

AQIA Report

PROPOSED MINOR RELAXATION OF PLOT RATIO RESTRICTION FOR PERMITTED FLAT AND PROPOSED SHOP AND SERVICES USES AT LOTS 4614 AND 4615 RP IN D.D. 116, LOTS 1753 S.B SS.3 (PART), 1753 S.B RP (PART), 1756 S.S (PART), 1756 RP (PART), 1757, 1758 RP AND 1760 RP IN D.D. 120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG, NEW TERRITORIES

Prepared for

Henderson Land Development Company Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED MINOR RELAXATION OF PLOT RATIO RESTRICTION FOR PERMITTED FLAT AND PROPOSED SHOP AND SERVICES USES AT LOTS 4614 AND 4615 RP IN D.D. 116, LOTS 1753 S.B SS.3(PART), 1753 S.B RP (PART), 1756 S.A (PART), 1756 RP(PART), 1757, 1758 RP AND 1760 RP IN D.D. 120, AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG, NEW TERRITORIES

QUALITATIVE AIR IMPACT ASSESSMENT

Date March 2024
Prepared by Kyle Kam
Assistant Environmental Consultant

Signed 

Approved by Tony Cheng
Senior Manager

Signed 

Project Reference HENYLSHEI00

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1. INTRODUCTION

1.1 Project Background

- 1.1.1 The Proposed Development is located at Residential Group B under the Draft Yuen Long Outline Zoning Plan (OZP) No. S/YL/26 which is designated for residential use. Below is the extract of the notes of the Yuen Long OZP for the use.

- 8 -

S/YL/26

RESIDENTIAL (GROUP B)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat	Ambulance Depot
Government Use (Police Reporting Centre, Post Office only)	Eating Place
House	Educational Institution
Library	Government Refuse Collection Point
Residential Institution	Government Use (not elsewhere specified)
School (in free-standing purpose-designed building only)	Hospital
Utility Installation for Private Project	Hotel
	Institutional Use (not elsewhere specified)
	Off-course Betting Centre
	Office
	Petrol Filling Station
	Place of Entertainment
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Recyclable Collection Centre
	Religious Institution
	School (not elsewhere specified)
	Shop and Services
	Social Welfare Facility
	Training Centre

- 1.1.2 Under the Column 1, flat and residential institution "i.e. residential use" is always permitted to be constructed at the Subject Site. The plot ratio of the residential use under the OZP is 3.5 and with a maximum building height of 25 storeys (excluding basement car park). As such, existing residential development "Serenio Verde" is located immediate east of the Subject Site.

- 1.1.3 Figure 1.1 shows the location of the Subject Site and the surrounding developments.
- 1.1.4 During the land exchange application, as per the Transport Department's request, a strip of land along the Tai Shu Ha Road East has to be reserved as non-building area of the proposed development. This strip of land is reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East from neither the Transport Department nor the project proponent. Similarly, there is also another non-building area along Tai Tong Road reserved for road widening if there is a plan in future.
- 1.1.5 Under this current planning application, the Applicant proposed to have 20% plot ratio relaxation, i.e. to have an additional 4 storeys increase from 20 storeys to 24 storeys.
- 1.1.6 Ramboll Hong Kong Limited (the Consultant) has been commissioned by the Applicant to conduct this qualitative air quality impact assessment in relation to the planning application. Architectural drawings and technical information of the Subject Site were provided by project proponent.
- 1.2 Subject Site and its Environs
- 1.2.1 The Subject Site is located at the junction of Tai Tong Road and Tai Shu Ha Road East. The site is currently zoned as "Residential Group B (R(B))".
- 1.2.2 The Subject Site is bounded by road carriageways, Tai Tong Road to the north and Tai Shu Ha Road East to the southwest of the Subject Site. Tai Shu Ha Road West is located further southwest of the Subject Site; while Yuen Long Highway is located further south of the Subject Site. An existing residential development "Sereno Verde" is located to the northeast of the Subject Site.
- 1.2.3 Figure 1.1 shows the location of the Subject Site and the surrounding environs.
- 1.3 The Proposed Development
- 1.3.1 The Proposed Development will mainly comprise of 1 residential tower with 25 storeys (the maximum building height is 101 mPD). As shown in the section, club house and E/M use are located at ground floor and 1st floor. Residential storeys start from 2/F to 24/F.
- 1.3.2 Master layout plans and sections of the Proposed Development are shown in Appendix 1.1.

2. AIR QUALITY IMPACT ASSESSMENT

2.1 Introduction

2.1.1 This air quality impact assessment is prepared to evaluate potential air quality impact on the Proposed Development as well as potential impact to the surroundings, if any.

2.2 Construction Phase Air Quality Impact

Fugitive Dust Emission

2.2.1 The major concern of air quality impact during the construction phase will be the potential fugitive dust emission. The major dust emission sources during the construction phase of the Subject Site are expected to arise from construction activities during site formation stage such as:

- Excavation resulting in exposed ground vulnerable to air erosion;
- Earth moving, loading and unloading of excavated material;
- Wind effect on material stockpiling; and
- Vehicle movements on haul roads and over the construction site.

2.2.2 There will be potential impacts from the criteria pollutants (e.g., nitrogen oxides (NO_x), sulphur dioxide (SO₂), and carbon monoxide (CO)) from exhaust emission. Emission from diesel trucks for the haulage of materials and construction plants will contain high percentage of smoke particulate and unburned hydrocarbons in comparison with petrol driven vehicles. Ultra-low sulphur diesel (ULSD) with sulphur content not exceeding 0.005% by weight will be used as fuel to minimize SO₂ emission. Impact on the existing air quality is considered limited. In all circumstances, the contractor will be required to observe all relevant regulations and maintain all equipment in good condition to avoid any excessive emission. Under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted non-road mobile machineries (including mobile generator, air compressor, excavator, crawler crane, bulldozer and etc.) with a proper label are allowed to be used in the construction site.

2.2.3 In addition, availability of electricity supply during construction of the project will be explored and such requirement will be specified in future contract. If available, contractor should maximise use of electricity and with least reliance of diesel fuelled equipment (e.g., for electricity powered stationary equipment such as pump instead of using generator).

Representative Air Sensitive Receivers (ASRs)

2.2.4 The Subject Site is located in rural area. There are a number of village and residential developments in the vicinity, which are considered as ASRs. These representative ASRs are shown in Table 2.1 and tabulated below. Figure 2.1 shows the location of these existing ASRs.

Table 2.1 Summary of Representative Air Sensitive Receivers

ASR	Description	Type	Approximate Horizontal Distance to the Proposed Development
ASR01	Sereno Verde Block 7	R(B)	~32m to the northeast
ASR02	Sereno Verde Block 6	R(B)	~88m to the northeast

ASR03	Sereno Verde Block 5	R(B)	~92m to the northeast
ASR04	Sereno Verde Block 3	R(B)	~130m to the southeast
ASR05	Village near the Tai Shu Ha Road West	V	~39m to the Southwest
ASR06	Village near the Tai Shu Ha Road West	V	~1m to the Southwest
ASR07	Village near the Tai Shu Ha Road West	V	~1m to the West

Mitigation Measures for Fugitive Dust Emission

- 2.2.5 Fugitive dust emission arising from construction activities can be effectively suppressed by incorporating proper mitigation measures into work procedures through contractual clauses, good site management, and close monitoring by the resident engineers. The contractor shall be required to follow the requirements of the Air Pollution Control (Construction Dust) Regulations. With the adoption of good practices, it is expected that emission of construction dust can be kept at an acceptable level. The recommended dust mitigation measures are described below. In addition, EPD's recommended pollution control clause for construction contracts will be incorporated and required in future tender document to ensure that all relevant environmental protection and pollution control ordinances are observed and complied.

General Site Management

- 2.2.6 Appropriate working methods should be devised and arranged to minimise dust emissions and to ensure any installed control system and/or measures are operated and/or implemented in accordance with their design merits. No free falling of construction debris should be allowed, which should be let down by hoist or enclosed tunnel to the ground.
- 2.2.7 Frequent mist/water spraying should be applied on dusty areas. The frequency of spraying will depend upon local conditions such as rainfall, temperature, wind speed and humidity. The amount of water spraying should be just enough to dampen the material without over-watering which could result in surface water runoff.
- 2.2.8 Hoarding of not less than 2.4m high from ground level along site boundary, which is next to a road or other public area should be provided.

Vehicles and Unpaved Site Roads

- 2.2.9 Dust emission from unpaved roads comes predominantly from travelling of vehicles. Areas within the site where there are regular vehicle movements should have an approved hard surface. Speed controls at an upper limit of 10km/hr should be imposed and their movements should be confined to designed roadways within the site. All dusty vehicle loads should have side and tail boards covered by tarpaulin extending at least 300mm over the edges of the side and tail boards. Wheel-wash troughs and hoses should be provided at exit points of the site.

Material Stockpiling and Handling

- 2.2.10 The amount of stockpiling should be minimised where possible. Construction material or debris should be covered and stored inside enclosed areas. Other control measures such as enclosed or semi-enclosed windboard should be used, where applicable, to minimise dust emission. Regular watering is needed at areas such as storage piles, where there could be potential dust emission. Placing dusty material storage piles near ASRs should be prevented.

2.2.11 Moreover, as the Subject Site is close to the nearby ASRs (i.e. Sereno Verde Block 3, 5, 6 and 7 and village near Tai Shu Ha Road West). The following control measures are suggested to minimise the potential construction impact to the nearby ASRs:

- Plan site layout so that machineries, dust causing activities and stockpiling are away from receptors as far as possible;
- Higher site hoarding ($\geq 3\text{m}$) should be implemented where there are receptors at close proximity to the construction site and dusty activities;
- Haul road shall be away from the project boundary as much as possible.

2.3 Operational Phase Air Quality Impact

Industrial Emission Impact

2.3.1 The Subject Site is surrounded by residential developments (to the Northeast and Southeast of the Subject site), Open Space (to the Southwest and Northwest of the Subject Site), and Village Type Development (to the West of the Subject Site).

2.3.2 According to the observation in desktop review and the site visit carried out in October 2023 (See Appendix 2.1), there is no emission source such as chimney stack or any other emission like fluff, odour, smoke identified within 200m from the Subject Site. In addition, during the site visit, no air/odour nuisance from the nearby areas (e.g., Tai Sang Feeds Co., Ltd, nearby nullah and workshops) was found at the site boundary of the proposed development.

2.3.3 No adverse air quality impact due to industrial emission and any other emission from fixed sources is expected.

Vehicular Emission Impact

2.3.4 The Subject Site is surrounded by Tai Shu Ha Road East to the west, and Tai Tong Road to the North.

2.3.5 Table 3.1 in Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG) has been referenced (shown below as Table 2.2) for provision of buffer separation from identified air pollution sources in the vicinity.

Table 2.2 HKPSG's Recommended Minimum Buffer Distance from Roads

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	<i>Type of Road</i>		
	Trunk Road and Primary Distributor	>20m	Active and passive recreation uses
		3 - 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational uses
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational uses
		<5m	Passive recreational uses
Under Flyovers	<5m	Passive recreational uses	

2.3.6 The endorsement of the road type of the adjacent road from Transport Department is attached in Appendix 2.2. It is clarified that there is no road widening road of Tai Shu Ha Road East and Tai Tong Road. As mentioned in Section 1.1.4, there is a trip of non-building area along the existing road kerb of the Tai Shu Ha Road East and Tai

Tong Road. The non-building areas are reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East and Tai Tong Road from neither the Transport Department nor the project proponent.

- 2.3.7 Figure 2.2 shows the distance between the Proposed Development and surrounding road. Based on the setback, the proposed development has a separation to the existing Tai Shu Ha Road East larger than 5m which comply with the relevant buffer distance 5m of local road requirement stipulated in Table 3.1 of Chapter 9 – Environment. Besides, it is confirmed that there no air-sensitive uses of the proposed development including openable window, fresh air intake and recreational use in the open space located within the relevant buffer distance 5m of local road requirement stipulated in Table 3.1 of Chapter 9- Environment.
- 2.3.8 Therefore, it is considered that the future occupant would not be subject to adverse air quality impact.

2.4 Conclusion

- 2.4.1 Potential air quality impacts arising during construction phase of the Proposed Development have been assessed. With the implementation of effective environmental mitigation measures, the potential impacts are anticipated to be insignificant. In conclusion, it is envisaged that construction phase environmental impacts arising from the Proposed Development would be insignificant.
- 2.4.2 As confirmed by site survey in Oct 2023, there is no industrial emission identified within 200m from the Proposed Development, which meets the buffer distance requirement under the HKPSG. In addition, the relevant HKPSG vehicular buffer distance to the Proposed Development is fulfilled.
- 2.4.3 Furthermore, The air sensitive uses in the Proposed Development including fresh air intake location, openable window and active recreational uses are designed to meet the buffer distance requirement with respect to the nearest existing carriageways.
- 2.4.4 Therefore, no adverse air quality impact during both construction and operational phases for the Proposed Development are anticipated.

3. CONCLUSION

- 3.1.1 The Proposed Development is located at Residential Group B under the Draft Yuen Long Outline Zoning Plan (OZP) No. S/YL/26 which is designated for residential use. The current planning application is to apply for the minor plot ratio relaxation, i.e. an increase of the residential floors. According to the project proponent, there will be an increase of four residential floors on top of the proposed development.
- 3.1.2 A strip of land along the Tai Shu Ha Road East and Tai Tong Road have to be reserved as non-building area of the proposed development. The non-building areas are solely reserved with a view not to jeopardizing the potential road widening works in the future, if necessary. Under current status, there is no planning for the road widening of Tai Shu Ha Road East and Tai Tong Road from neither the Transport Department nor the project proponent.
- 3.1.3 Two potential air quality impacts, construction phase and operation phase, have been reviewed in this qualitative noise impact review.
- 3.1.4 With adequate construction phase mitigation measures, the potential construction dust impact from the Proposed Development to the adjacent Air Sensitive Receivers would be minimized.
- 3.1.5 As confirmed by site survey in Oct 2023, there is no industrial emission identified within 200m from the Proposed Development, which meets the buffer distance requirement under the HKPSG. In addition, the relevant HKPSG vehicular buffer distance to the Proposed Development is fulfilled.
- 3.1.6 As mentioned above, the air sensitive uses in the Proposed Development including fresh air intake location, openable window, fresh air intake and recreational use in the open space are designed to meet the buffer distance requirement with respect to the nearest existing carriageways.
- 3.1.7 Therefore, no adverse air quality impact during both construction and operational phases for the Proposed Development are anticipated.

Figures

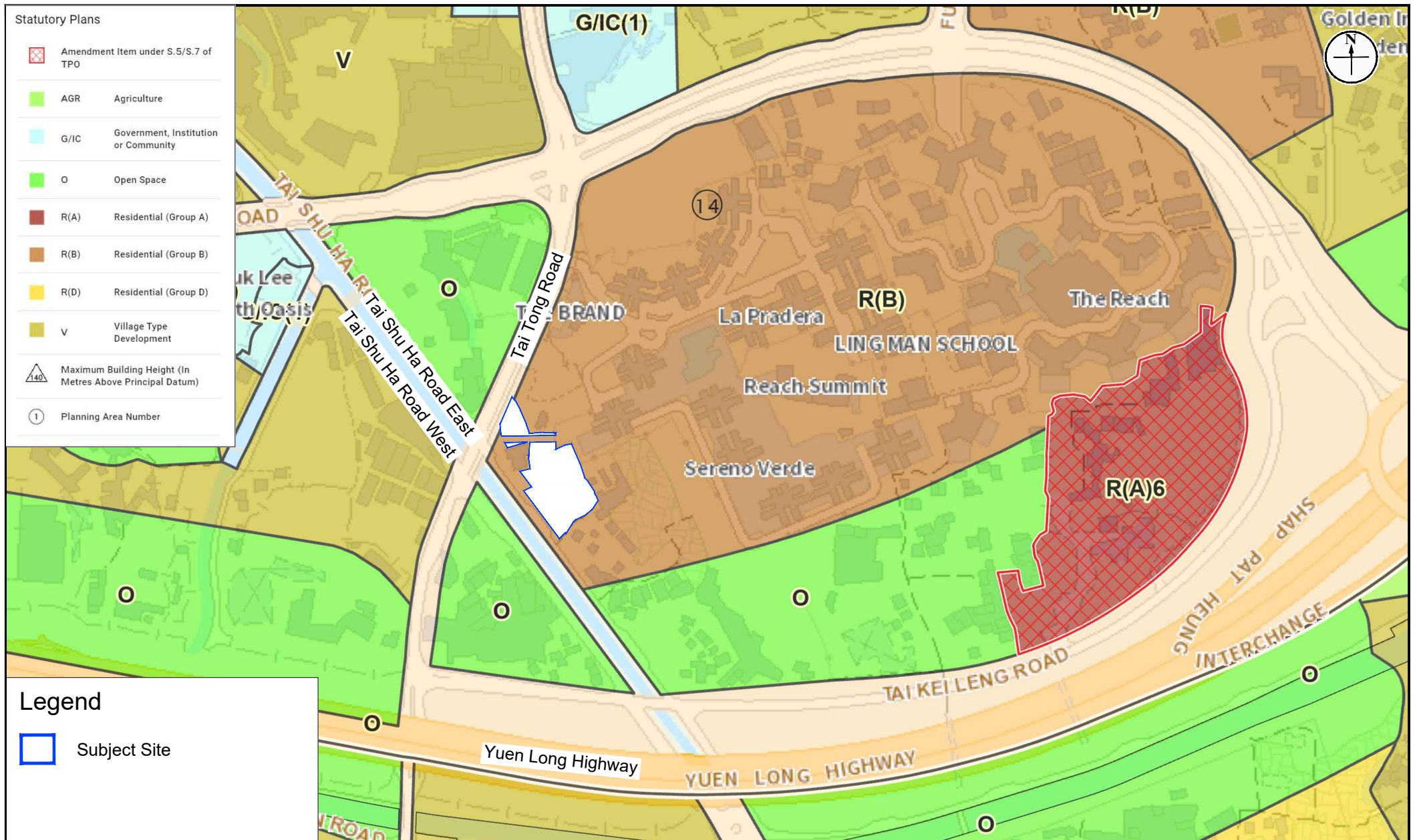


Figure: 1.1

Title: Location of the Subject Site and its Environs

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

RAMBOLL

Drawn by: CL

Checked by: TC

Rev.: 1.0

Date: Oct 2023

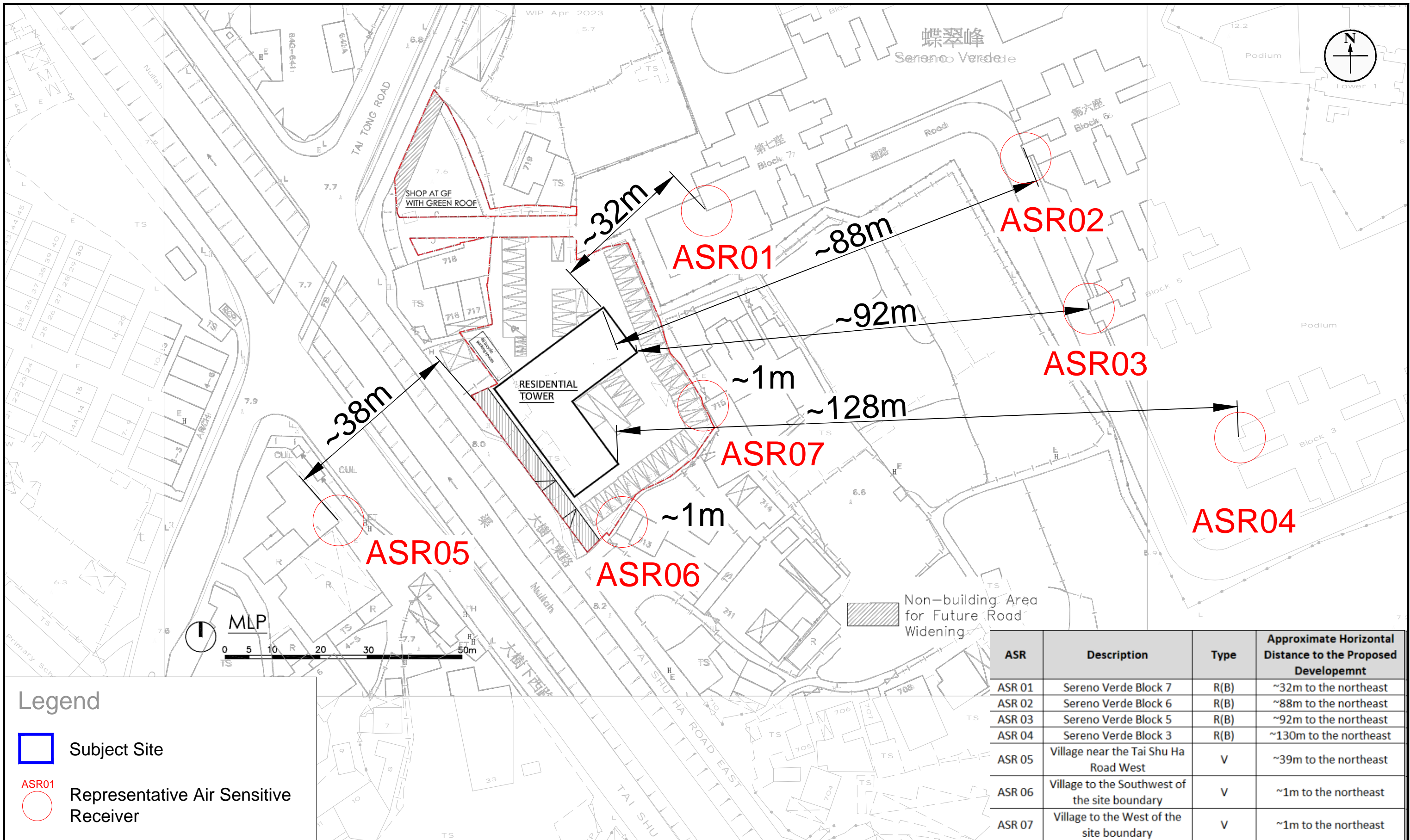


Figure: 2.1

Title: Location of Representative Air Sensitive Receivers during Construction Phase

RAMBOLL

Drawn by: CL

Checked by: TC

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

Rev.: 1.0

Date: Oct 2023

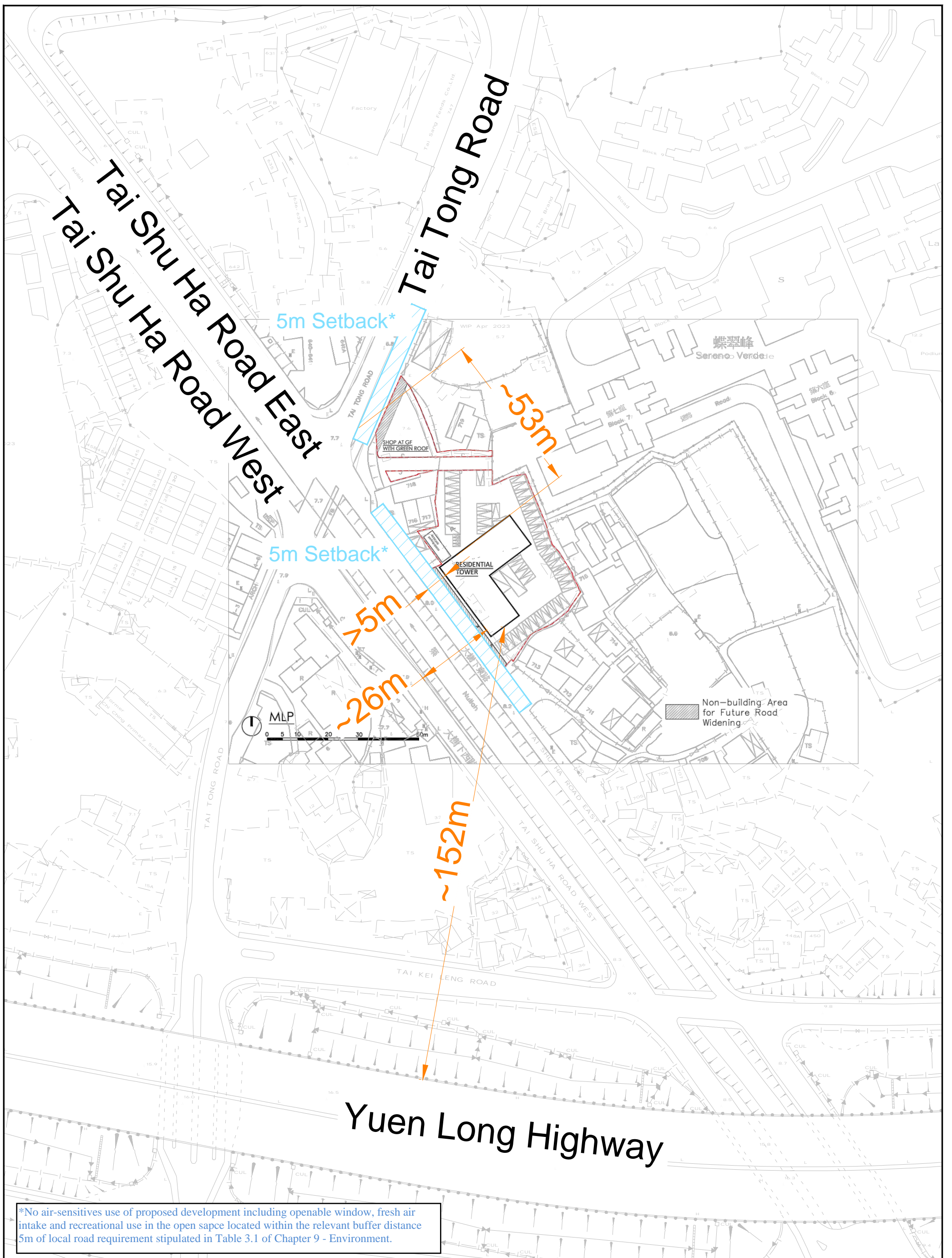


Figure: 2.2

Title: Distance Between the Proposed Development and Surrounding Roads

Project: Proposed Minor Relaxation of Plot Ratio Restriction for Permitted Flat And Proposed Shop And Services Uses At Lots 4614 And 4615 RP In D.D. 116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part), 1756 S.A(Part), 1756 RP(Part), 1757, 1758 RP And 1760 RP In D.D. 120, And Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

RAMBOLL

Drawn by: KK

Checked by: TC

Rev.: 1.0

Date: Mar 2024

AQIA Report

Proposed Minor Relaxation of Plot Ratio
Restriction for Permitted Flat and Proposed Shop and
Services Uses at Lots 4614 and 4615 RP in D.D.
116, Lots 1753 S.B SS.3 (Part), 1753 S.B RP (Part),
1756 S.S (Part), 1756 RP (Part), 1757, 1758 RP and
1760 RP in D.D. 120, and Adjoining Government
Land, Tai Kei Leng, Yuen Long, New Territories

Appendix 1.1

Master Layout Plans and Sections of the Proposed Development

蝶翠峰
Sereno Verde

TAI TONG ROAD

第七座
Block 7

道路
Road

第六座
Block 6

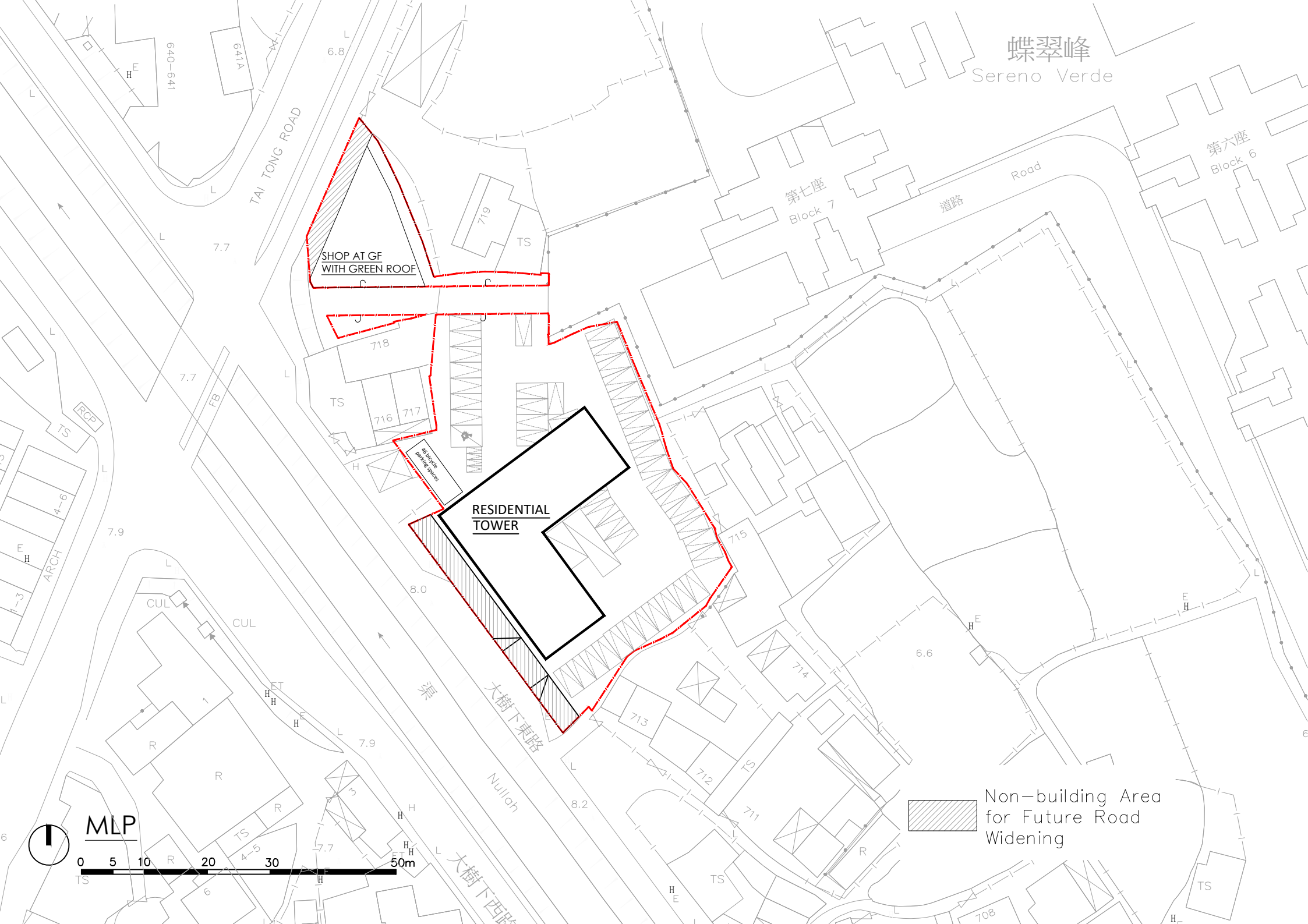
SHOP AT GF
WITH GREEN ROOF

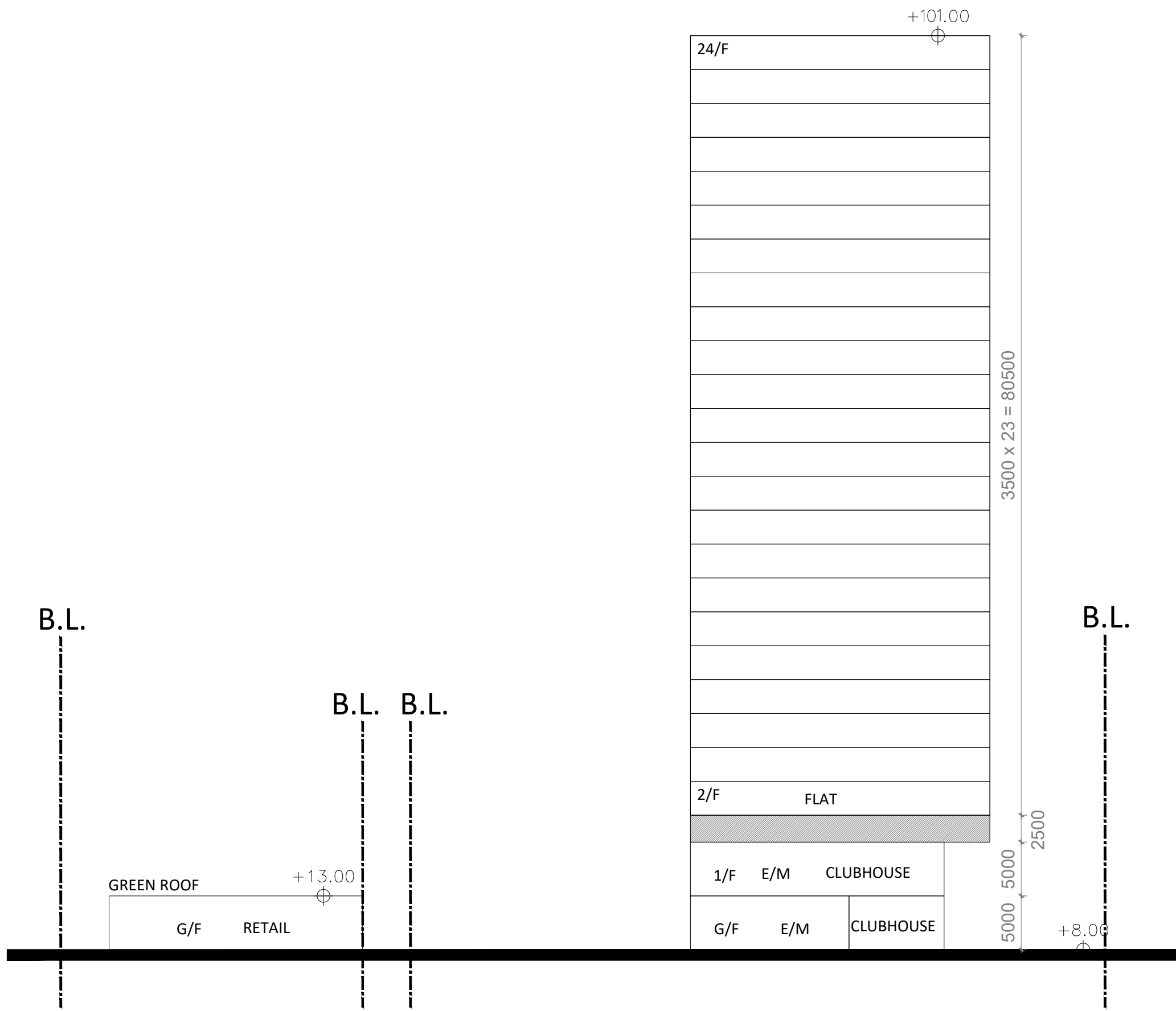
RESIDENTIAL
TOWER

46 people
parking space

Non-building Area
for Future Road
Widening

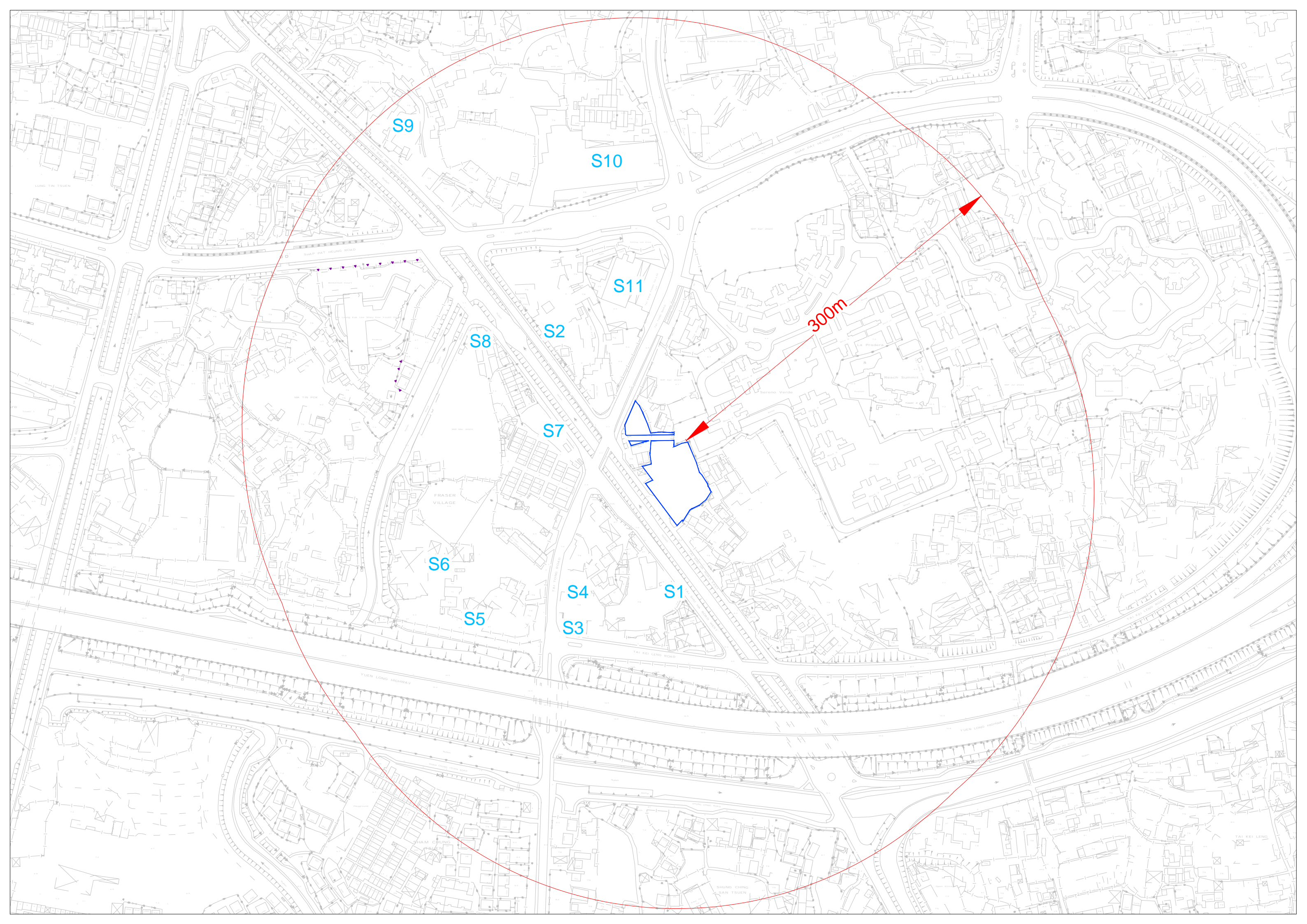
MLP





SECTION A-A

Appendix 2.1 Site Survey Checklist



S9

S10

S11

S2

S8

S7

S6

S4

S1

S5

S3

300m

YUEN LONG HIGHWAY

SHAP PAT HEUNG ROAD

TAI KEI LUNG ROAD

FRASER VILLAGE

SHAM CHUNG

SHUNG CHING SAN TSUEN

Appendix 2.2 Transport Department's (TD) endorsement on Road Type of
Adjacent Road of Subject Site



Our Ref: J7231/2

22 August 2023

Transport Department, NT Regional Office
Traffic Engineering (NTW) Division
Yuen Long 1 Section
7/F, Mongkok Government Offices,
30 Luen Wan Street, Mongkok, Kowloon.

Attn: Mr. IP Chi Wai, Louis (Engr /Yuen Long South)
(BY POST & Email: chiwaiip@td.gov.hk)

Dear Mr. IP,

Proposed Flat and Shop and Services Uses with Minor Relaxation of Plot Ratio Restriction at Lots 4614 and 4615RP in DD116, and Lots 1753sBRP (part), 1753sBss3 (part), 1756sA (part), 1756RP (part), 1757, 1758RP, 1760RP in DD120, and adjoining Government land, Tai Kei Leng, Yuen Long (TPB Application Nos. A/YL/303)

Road Type for Environmental Assessment

The Environmental Protection Department ("EPD") requested Transport Department to endorse the road type for Tai Shu Ha Road East adopted in the Environmental Assessment for the captioned.

We have checked the Annual Traffic Census ("ATC") published by Transport Department and unable to find the road type for Tai Shu Ha Road East. With reference to the Transport Planning and Design Manual, we are of the view that Tai Shu Ha Road East should be classified as feeder road because this road connect villages or more remote settlements to a Rural Road which is known as Tai Tong Road.

We would greatly appreciate it if your department could confirm agreement to the road type of Tai Shu Ha Road East adopted, i.e., feeder road.

Should you have any queries, please do not hesitate to contact our Mr. Willy LAI or the undersigned.

Thank you for your attention.

Yours sincerely,

CHIN Kim Meng

Director

cc: Client & Design Team (by e-mails)
KIM/LKW

By Fax and by Post
2528 6343



運輸署
Transport Department

本署檔案 Our Ref. : (NNSZ2) in TD NR157/161/YLDD-120
來函檔號 Your Ref. : J7231/2
電話 Tel. : 2399 2565
圖文傳真 Fax : 2381 3799
電郵 Email : chiwaiip@td.gov.hk

28 August 2023

CKM Asia Limited
21st Floor, Methodist House,
36 Hennessy Road,
Wanchai, Hong Kong
(Attn: Mr. CHIN Kim Meng)

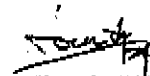
Dear Mr. CHIN,

**Proposed Flat and Shop and Services Uses with Minor Relaxation of Plot Ratio
Restriction at Lots 4614 and 4615RP DD116, and Lots 1753sBRP (part), 1753sBss3(part),
1756sA (part), 1756RP(part), 1757, 1758RP, 1760RP in DD120, and adjoining Government land,
Tai Kei Leng, Yuen Long (TPB Application Nos. A/YL/303)**


Road Type for Environmental Assessment

We refer to your letter dated 22 August 2023 regarding the captioned. We have no comment on your proposed road type, i.e. the road section of Tai Shu Ha Road East abutting the Application Site as Feeder Road.

Yours faithfully,


(Louis IP)

for Commissioner for Transport



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