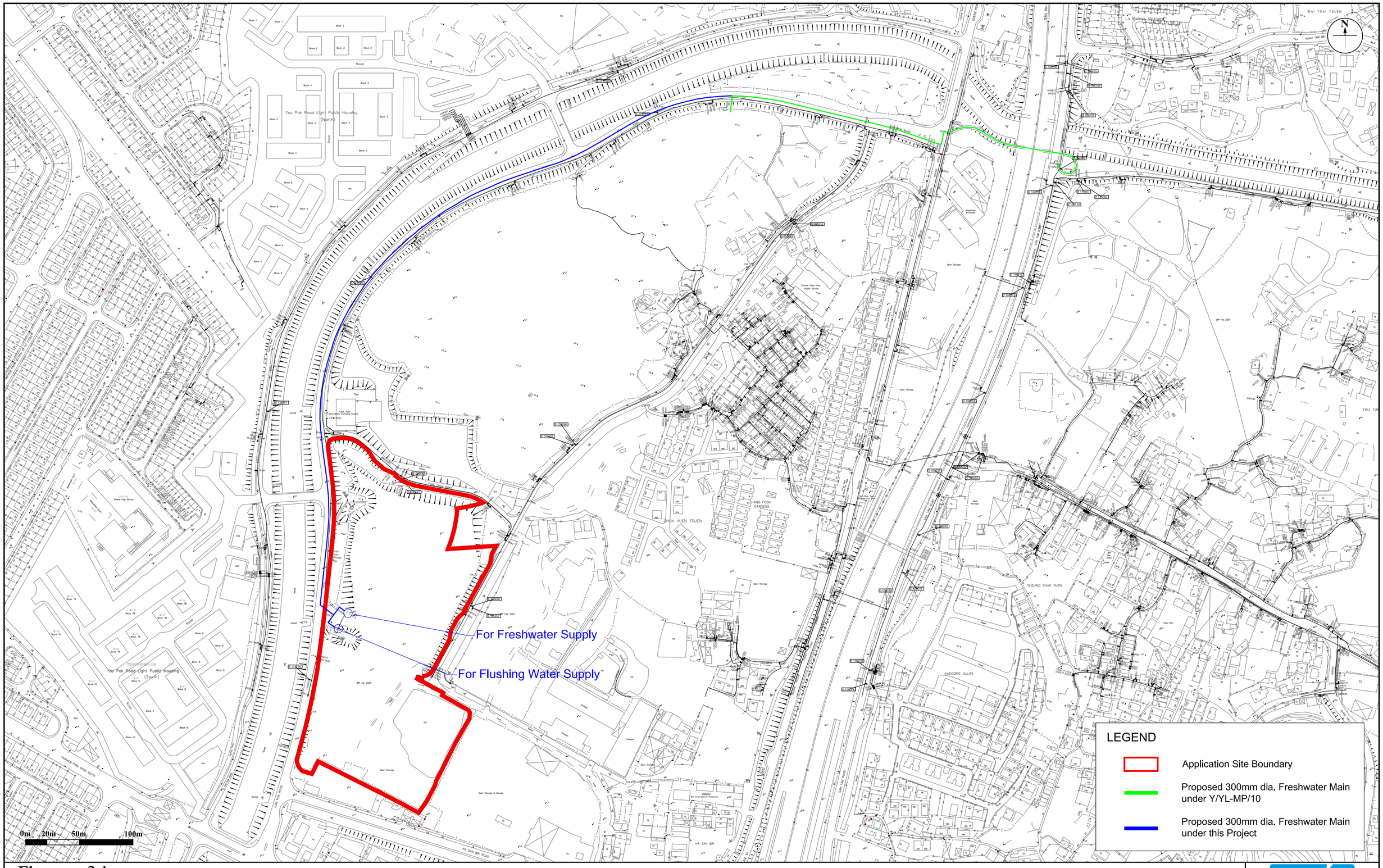

Figure: 2.1

Title: Existing and Proposed Freshwater Main Alignment (Scenario 1)

Project: Rezoning Application from "Residential (Group D)" to "Residential (Group C)2" Zone at Lot 4822 in D.D. 104 and Adjoining Government Land, East of Kam Pok Road, Mai Po, Yuen Long, New Territories

RAMBOLL

Drawn by:	EC
Checked by:	HN
Rev.:	1.0
Date:	Nov 2025

Q:\Projects\HENKPRRDEI03\04 Deliverables\03 WSIA\01 Figures\R9962_v1.0\Source\Figure 2.1 and 2.2 Existing and Proposed Freshwater Main Alignment.dwg

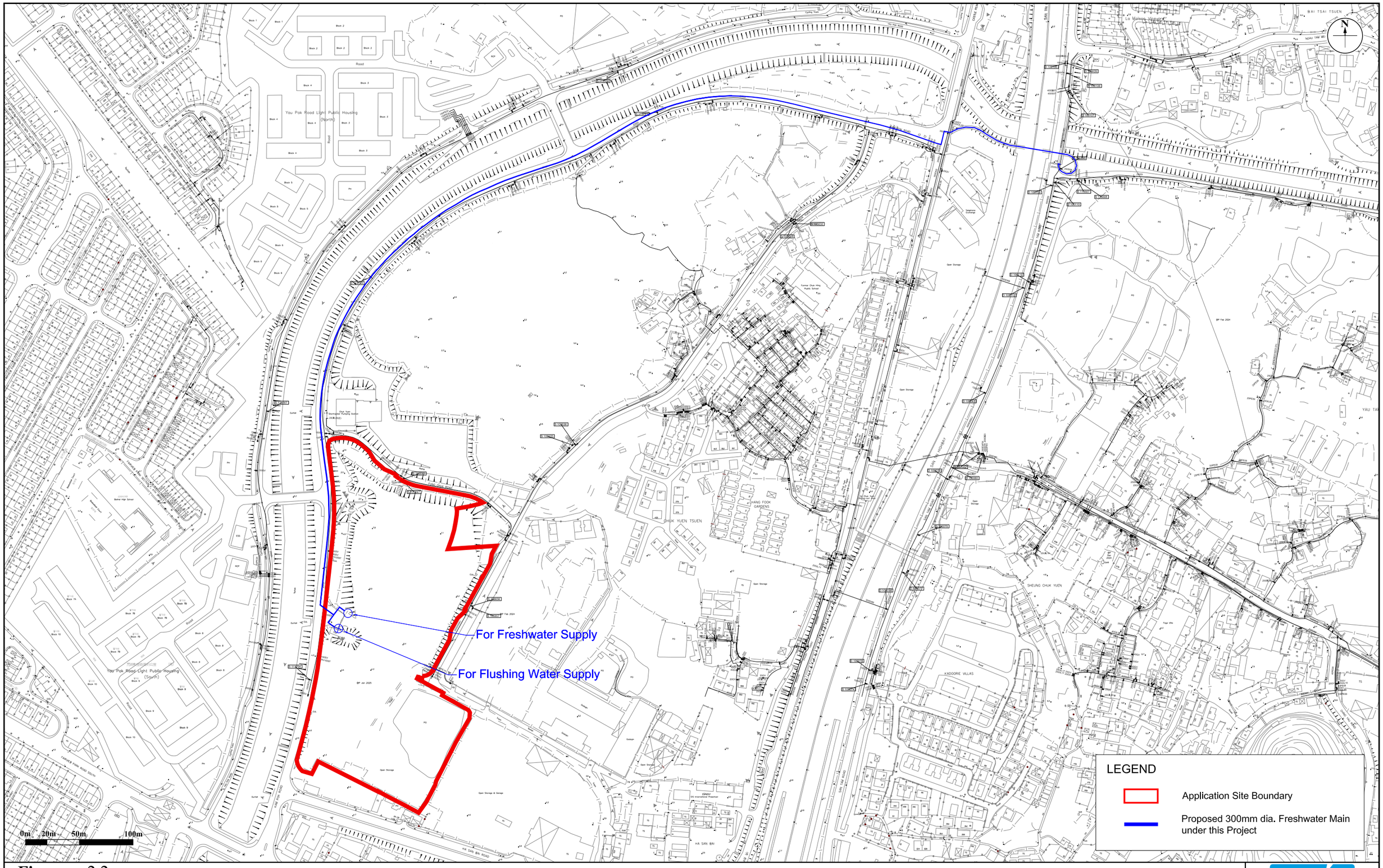

Figure: 2.2

Title: Existing and Proposed Freshwater Main Alignment (Scenario 2)

Project: Rezoning Application from "Residential (Group D)" to "Residential (Group C)2" Zone at Lot 4822 in D.D. 104 and Adjoining Government Land, East of Kam Pok Road, Mai Po, Yuen Long, New Territories

RAMBOLL

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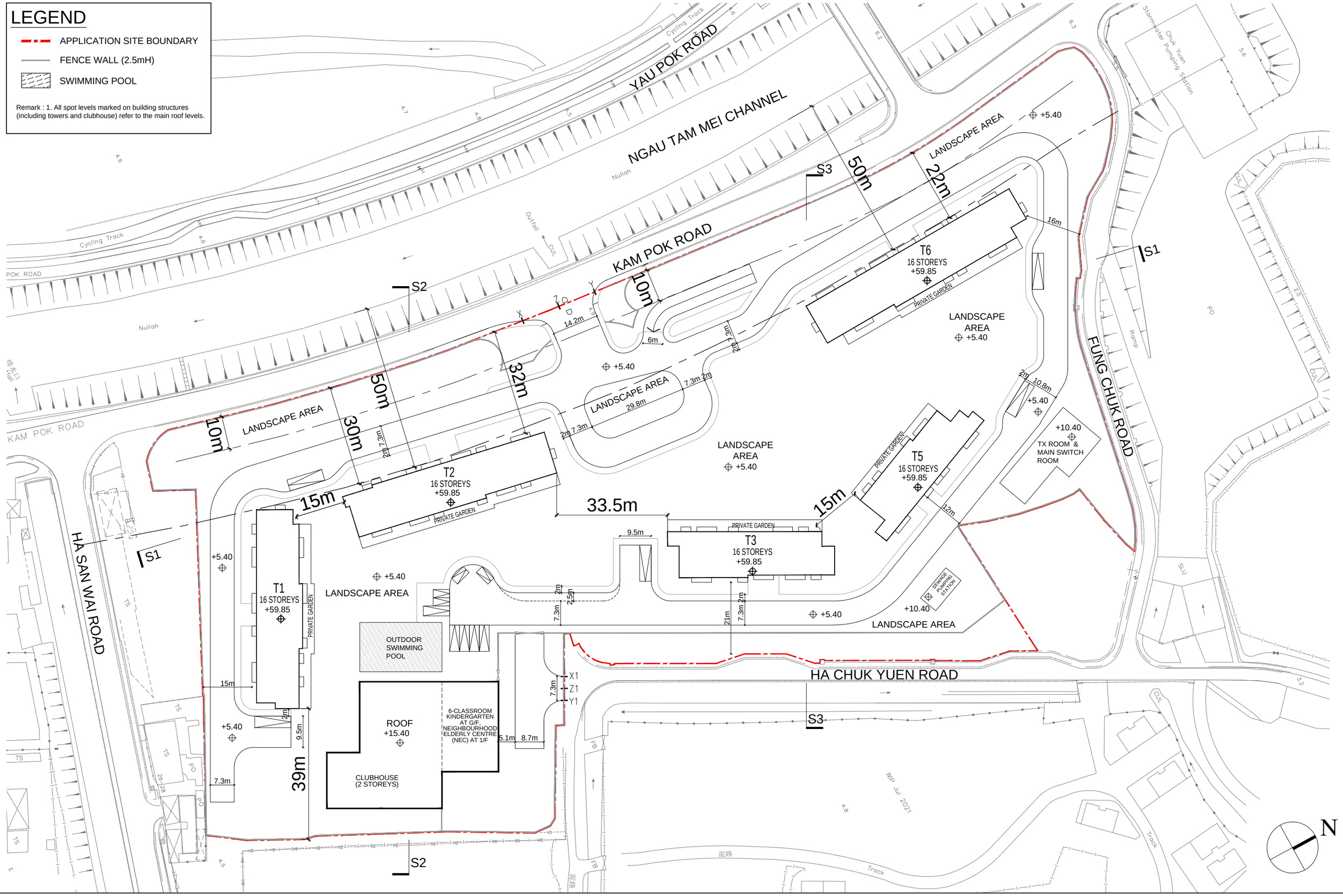
Q:\Projects\HENKPRRDEI03\04 Deliverables\03 WSIA\01 Figures\R9962_v1.0\Source\Figure 2.1 and 2.2 Existing and Proposed Freshwater Main Alignment.dwg

Appendix 1.1 Indicative MLP of the Proposed Development



Lot 4822 IN D.D.104, Kam Pok Road, Mai Po, Yuen Long

MASTER LAYOUT PLAN

0 10 20 30m

DATE : 02/12/2025

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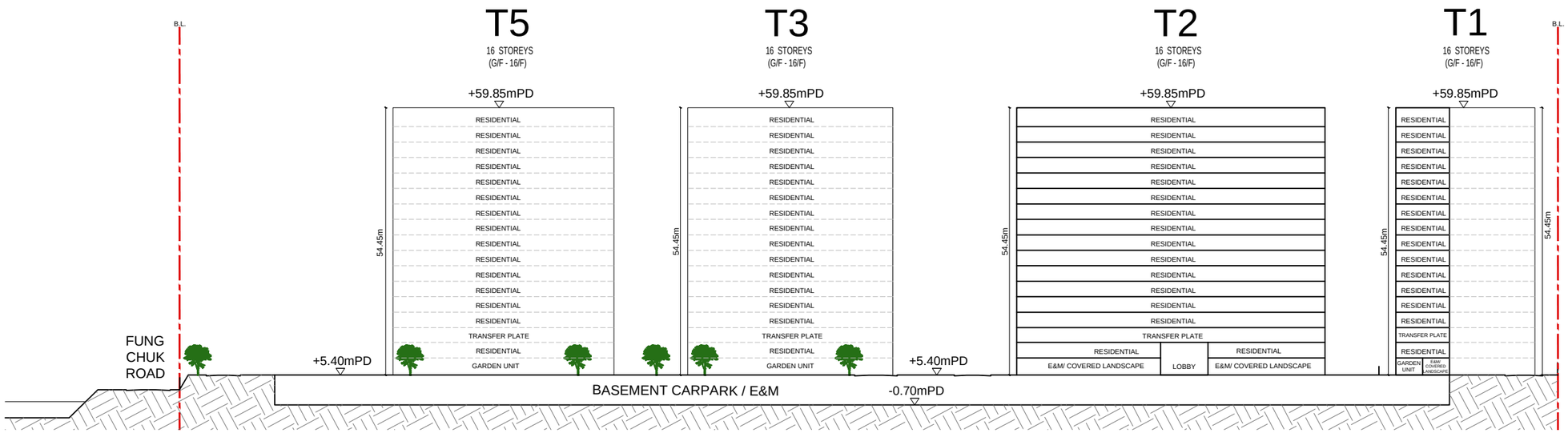

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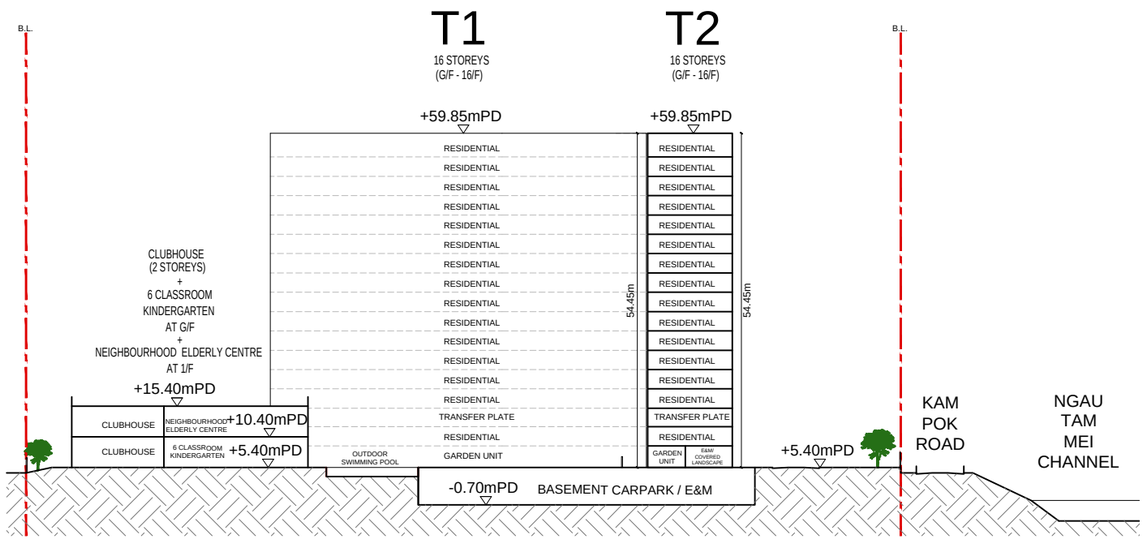

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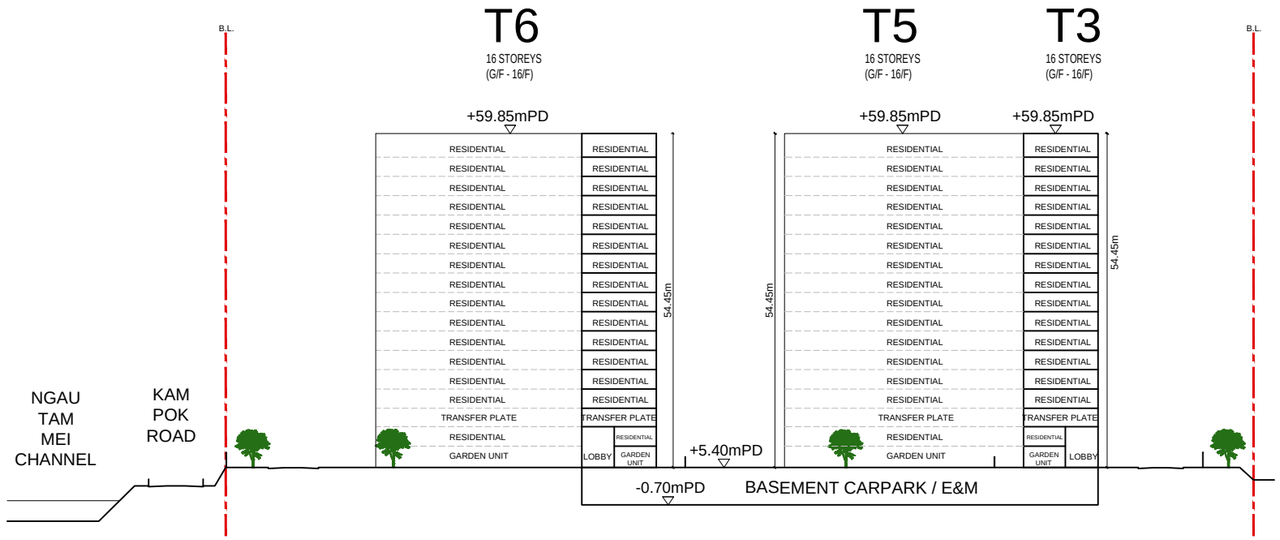

SECTION S3-S3

Appendix 2.1 Water Demand Calculations

Appendix 2.1a Future Daily Water Demands of the Proposed Development

Type of Use	Population (head)	Freshwater		Flushing Water	
		Daily Unit Demand (m^3/head/day) [1][2]	Daily Demand (m^3/day)	Daily Unit Demand (m^3/head/day) [1]	Daily Demand (m^3/day)
Residential R2	3,928	0.340	1335.52	0.070	274.96
		TOTAL	**1335.52**		**274.96**

Total Freshwater Demand (including flushing water) (m^3/day) = 1610.5

Note:
[1] The daily unit demand rate is referenced to the WSD Departmental Instruction 1309 (DI 1309).
[2] Service trade of 0.040 m^3/head/day (Yuen Long) is included. It includes the water demand of clubhouse, kindergarten, and NEC.

Remark:
1. Since there is no salt water main in the vincinity of the site, the water demand (both fresh and flushing) will be supported by the fresh water

Appendix 2.1b Water Main Assessment of the Water Supply Systems - Hydraulic Capacity of Fresh Water Main (Fire Service Excluded)

Portion	Diameter (mm)	Peak factor [1]	Demand, Q (m^3/day)	Factored Q (m^3/s)	Area (m^2)	Velocity of Water Main (m/s) [2]	Flow Rate of Water Main (m^3/s)	% of water main occupied by the Proposed Site
Future Condition								
Existing DN600 Water Main	600	3	1610.5	0.056	0.2827	3.00	0.848	7%
Proposed DN300 Water Main	300	3	1610.5	0.056	0.0707	3.00	0.212	26%

[1] Peak factor for distribution mains is referenced to Departmental Instruction No. 1309 from WSD.
[2] Velocity of 3m/s is assumed.

Appendix 2.1c Water Main Assessment of the Water Supply Systems - Hydraulic Capacity of Fresh Water Main (Fire Service Included)

Portion	Diameter (mm)	Peak factor [1]	Demand, Q (m^3/day) [2]	Factored Q (m^3/s)	Area (m^2)	Velocity of Water Main (m/s) [3]	Flow Rate of Water Main (m^3/s)	% of water main occupied by the Proposed Site
Future Condition								
Existing DN600 Water Main	600	1	7610.5	0.088	0.2827	3.00	0.848	10%
Proposed DN300 Water Main	300	1	7610.5	0.088	0.0707	3.00	0.212	42%

[1] The adequacy for fire-fighting is checked for the distribution mains under peak demand condition.

[2] The demand for fire fighting requirement (6000m^3/day) and mean daily demand for domestic population (1585.1m^3/day) are included for calculation.

[3] Velocity of 3m/s is assumed.

Appendix 2.2 Records obtained from Water Supplies Department

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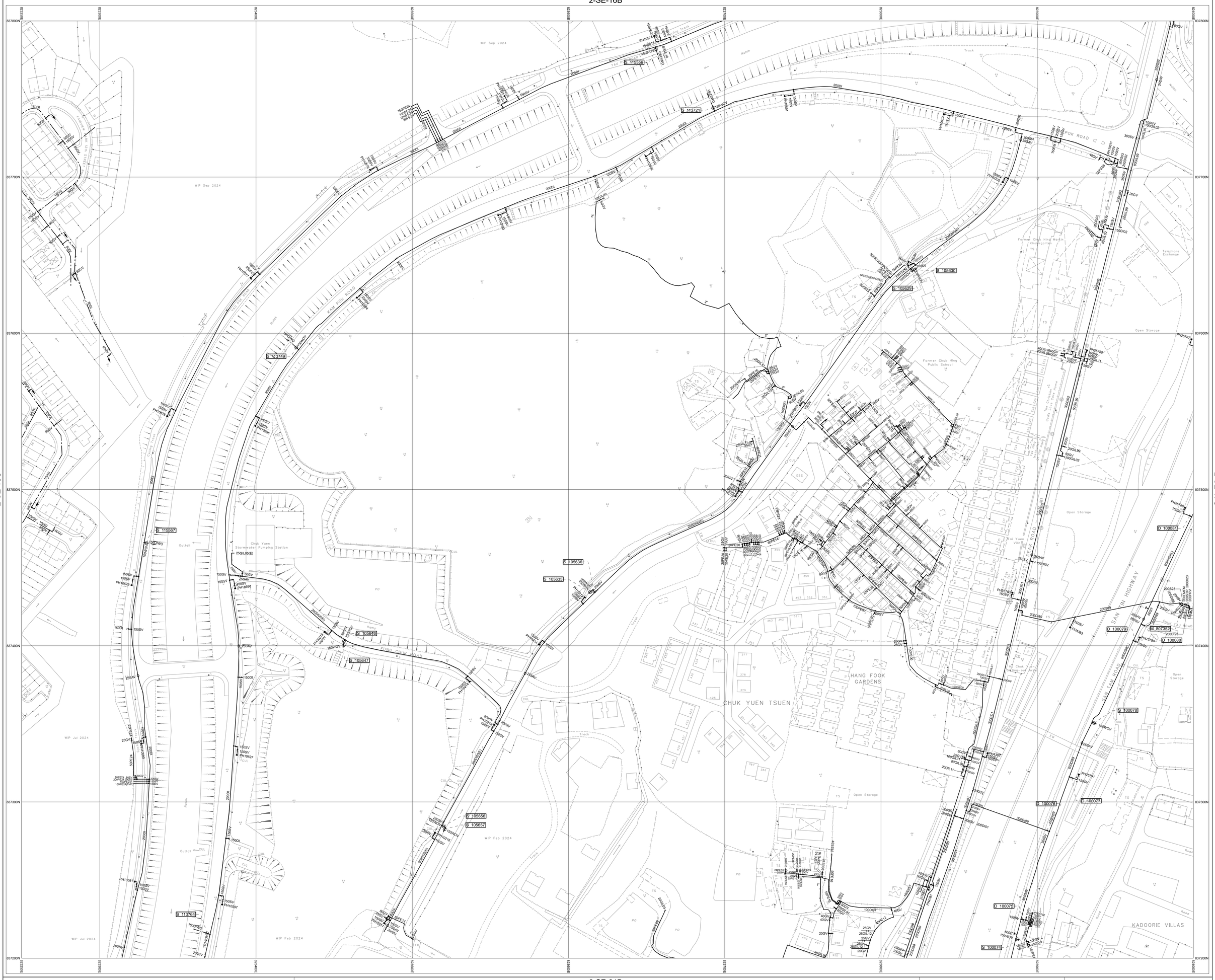
2-SE-16B



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2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 23/12/2024

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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FRESH WATER MAINS RECORD PLAN

CASTLE PEAK ROAD - TAM MI, CHUK YUEN TSUEN

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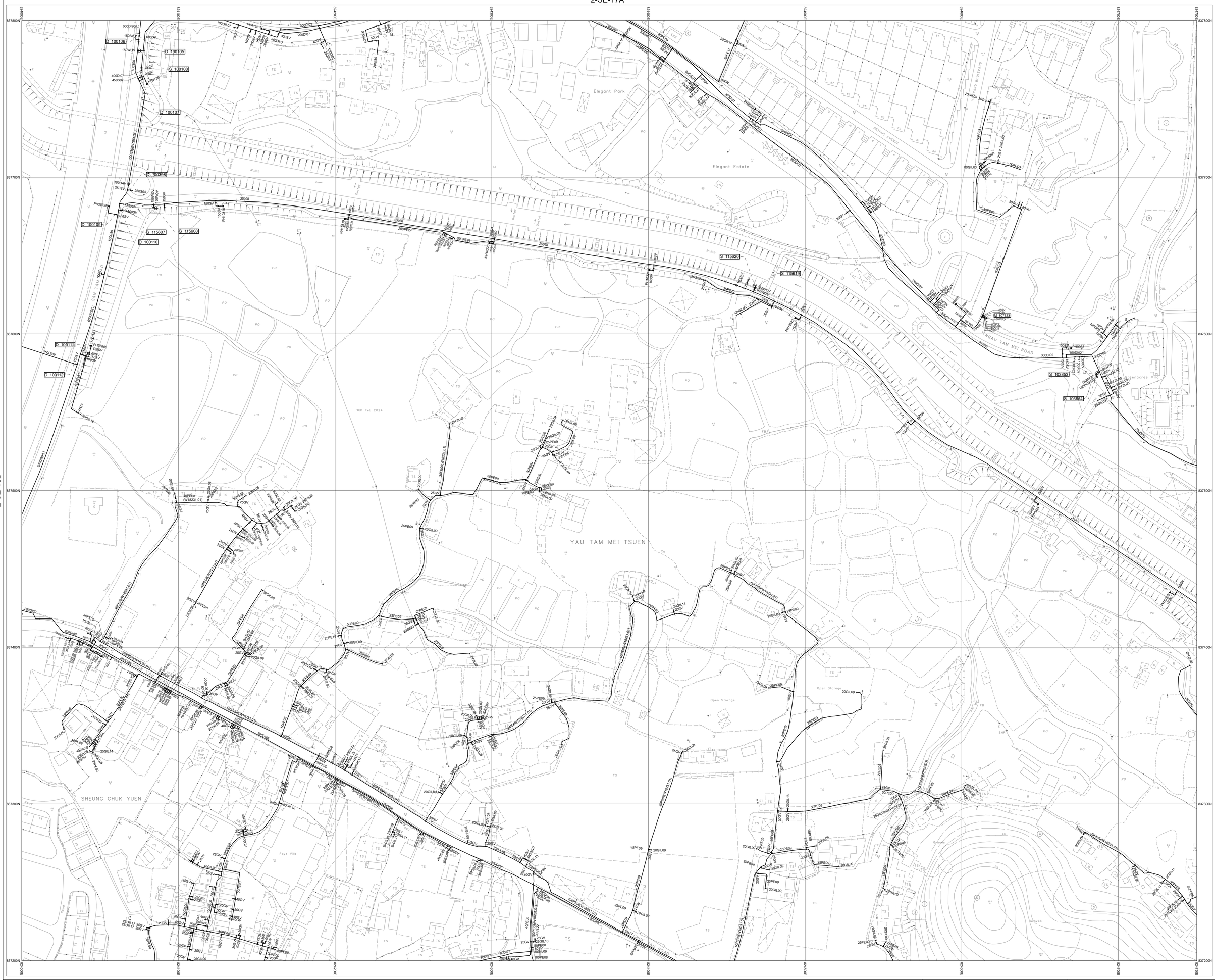
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

2-SE-17A



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Basemap Date Updated On: 23/12/2024

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

NGAU TAM MEI ROAD, YAU TAM MEI TSUEN

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