Appendix 6

Water Supply Impact Assessment

Prepared for

Gallery Grove Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED FLAT WITH SHOP AND SERVICES/EATING PLACES AT NOS. 152-164 WELLINGTON STREET IN SHEUNG WAN (AMENDMENT TO THE APPROVED DEVELOPMENT SCHEME)

WATER DEMAND ASSESSMENT

Date	**October 2026**
Prepared by	**Miko WAN** **Environmental Consultant**
Signed	
Approved by	**Calvin CHIU** **Technical Director**
Signed	
Project Reference	**CHPWELTNEI00**
Document No.	**R10292_v1.0**

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1. INTRODUCTION

1.1 Project Background

1.1.1 A Section 16 application (No. A/H3/449) for the composite redevelopment at 152-164 Wellington Street, Central (the Proposed Development) was approved on 6 December 2024. The Application Site is currently zoned as "Commercial" under the Approved Sai Ying Pun and Sheung Wan Outline Zoning Plan (OZP) No. S/H3/34.

1.1.2 This S16 application is based on the approved S16 application (No. A/H3/449) and proposes an increase in building height and gross floor area (GFA).

1.1.3 Ramboll Hong Kong Limited is commissioned to provide Water Demand Assessment (WDA) consultancy services for the Proposed Development.

1.2 Application Site and its Environs

1.2.1 The Application Site amounts to about 614.8m^2. It is bounded by Wellington Street to the northeast and Aberdeen Street to the northwest. The Wa On Lane Sitting-out Area is located to the south of the Application Site.

1.2.2 The location of the Application Site and its surrounding environs are shown in **Figure 1.1**.

1.3 Proposed Development

1.3.1 The proposed development is a composite building comprising residential and retail use. It includes a residential tower with 26 residential storeys with a total of 178 flat units, 1 clubhouse storeys, and 3 storeys allocated for retail space. A 78.6 m^2 outdoor swimming pool is planned.

1.3.2 It is tentatively completed in 2030.

1.3.3 The Master Layout Plan (MLP) of the Proposed Development is included in **Appendix 1.1**.

2. WATER DEMAND ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this study is to estimate the water demand arising from future operation of the proposed development.

2.1.2 Where fresh and saltwater supply system details are available, 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 would be assessed, if required.

2.2 Assessment Criteria and Methodology

2.2.1 Reference has been made to the WSD's Departmental Instruction 1308 (where available), as well as Hong Kong Planning Standards and Guidelines (HKPSG), and Planning Department's (PlanD's) Commercial and Industrial Floor Space Utilization Survey (CIFSUS).

2.2.2 WSD DI 1309 sets out the design criteria for water supplies in Hong Kong and includes unit water demands for various classes of consumers.

2.2.3 The existing buildings within the Application Site will be adopted as a baseline from which the change of water demand would be evaluated. The existing buildings include residential development and commercial use. Calculation for the water demand of the existing buildings is included in **Appendix 2.1**.

2.2.4 The demand of the Proposed Development will be mainly originated from the future residential population and clubhouse. Calculations for the water demands of the Proposed Development are included in **Appendix 2.1**.

2.3 Assessment of Water Demand

Fresh Water Demand

2.3.1 As shown in **Appendix 2.1**, the freshwater demand at the Application Site is estimated to be 176.1m^3/day.

2.3.2 For the baseline scenario (existing demand), the freshwater demand at the Application Site is 42.0m^3/day. Relatively, the Proposed Development has an increase of 134.1m^3/day in freshwater demand.

2.3.3 Connection will be made to the existing watermains. According to the WSD mains record plans (**Appendix 2.2** & **Figure 2.1**), an existing dia. 100mm tee-off connects to the Application Site and the total peak water demand from the site after development would utilise about 52% of the pipe capacity. It is considered that the impact of the Proposed Development is acceptable in water supply terms. Details of the capacity calculation of the water mains is included in **Appendix 2.1**.

2.3.4 The proposed water main will be aligned along the pavement outside the site. It is noted that there is existing water mains inside the site and would be diverted to outside the site boundary tentatively (**Figure 2.1**). Details of the internal water supply system for fresh and flushing water supply and the proposed alignment of the water main diversion would be finalized in the detailed design stage.

Flushing Water Demand

2.3.5 As shown in **Appendix 2.1**, the flushing water demand at the Application Site would be 29.3m^3/day.

2.3.6 For the baseline scenario (existing demand), the saltwater demand at the Application Site is 7.1m^3/day. Relatively, the Proposed Development has an increase of 22.1m^3/day in flushing water demand.

2.3.7 There is flushing water (saltwater) supply for the Application Site and connection will be made to the existing flushing watermains in future. According to the WSD mains record plans (**Appendix 2.2** & **Figure 2.2)**, an existing dia. 40mm tee off connects to the Application Site and the total peak flushing water demand from the site would utilise about 36% of the pipe capacity. It is considered that the impact of the Proposed Development is acceptable in water supply terms. Details of the capacity calculation of the flushing water mains is included in **Appendix 2.1**.

3. OVERALL CONCLUSION

3.1.1 A composite development is proposed at 154-164 Wellington Street, Central. The potential water demand has been quantitatively assessed.

3.1.2 Based on the water demand assessment result, the future freshwater and flushing water demands of Proposed Development are 176.1m^3/day and 29.3m^3/day respectively. There will be an increase in both freshwater and saltwater demand after development.

3.1.3 Based on the assessment result, the existing dia. 100mm and 40mm tee off on freshwater and flushing water would have adequate capacity to cater the freshwater demand and flushing water demand of the Proposed Development respectively.

3.1.4 It is concluded that the water demand of the Proposed Development will not result in any adverse impact.

Figures

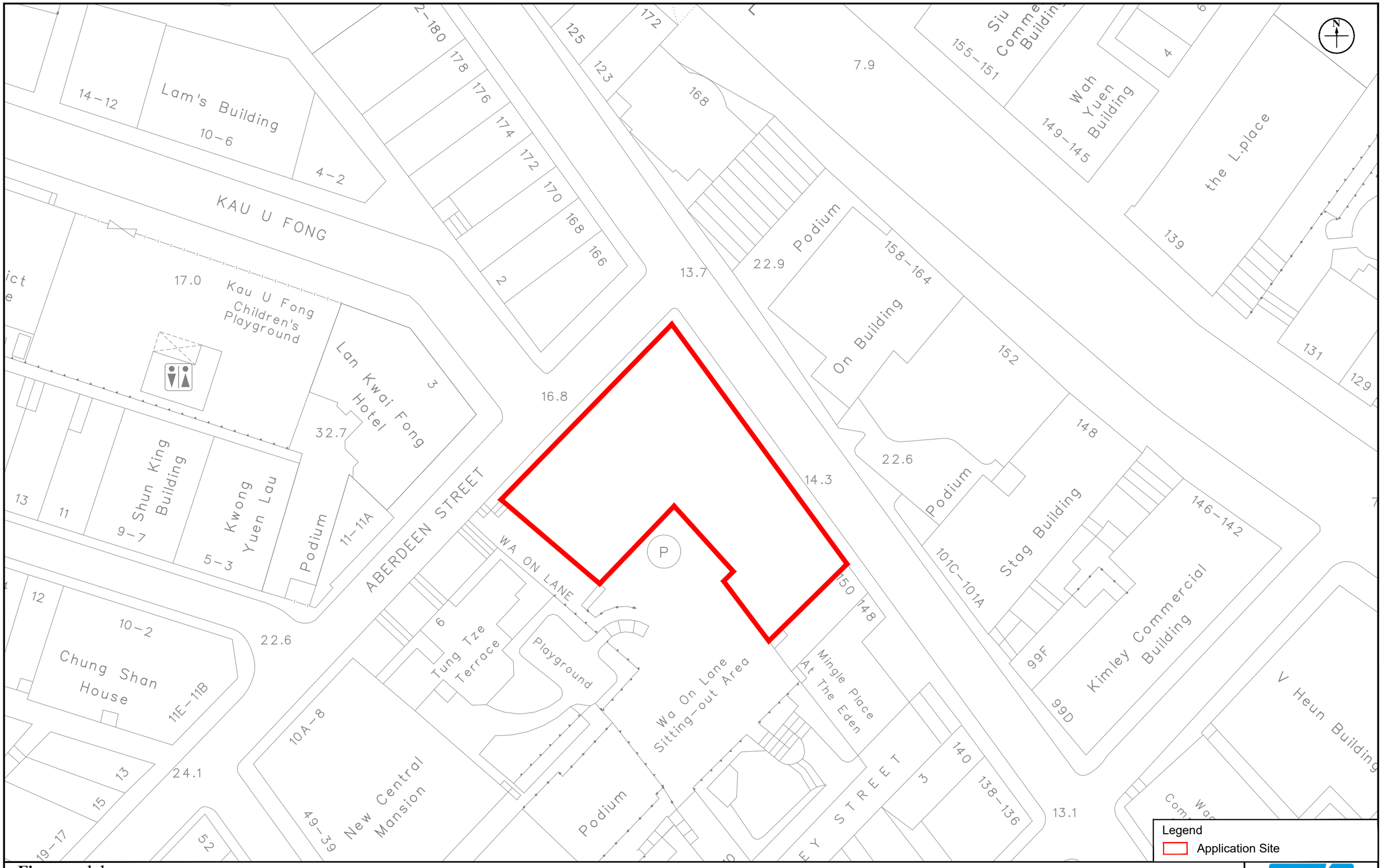


Figure: 1.1	RAMBOLL
Title: Location of the Application Site and its Environs	Drawn by: MW
	Checked by: CC
Project: Proposed Flat with Shop and Services/Eating Places at Nos. 152 - 164 Wellington Street in Sheung Wan (Amendment to the Approved Development Scheme)	Rev.: 1.0
	Date: Oct 2026

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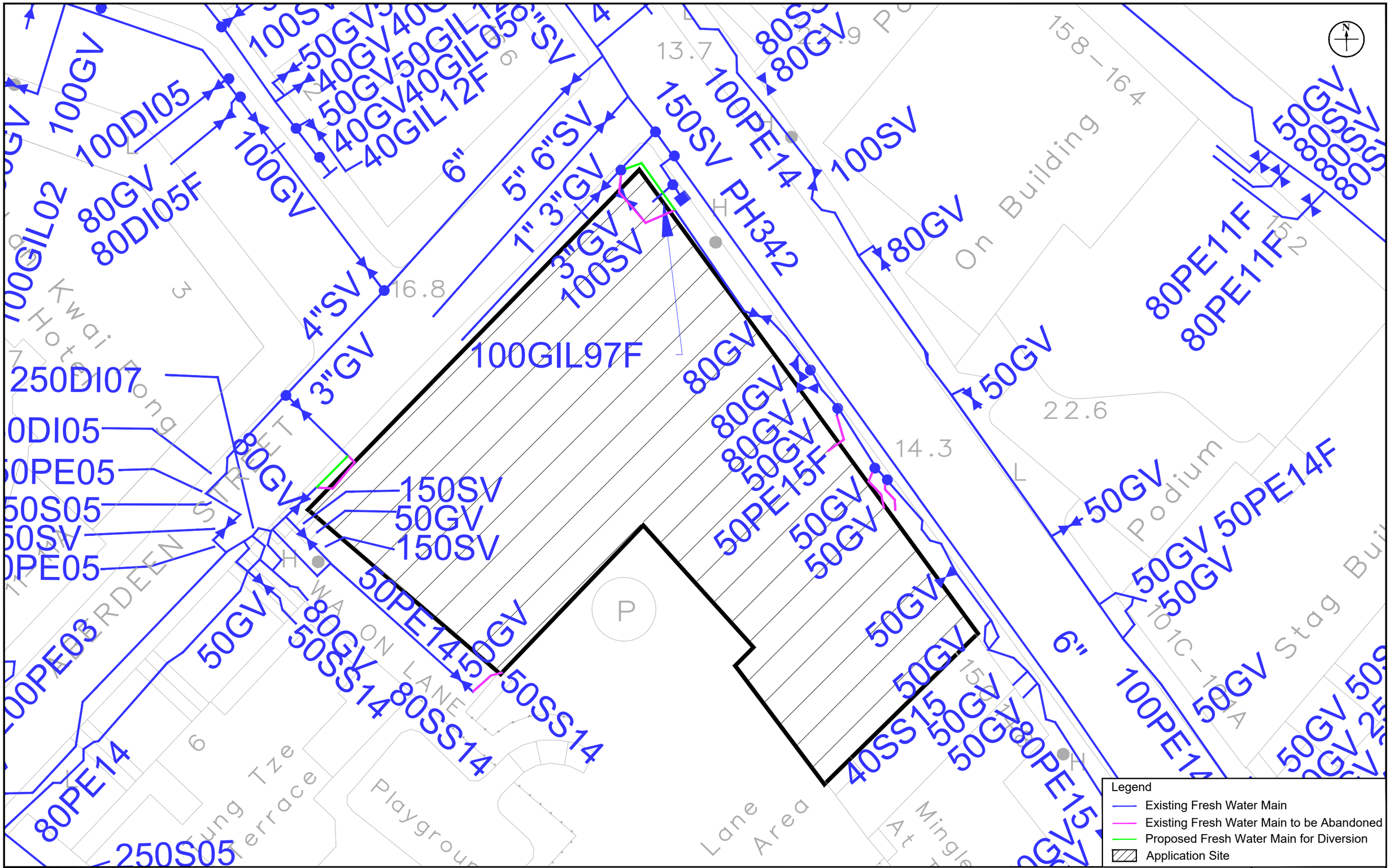


Figure: 2.1	RAMBOLL
Title: Existing Fresh Water Main Arrangement	Drawn by: MW
	Checked by: CC
Project: Proposed Flat with Shop and Services/Eating Places at Nos. 152-164 Wellington Street in Sheung Wan (Amendment to the Approved Development Scheme)	Rev.: 1.0
	Date: Oct 2026

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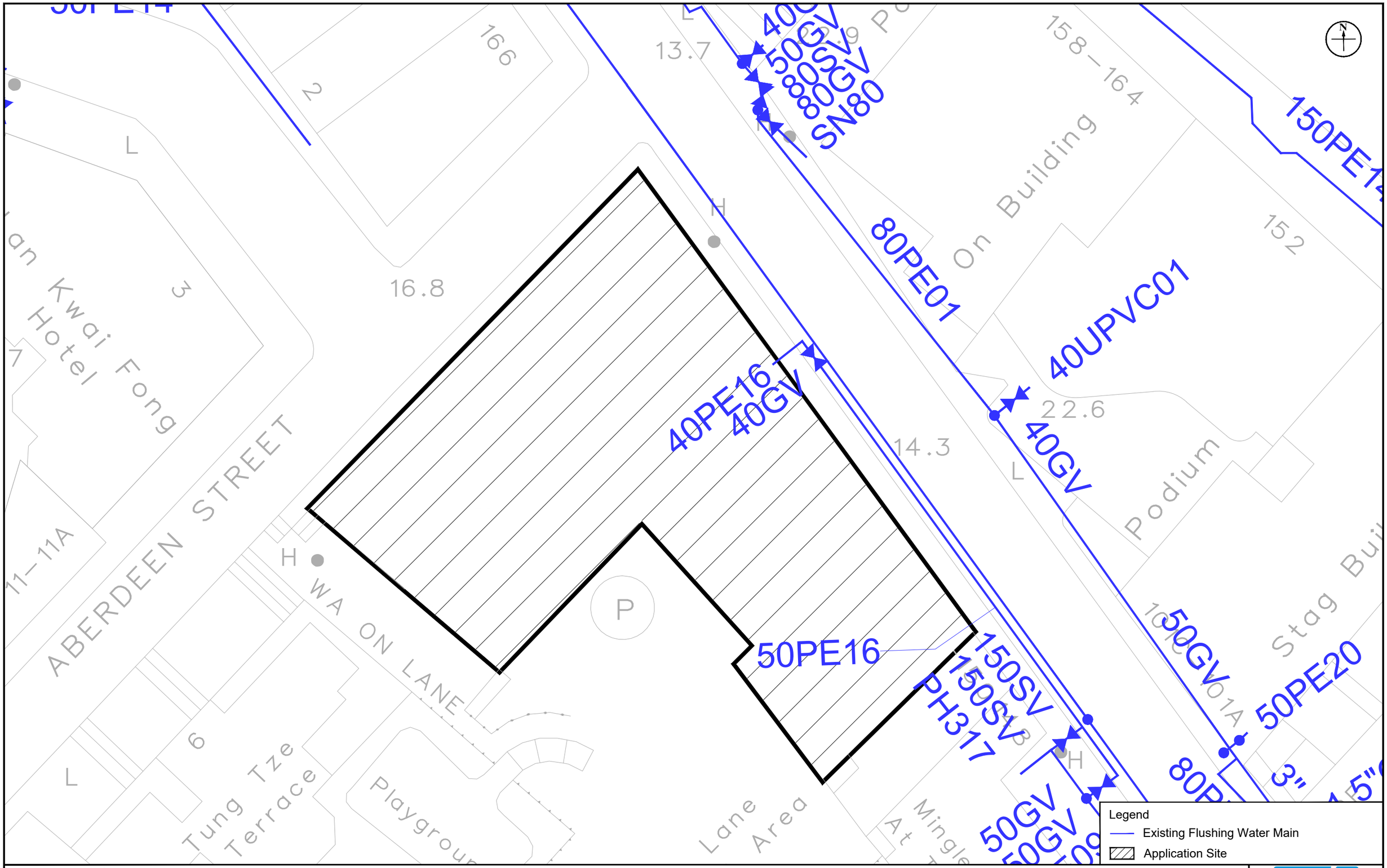


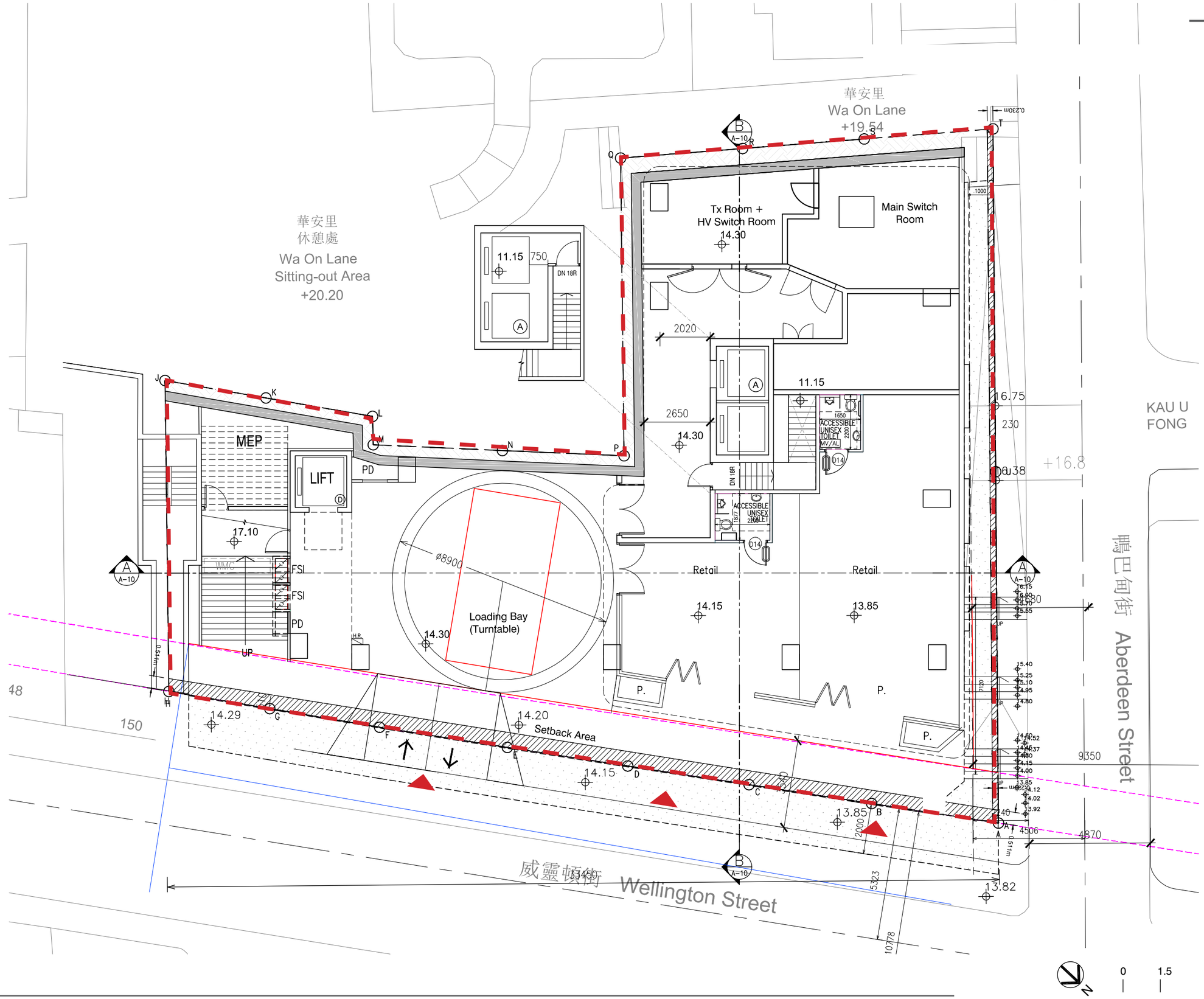
Figure:	2.2	RAMBOLL
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Project:	Proposed Flat with Shop and Services/Eating Places at Nos. 152-164 Wellington Street in Sheung Wan (Amendment to the Approved Development Scheme)	Rev.: 1.0 Date: Oct 2026

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Appendix 1.1 Master Layout Plan (MLP)

PODIUM PLANS

GF



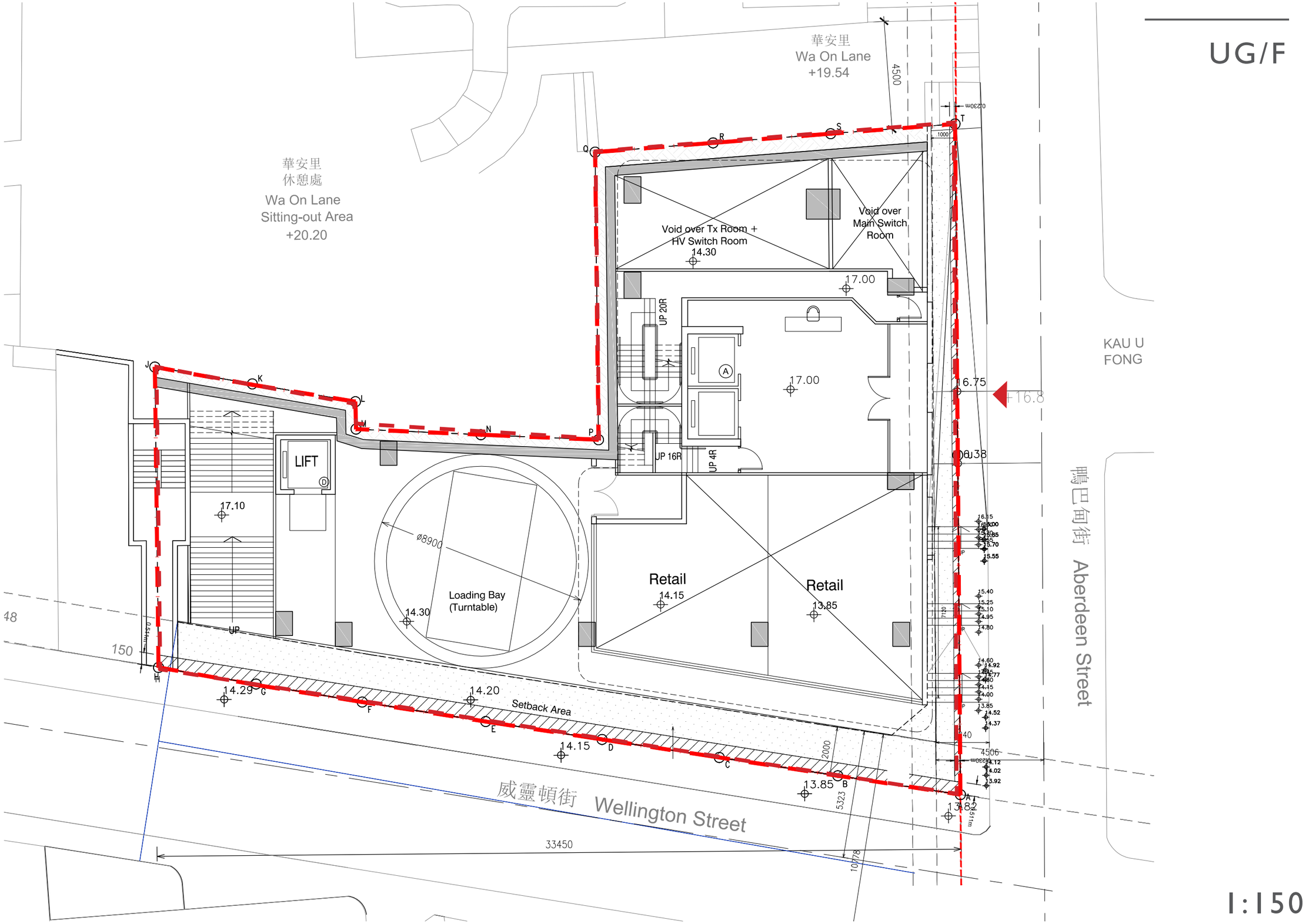
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PODIUM PLANS

UG/F



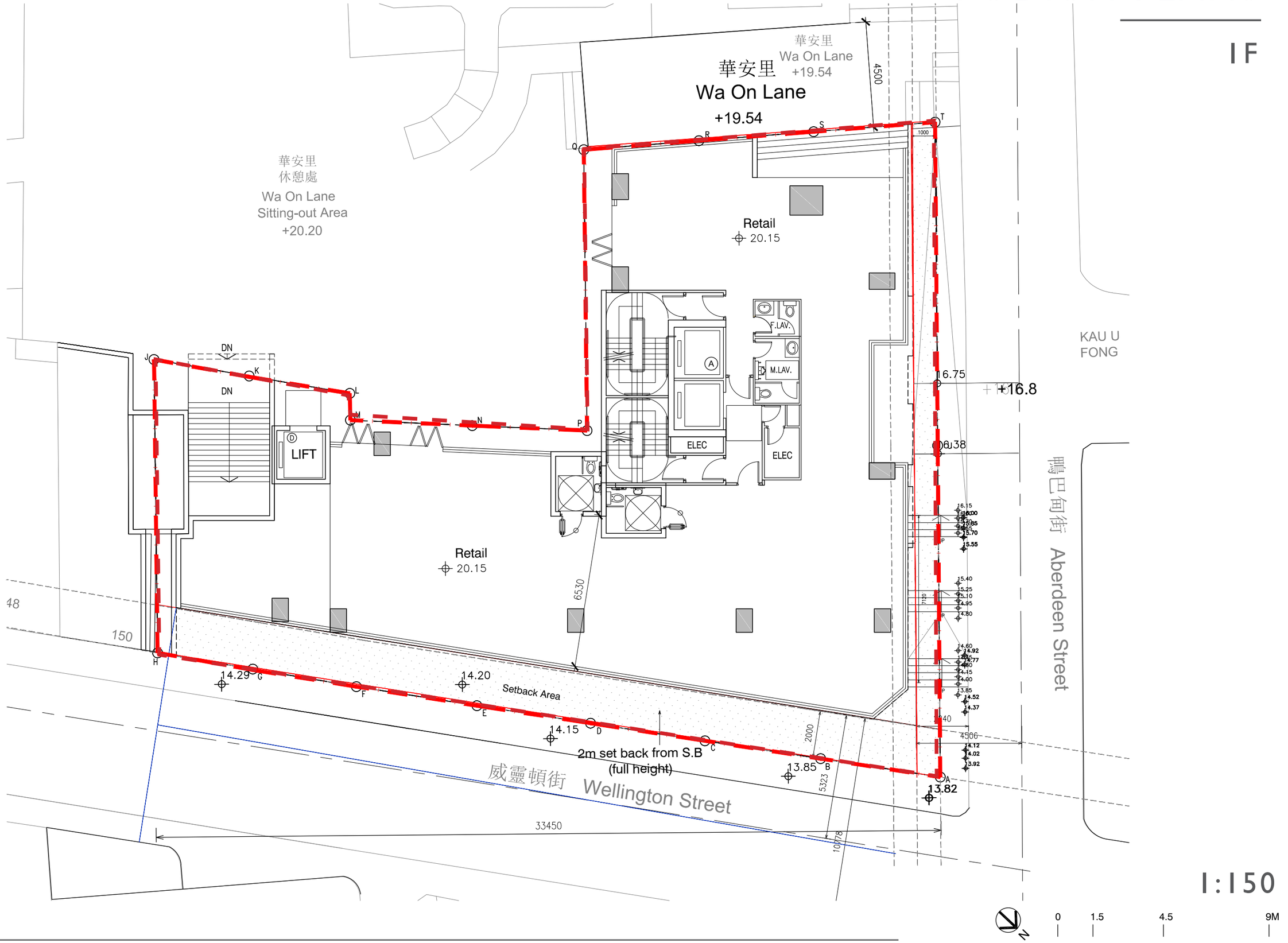
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PODIUM PLANS

1F



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PODIUM PLANS

2F

華安里
Wa On Lane
+19.54

華安里
休憩處
Wa On Lane
Sitting-out Area
+20.20

華安里
休憩處
Wa On Lane
Sitting-out Area
+20.15

華安里
Wa On Lane
+19.54

華安里
Wa On Lane
+19.54

KAU U FONG

鵝巴甸街 Aberdeen Street

威靈頓街 Wellington Street

Setback Area

124m³ SPRINKLER WATER TANK

ELV. DUCT

P.D

ST-01

F.H.

UP

EXIT

4.5kg CO_2F.E.

F.S. & SPRINKLER BOOSTER PUMP ROOM

A

CMC

ELEC

DN

27m³FS WATER TANK

3000 L. SURGE TANK FOR OUTDOOR POOL

FILTRATION PLANT ROOM

EL CABINET (CLUBHOUSE)

CMC

H.R.

POTABLE WATER & FLUSHING WATER PUMP ROOM

ELV. ROOM

EL. ROOM (CLUBHOUSE)

P.D.

TBE MAF ROOM

3000 L. R.C. FLUSHING WATER TANK

3000 L. R.C. FLUSHING WATER TANK

13000 L. R.C. POTABLE WATER TANK

13000 L. R.C. POTABLE WATER TANK

TBE ROOM (FOR RESIDENTIAL)

TBE ROOM (RETAIL)

A/C PLANT ROOM (FOR G/F&1/F RETAIL)

A.H.U. ROOM (FOR G/F & 1/F RETAIL)

J K L M N P Q R S T

H G F E D C B A

16.75

+16.8

16.38

14.29

14.20

14.15

13.85

13.82

33450

10870

10778

5323

3540

2000

4680

2740

9350

4870

4506

7120

1000

300

150

48

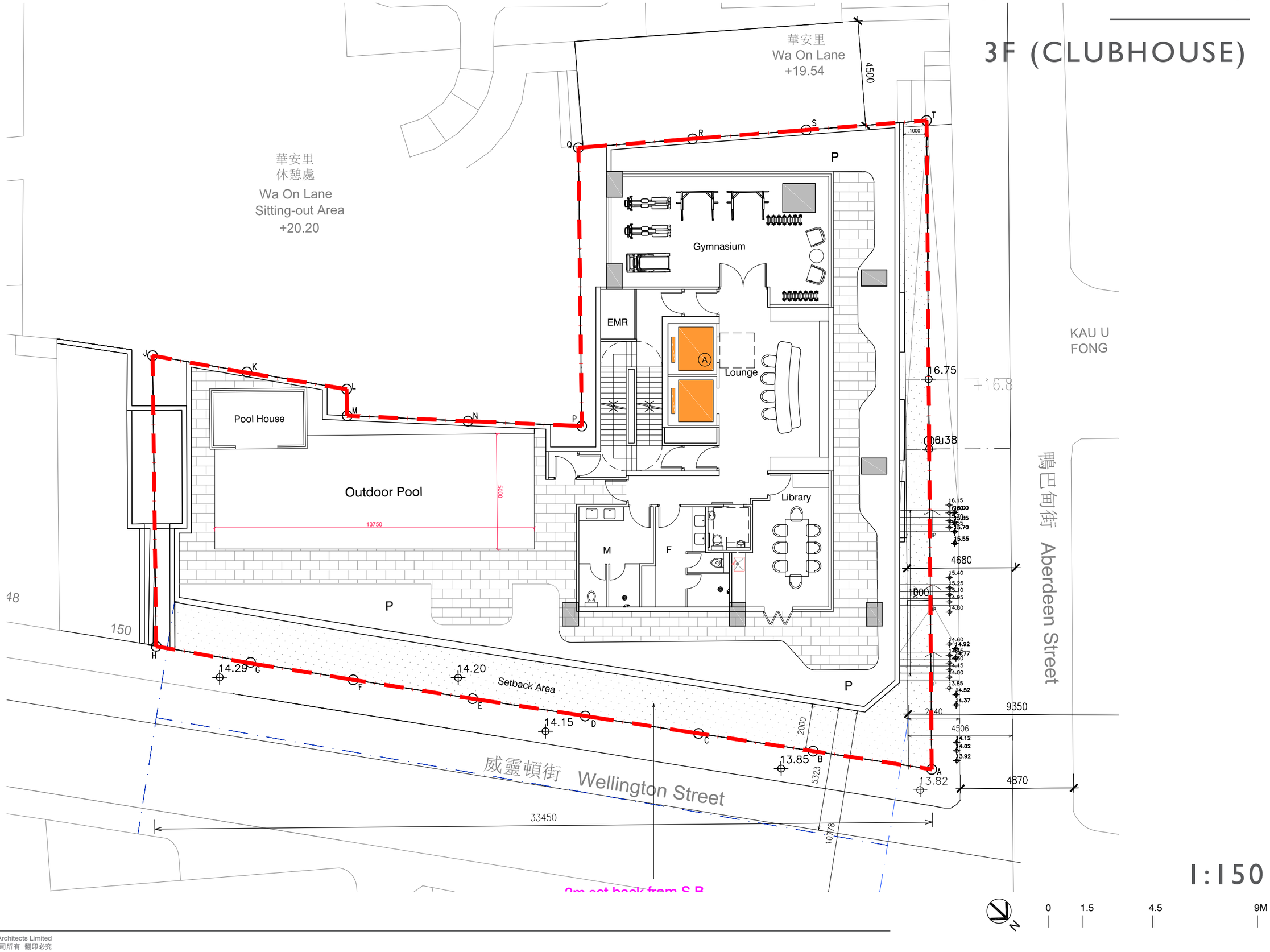
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PODIUM PLANS

3F (CLUBHOUSE)



1:150

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1 Bedroom (Open Kitchen)

2 Bedroom (Open Kitchen)

TOWER SIMPLIFIED PLAN

LOW ZONE GARDEN UNIT

華安里
Wa On Lane
+19.54

華安里
休憩處
Wa On Lane
Sitting-out Area
+20.20

A
B
C
D
E
F
G

P.D.
P.D.
P.D.
TRS
TRS
1850
1650
1150
1300
2400
2000
2000
1000
0.230m
0.230m
0.515m
+16.8
16.15
16.00
15.70
15.55
15.40
15.25
15.10
14.95
14.80
14.60
14.45
14.30
14.15
14.00
13.85
UP
UP
UP
7120
2240
4506
0.5
48
150
KAU I
FONG
鴨巴甸街 Aberdeen Street

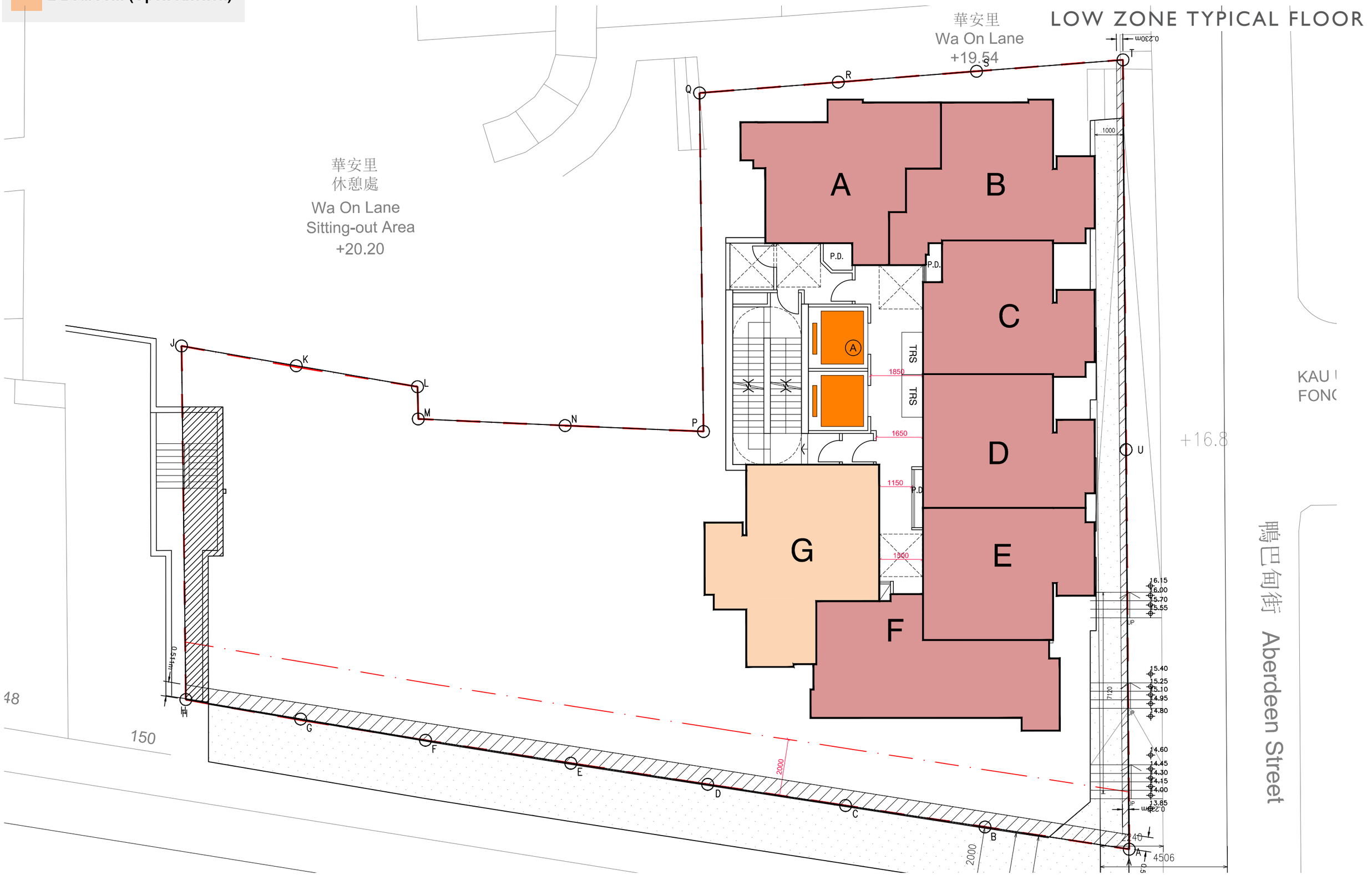
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TOWER SIMPLIFIED PLAN

LOW ZONE TYPICAL FLOOR

1 Bedroom (Open Kitchen)

2 Bedroom (Open Kitchen)



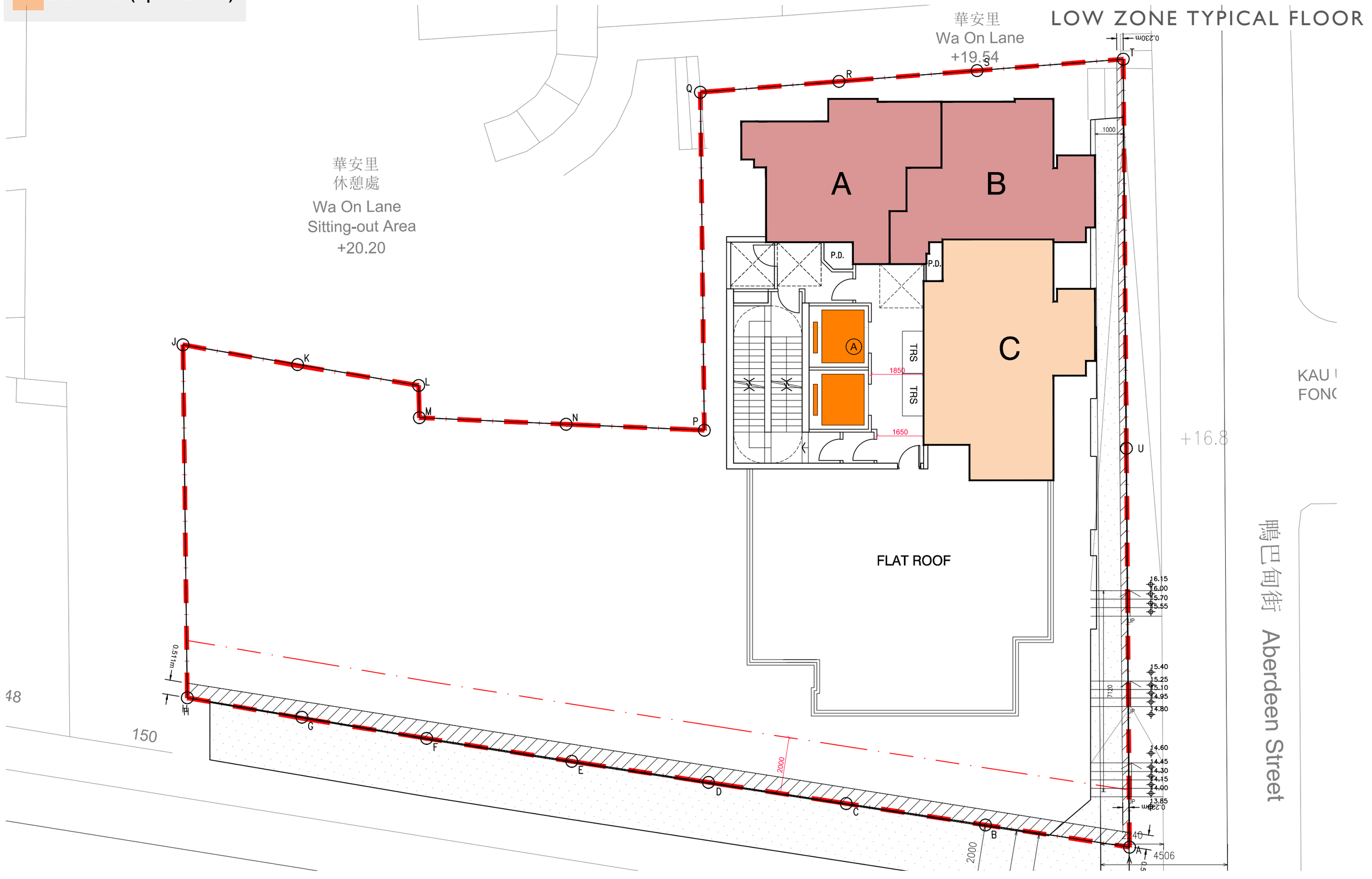
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TOWER SIMPLIFIED PLAN

LOW ZONE TYPICAL FLOOR

1 Bedroom (Open Kitchen)

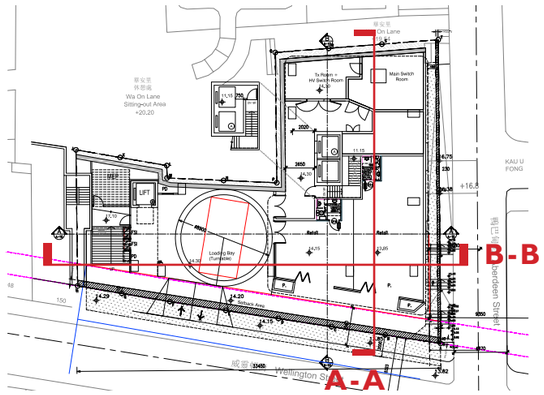
2 Bedroom (Open Kitchen)

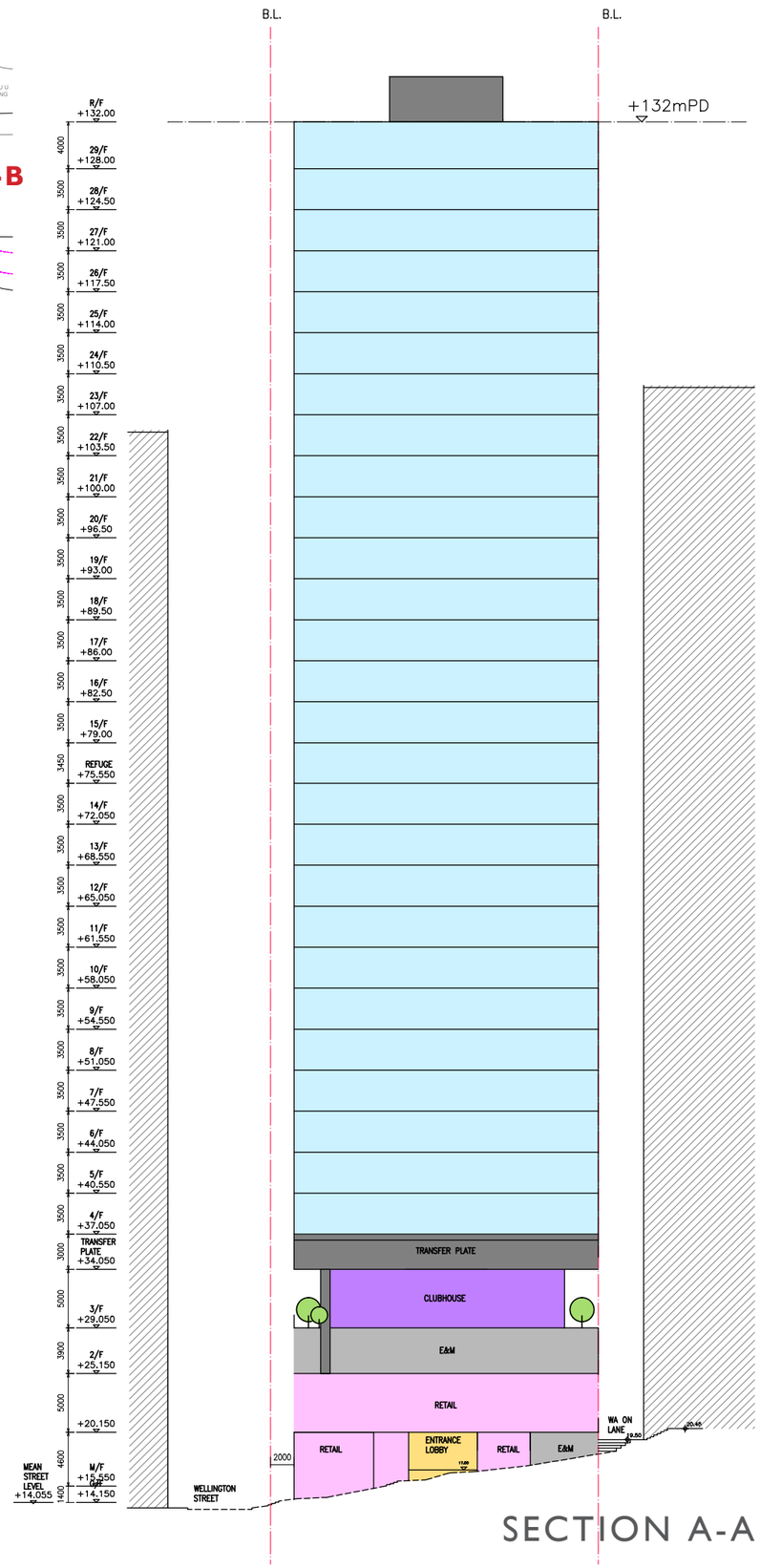


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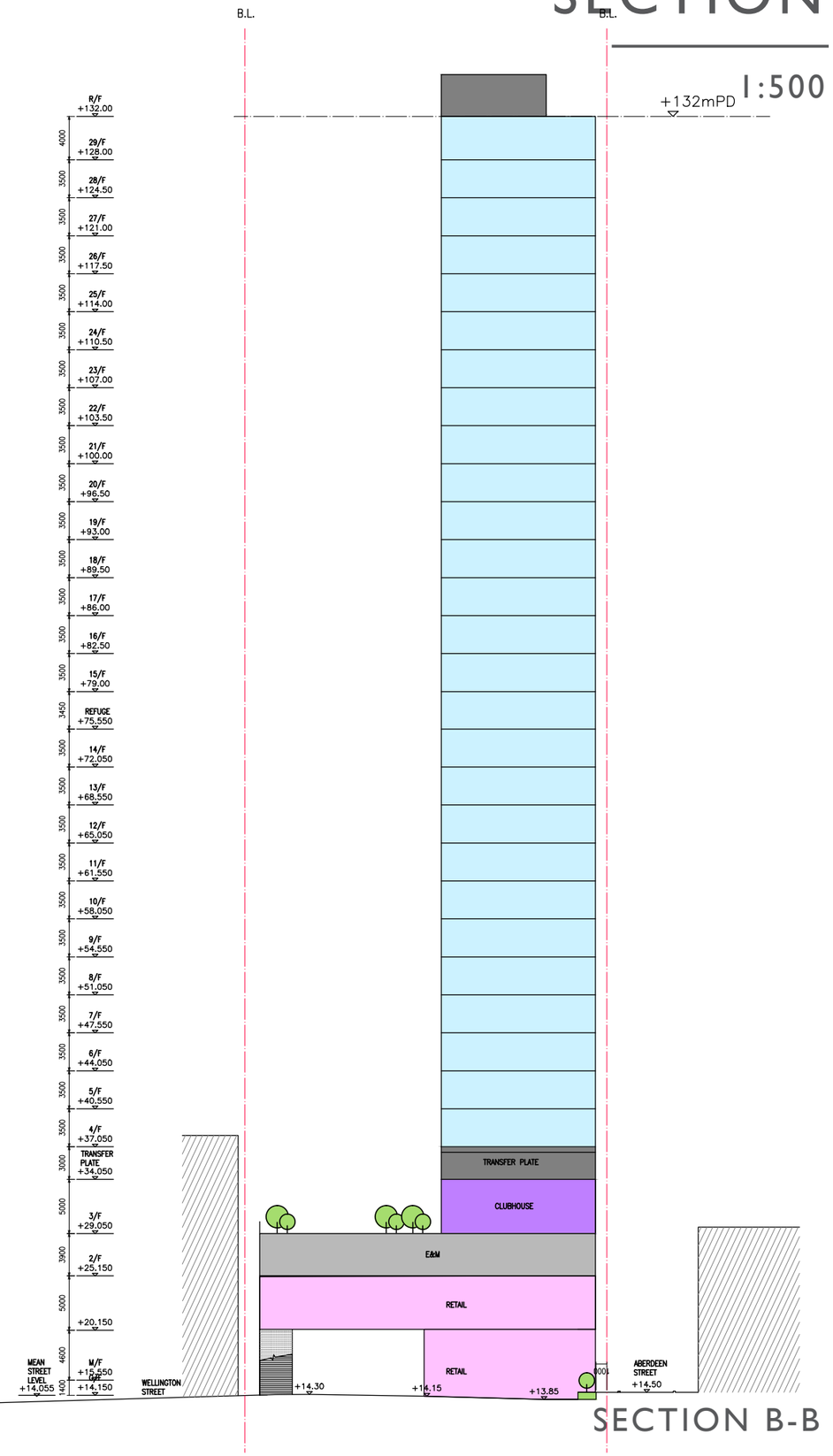
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SECTION A-A



SECTION B-B

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Appendix 2.1 Water Demand Calculations

Table 1a Existing Water Demands of the Application Site

					Freshwater			Flushing Water			
		Type of Use	Population (head)	Area (ha)	Daily Unit Demand [(1)] (m^3/head/day)	Daily Unit Demand (m^3/ha/day)	Daily Demand (m^3/day)	Daily Unit Demand [(1)] (m^3/head/day)	Daily Unit Demand (m^3/ha/day)	Daily Demand (m^3/day)	Reference
Existing (Application Site)	Residential Development (160-164 Wellington St)	Residential Density Zone R2	90	-	0.415	-	37.47	0.070	-	6.32	WSD DI 1309
	Residential Development (152 Wellington St)	Residential Density Zone R2	11	-	0.415	-	4.36	0.070	-	0.74	WSD DI 1309
	Commercial (156-158 Wellington St)	C/R	-	0.0713	-	2.0	0.14	-	0.700	0.05	WSD DI 1309
	Commercial (154-156 Wellington St)	C/R	-	0.0354	-	2.0	0.07	-	0.700	0.02	WSD DI 1309
							42.0			**7.1**	

Freshwater Demand (m^3/day) = 42.0

Flushwater Demand (m^3/day) = 7.1

Table 1b Future Water Demands of the Application Site

					Freshwater			Flushing Water			
		Type of Use	Population (head)	Area (m^2)	Daily Unit Demand [(1)] (m^3/head/day)	Daily Demand (L/m^2/day)	Daily Demand (m^3/day)	Daily Unit Demand (m^3/head/day)	Daily Unit Demand (m^3/ha/day)	Daily Demand (m^3/day)	Reference
Future (Application Site)	Residential Development	Residential Density Zone R2	409	-	0.415	-	169.74	0.070	-	28.63	WSD DI 1309
	Clubhouse	GIC	9	-	0.235	-	2.12	0.070	-	0.63	WSD DI 1309
							176.1			**29.3**	

Freshwater Demand (m^3/day) = 176.1

Flushwater Demand (m^3/day) = 29.3

Remarks:

(1) Water Supplies Department Departmental Instruction 1309. Service Trade of 0.115 m^3/head/day (Central) adopted.

Notes:

1. Residential population: 178 units x 2.3 households - 2021 Population Census: Average Household Size of 2.3 in Chung Wan District
2. Clubhouse population: 285m^2/ 30.3m^2 per worker - refer to Table 8 of CIFSUS - Community, Social & Personal Services

Water Main Assessment of the Proposed Water Supply Systems

Table 2a Hydraulic Capacity of the Existing Water Main

	Portion	Diameter (mm)	Material	Peak factor [(1)]	Demand, Q (cu. m/day)	Factored Q (cu. m/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
Fresh Water	100GIL97F	100	GIL	3	176.1	0.006	0.008	1.50	0.012	52%
Salt Water	40PE16	40	PE	2	29.3	0.001	0.001	1.50	0.002	36%

[(1)] Peak factor for distribution mains refers to Departmental Instruction No. 1309 from WSD

[(2)] Velocity of water mains refers to Departmental Instruction No. 1309 from WSD

Appendix 2.2 WSD Record Plan



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO. 3988.
5. NO EXISTING WSD CABLE IN THE VICNITY OF THE SITE.
6. NO PROPOSED WSD CABLE IN THE VICNITY OF THE SITE.
7. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
8. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
9. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/11-SW-8B & 8D

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NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
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6. NO PROPOSED WSD CABLE IN THE VICNITY OF THE SITE.
7. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.
8. NO WSD LAND ALLOCATION / WWR WITHIN THE SITE AREA.
9. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

SUBJECT SITE

PART COPY OF SALT WATER MAINS RECORD PLAN(S)

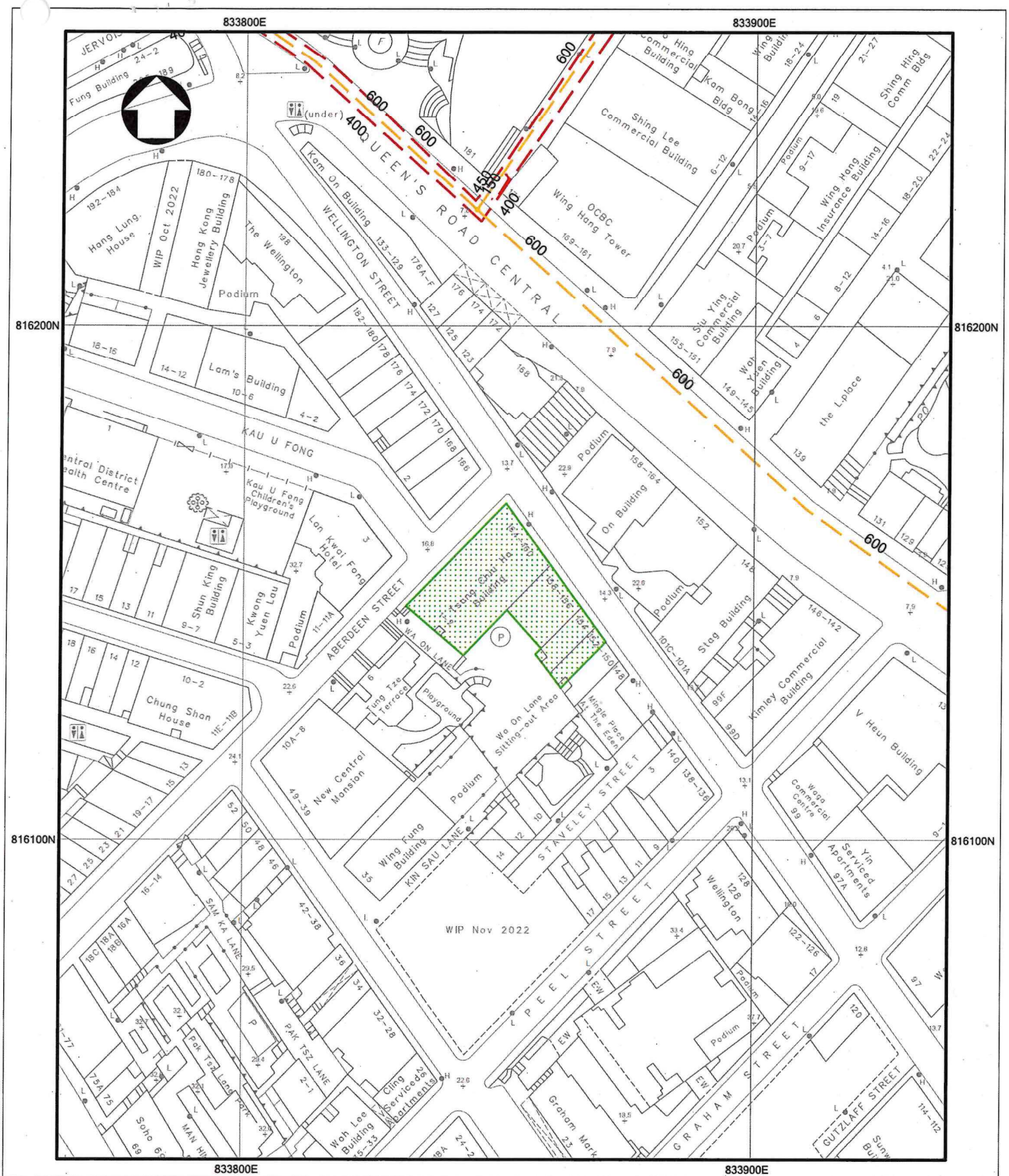
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NOTES:
1. PROPOSED FRESH WATER MAINS SHOWN THUS
2. PROPOSED SALT WATER MAINS SHOWN THUS
3. FOR PROPOSED WATER MAINS, PLEASE REFER TO PLANNING REPORT NO(S). 7/2000, 7/2019.

SUBJECT SITE

SUPPLEMENTARY INFORMATION OF PROPOSED WATER MAINS
PART COPY OF SURVEY SHEET NO(S).

11-SW-8B & 8D

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