

Annex A

Revised Environmental Assessment Study

**Application for Amendment of Plan
under Section 12A of the Town
Planning Ordinance (Cap. 131) to
Rezone the Application Site from
“Green Belt” to “Residential (Group
C)1” for Proposed House
Development at Various Lots in D.D.
244 and Adjoining Government
Land, Nam Pin Wai, Sai Kung**
Environmental Assessment Study

REP-02-001

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 294065

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Executive Summary

This Environmental Assessment Study (EAS) was prepared in support of the Section 12A Planning Application for Proposed House Development at Various Lots in D.D.244 and Adjoining Government Land, Nam Pin Wai, Sai Kung, New Territories. The total area of the Application Site (the Site) is about 6,601m².

The Application Site is bounded by New Hiram's Highway to the east. Road traffic noise assessment has shown that with provision of the recommended acoustic windows (baffle type), all residential units will comply with the criterion of 70 dB(A) and a compliance rate of 100% could be achieved. Therefore, adverse road traffic noise impact is not anticipated.

Two potential fixed noise sources, including Pat Chun Foods & Soys Factory and Ho Chung Welfare Facilities Block have been identified within 300m assessment area of the Application Site. No noticeable fixed noise was perceived at the boundary of these potential fixed noise sources. Hence, potential fixed noise impact on the Proposed House Development is not anticipated.

For the planned fixed plant noise sources at the Planned Wo Mei Local Sewage Treatment Plant located to the east of the Application Site, acoustic measures such as enclosing all mechanical equipment inside building structure and use of silencers/acoustic louvers and acoustic doors will be incorporated in the design. For the planned fixed plant noise sources in the Proposed House Development, measures such as installing intakes/exhausts at facades facing away from nearby NSRs, and installation of silencers/acoustic louvers at the intakes/exhausts will be considered. With appropriate noise mitigation measures, adverse noise impact from these planned fixed plant noise sources is not anticipated.

The current scheme has allowed sufficient setback distances from the nearby roads to meet the minimum requirement as stipulated in HKPSG. Adverse vehicular emission impact is not anticipated.

Two chimneys at Pat Chun Foods & Soys Factory to the west of the Application Site are identified within 500m from the Application Site. No plume or other emissions were observed during the survey. No adverse air quality impact on the Proposed House Development is anticipated.

For the Planned Wo Mei Local Sewage Treatment Plant, deodorization unit using activated carbon or biotrickling filter or other equivalent odour removal techniques will be installed to remove odour. For the proposed local sewage treatment plant within the Proposed House Development, mitigation measures such as providing adequate ventilation and use of activated carbon filter at exhaust and odour removal system would be provided during operation. Therefore, adverse air quality or odour impact from these sewage treatment plants is not anticipated.

A preliminary land contamination site appraisal through desktop research and site survey has been conducted. Results indicate that land contamination within the Application Site is not anticipated.

Waste management implications due to construction and operational phases are not anticipated provided good practices are in place.

For water quality, adverse impacts due to construction and operational phases are not anticipated, given mitigation measures and proper connection with public drainage and sewerage network should be maintained.

It is concluded that there are no adverse environmental impacts on the Application Site for the Proposed House Development at Various Lots in D.D.244 and Adjoining Government Land, Nam Pin Wai, Sai Kung, New Territories.

1 Introduction

1.1.1.1 This Environmental Assessment Study (EAS) was prepared in support of the Section 12A Planning Application for Proposed House Development at Various Lots in D.D.244 and Adjoining Government Land, Nam Pin Wai, Sai Kung, New Territories.

1.1.1.2 The Application Site, with a total site area of about 6,601m², is located at Nam Pin Wai in the Sai Kung District. In accordance with the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11, the current land use zoning of the Application Site is "Green Belt" ("GB").

1.1.1.3 This EAS is conducted to evaluate the potential environmental impacts on the Proposed House Development with respect to the guidance for environmental considerations provided in Chapter 9 – Environment of the Hong Kong Planning Standards & Guidelines (HKPSG). The major potential environmental impacts on the site include:

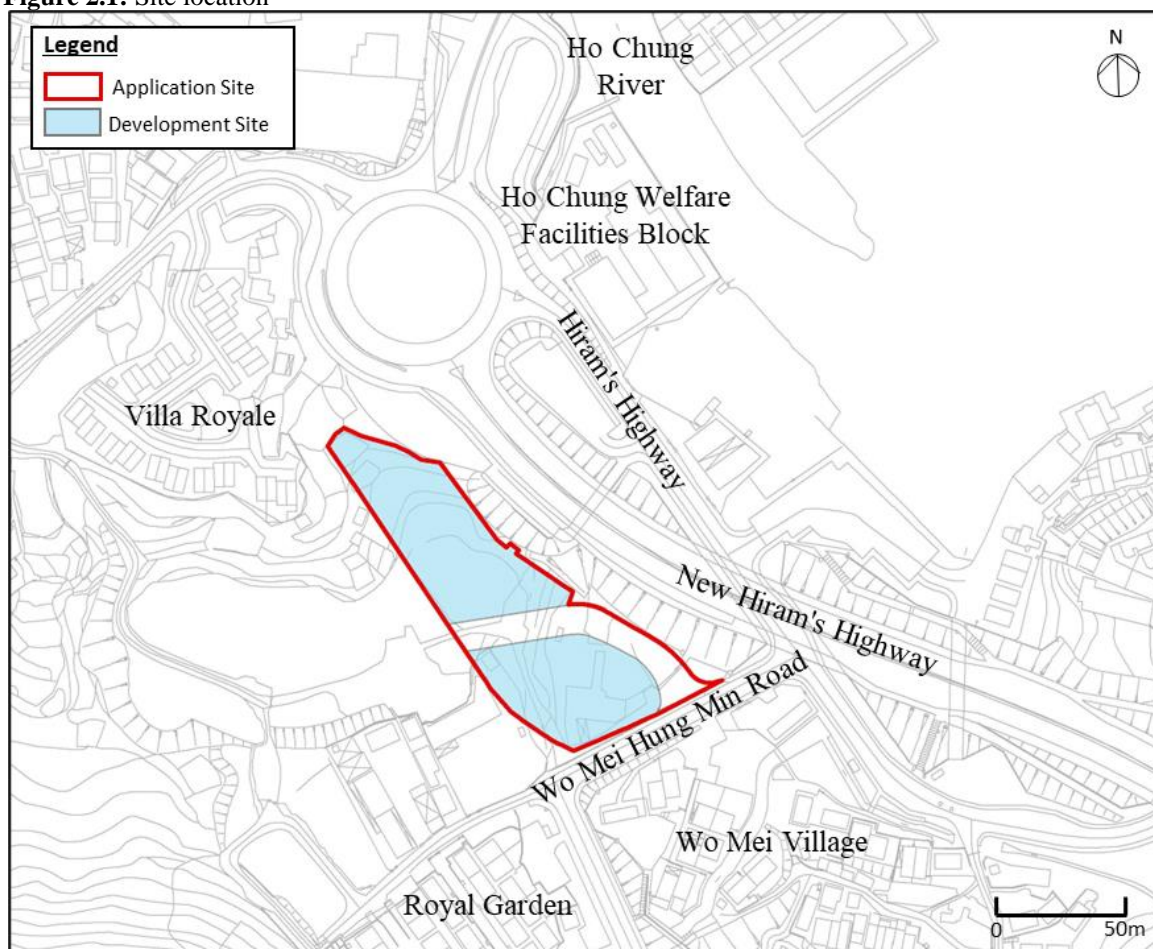
- traffic noise impact from the nearby road network; and
- air quality impact due to nearby road network and chimneys.

2 Site Location and Building Design

2.1 Site Location and Description

2.1.1.1 The Application Site is located to the west of the New Hiram's Highway and is situated in a predominantly low-dense residential neighbourhood. Currently, majority part of the Application Site is vacant, except the approved access road connecting to the adjoining house development which are both under construction. Only limited trees with generally low amenity value can be found on the Application Site. The adjoining housing development to the immediate west of the Application Site is a low-rise residential development under construction. Some other existing low-rise residential premises are surrounding the Application Site including Villa Royale, Royal Garden, Wo Mei Village, etc. Further to the northeast are Ho Chung Welfare Facilities Block and a mid-rise residential development under construction. The location of the Application Site and Development Site are illustrated in **Figure 2.1**.

Figure 2.1: Site location



2.1.1.2 In accordance with the Approved Ho Ching Outline Zoning Plan (OZP) No. S/SK-HC/11, the Application Site is currently zoned as "Green Belt" ("GB"). The areas in the vicinity

are mainly zoned as "Residential (Group C)1", "Residential (Group C)4", "Village Type Development" ("V"), "Government, Institution or Community" ("G/IC") and "Green Belt" ("GB").

2.2 Building Design

2.2.1.1 The Proposed House Development is divided into two phases: Phase 1 and Remaining Phase, which consists of 13 and 4 three-storey houses respectively. A one-storey standalone clubhouse is proposed to be situated close to the entrance of the Proposed House Development. A new Sewage Treatment Plant (STP) for support the Proposed House Development is planned at the underground level beneath the clubhouse. The tentative population intake year of the whole development is Year 2030.

2.2.1.2 The latest indicative scheme of the Proposed House Development is illustrated in **Appendix 2.1**. The internal layout plans are yet to be available at this planning application stage.

2.2.1.3 The key development parameters for the Application Site are given in **Table 2.1**. The layout plans and schematic section drawings are provided in the Planning Statement.

Table 2.1: Key development parameters for the Proposed House Development

		Parameters
Application Site Area		About 6,601 m ²
Development Site Area Excluding the Access Road ^[1]		About 5,355 m ²
Building Height & No. of Houses		
<i>Phase 1</i>	Building Height	12m
	No. of Storeys	3
	No. of Houses	13
<i>Remaining Phase</i>	Building Height	12m
	No. of Storeys	3
	No. of Houses	4
Target Completion Year		2030

Note:

[1] The area of the access road under the approved planning application no. A/SK-HC/223 is about 1246m².

2.3 EIAO Implication

2.3.1.1 This section is to identify if the proposed works/facilities of the development would constitute any Designated Project(s) (DPs) under the Environmental Impact Assessment Ordinance (EIAO). Details are discussed below.

Engineering Feasibility Study for Urban Development Projects

2.3.1.2 The Proposed House Development site is less than 50ha, and hence it does not fall into any Schedule 3 of EIAO.

Road Works

- 2.3.1.3** The site is currently served by existing Wo Mei Hung Min Road and a private access road which is bisecting the Application Site. Ingress and egress points of the site will be provided at Wo Mei Hung Min Road which is considered as minor work only. Therefore, it does not fall into the category of Item A.1 of Schedule 2 of EIAO and does not constitute a DP under EIAO.

Sewerage Works

- 2.3.1.4** Sewage generated from the Application Site will be conveyed by the internal sewerage system to the proposed Sewage Treatment Plant (STP) for treatment. The treated sewage will be discharge into the proposed drainage system along the access road and finally discharged to Ho Chung River via the stormwater drain along Wo Mei Hung Min Road and Hiram's Highway. Based on the latest engineering design, the design capacity of the new STP is about 32 m³/day. Therefore, it does not fall into the category of Item F.1 and Item F.2 of Schedule 2 of EIAO and does not constitute a DP under EIAO.

Drainage Works

- 2.3.1.5** As confirmed by the Engineers, the stormwater from the Proposed House Development is proposed to be discharged into the proposed local drainage system along the access road connecting to the stormwater drain along Wo Mei Hung Min Road and Hiram's Highway and finally discharges to Ho Chung River. The proposed drainage works do not fall into the category of Item I.1 of Schedule 2 of EIAO and do not constitute a DP under EIAO.

Works within Nearby Sensitive Areas Listed in Item Q.1

- 2.3.1.6** All works of the Proposed House Development will not encroach in an existing or gazetted proposed country park or special area, a conservation area, an existing or gazetted proposed marine park or marine reserve, a site of cultural heritage, and a site of special scientific interest. Therefore, the proposed works for the site do not fall into the category of Item Q.1 of Schedule 2 of EIAO and do not constitute a DP under EIAO.

3 Site Inspection

3.1.1.1 Site visit was carried out in January and November 2023. Photographs taken at the site and the neighbouring areas are given in **Photo 3.1** to **Photo 3.7** below.

3.1.1.2 The Application Site (**Photo 3.1**) is currently largely vacant with some existing trees. The site is mainly bounded by New Hiram's Highway (**Photo 3.2**) to the east and Wo Mei Hung Min Road (**Photo 3.3**) to the south. The site is surrounded by low-rise residential settlement and village houses to the north (i.e., Villa Royale (**Photo 3.4**) and Ho Chung New Village) and to the south (i.e., Royal Garden and Wo Mei Village (**Photo 3.5**)), and Ho Chung River (**Photo 3.6**) to the further northeast. Ho Chung Welfare Facilities Block (**Photo 3.7**), a Proposed Sewage Treatment Plant under construction and a mid-rise residential development under construction is located to northeast of the Application Site. A low-rise residential development under construction is located to the immediate west of the Application Site.

3.1.1.3 Based on site observation, the noise climate in the vicinity of the Application Site was dominated by road traffic noise from New Hiram's Highway and Hiram's Highway. No other significant noise was perceived at the Site.



Photo 3.5: Wo Mei Village



Photo 3.6: Ho Chung River



Photo 3.7: Ho Chung Welfare Facilities Block



4 Review of Road Traffic Noise Impact

4.1 Concerned Road Sections and Noise Sensitive Receivers

4.1.1.1 The noise climate in the vicinity of the Application Site was generally dominated by road traffic noise from New Hiram's Highway.

4.1.1.2 With reference to the HKPSG, Noise Sensitive Receivers (NSRs) shall include residential uses (all domestic premises including temporary housing accommodation), institutional uses (educational institutions including kindergarten, child care centres and all others where unaided voice communication is required), hotels, hostels, offices, places of public worship, courts of law, hospitals, clinics, convalescences, residential care homes for the elderly, amphitheatres, auditoria, libraries, performing arts centres and country parks. Based on the current development plan, the proposed residential towers, ancillary dormitories, R&D centre, data centre, commercial centre, kindergarten within the Application Site are regarded as NSRs.

4.2 Noise Criteria

4.2.1.1 In accordance with the HKPSG, the maximum permissible hourly road traffic noise levels at the external facades of different uses of NSRs for the Proposed House Development are summarized in **Table 4.1**. These criteria apply to premises relying on opened windows as a primary means for ventilation.

Table 4.1: Summary of noise criteria for road traffic noise

Proposed/Developments Facilities	Noise Sensitive Room with Openable Windows for Ventilation ^[1]	Uses	Noise Standards for Road Traffic Noise, L ₁₀ (1 hour) dB(A)
Residential Blocks	Residential Units	Domestic	70

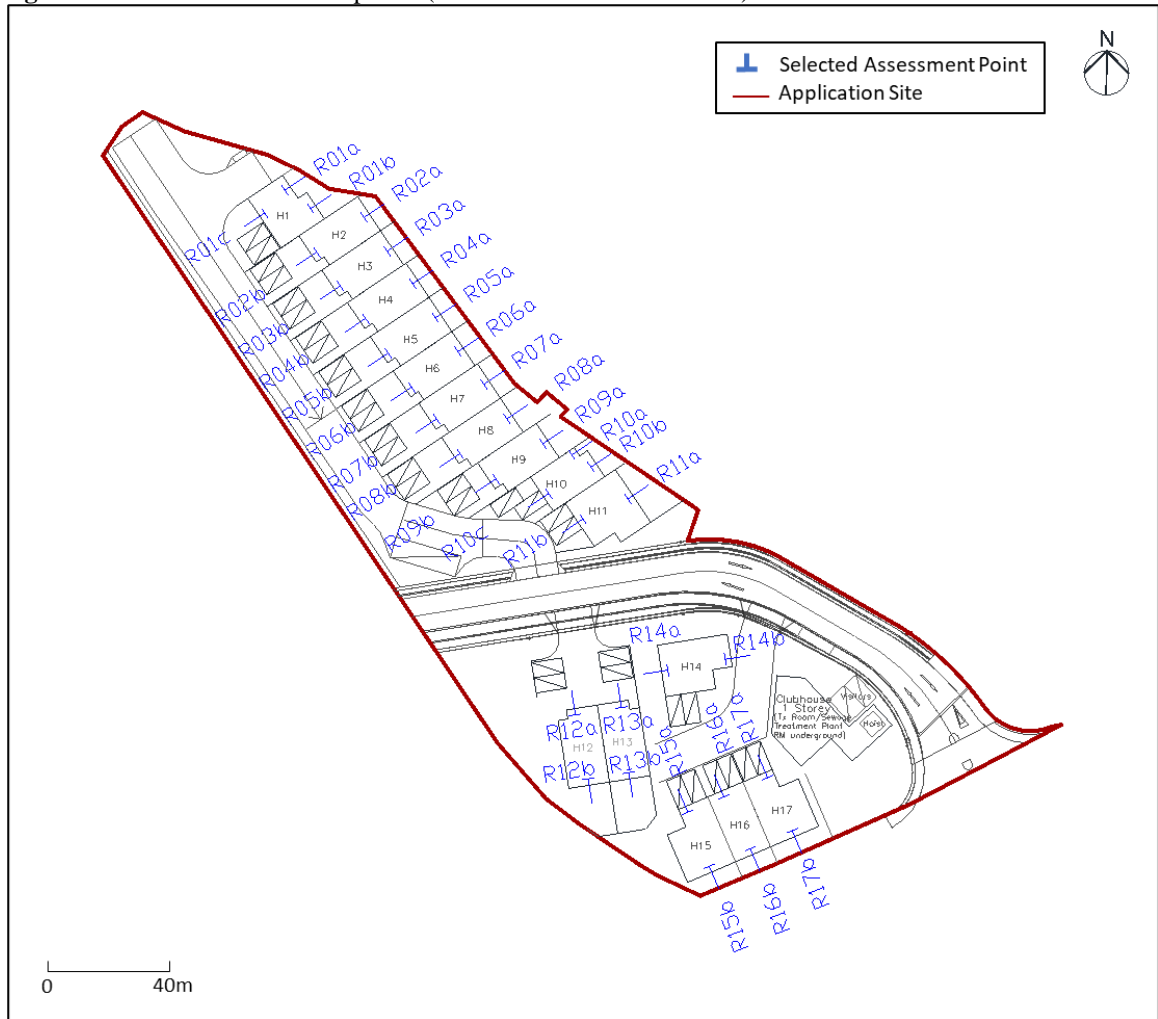
Note:

[1] The type of facilities and use of noise sensitive rooms are generally determined with respect to with reference to Table 4.1 of HKPSG, unless otherwise specified. All sensitive rooms which rely on opened windows for ventilation are identified.

4.3 Noise Assessment Points

4.3.1.1 Noise assessment points have been assigned to the external facades of the proposed residential blocks as representative noise assessment points. The locations of the selected assessment points are illustrated in **Figures 4.1**.

Figure 4.1: Selected assessment points (road traffic noise assessment)



4.4 Assessment Methodology

4.4.1.1 Traffic noise levels at the facades of the selected assessment points have been predicted. The prediction is based on the maximum traffic projection within 15 years upon the population intake of the development and calculation method in accordance with the UK Department of the Transport "Calculation of Road Traffic Noise" (CRTN).

4.5 Traffic Flow Data for Assessment

4.5.1.1 As advised by the Traffic Consultant, the maximum traffic flow within 15 years upon population intake of the Proposed House Development will occur in Year 2045. Traffic Impact Assessment (TIA) including the methodology on the traffic forecast for the EAS has been submitted to Transport Department (TD) for endorsement. The endorsement from TD is given in **Appendix 4.1**. The traffic consultant had checked and confirmed the validity of the traffic data, which was derived based on the traffic forecast methodology submitted to TD.

4.5.1.2 The traffic flow data for the major roads surrounding the Application Site have been reviewed and identified AM peak traffic data represented the worst-case scenario. They are presented in **Table 4.2** and **Figure 4.2**. Details are given in **Appendix 4.1**.

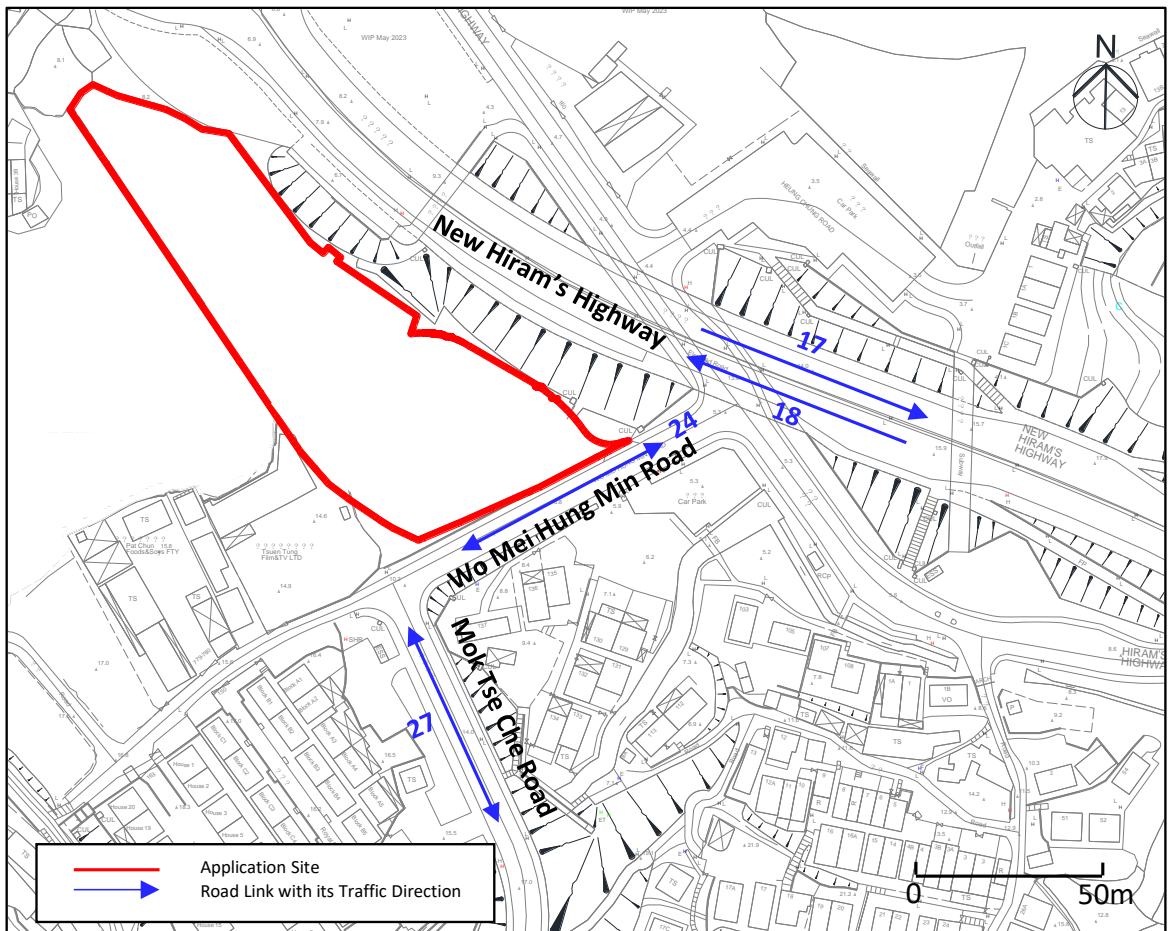
Table 4.2: Predicted peak hourly traffic flow on nearby roads

Road ID ^[1]	Road	Speed Limit (km/hr)	Year 2045	
			Traffic Flow (veh/hr)	% of Heavy Vehicles
17	New Hiram's Highway (EB)	70	1,400	13.0
18	New Hiram's Highway (WB)	50	1,150	24.0
24	Wo Mei Hung Min Road (22+23)	50	150	11.7
27	Mok Tse Che Road (25+26)	50	100	12.0

Note:

[1] Only nearby roads are shown in the table above. Hence, the Road ID is not in sequential order.

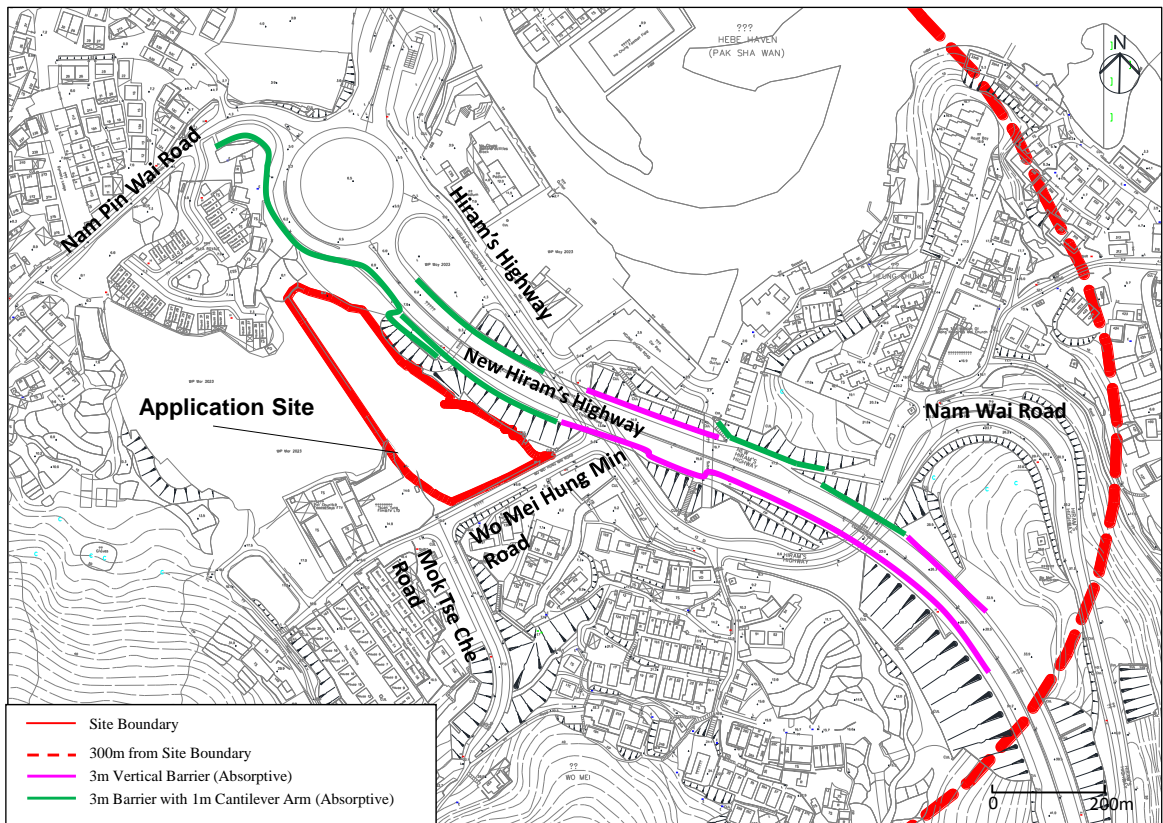
Figure 4.2: Roads in the vicinity of Application Site



4.6 At-source Road Traffic Noise Mitigation Measures

4.6.1.1 Combinations of cantilevered barriers and vertical barriers are currently in place along New Hiram's Highway. The locations of these existing barriers are illustrated in **Figure 4.3**. The existing at-source mitigation measures described above have been incorporated into the base scenario in the assessment.

Figure 4.3: Existing road traffic noise mitigation measures in vicinity of the Application Site



4.7 Optimised Building Design

4.7.1.1 Optimised building design and orientation have already been incorporated into the current layout scheme for the base scenario, as described below:

4.7.2 Building Block Design, Layout and Orientation

4.7.2.1 The current scheme is found to be the optimal option from the perspective of development efficiency, flat production, noise performance, scenery and angle of view, etc.

4.7.3 Building Setback

4.7.3.1 The Application Site is very small and has limited space available for building setback to reduce the noise impact effectively. Nonetheless, the building blocks have been deposited with optimised setback distance from New Hiram's Highway as far as practicable to minimise the traffic noise impact.

4.7.4 Balcony Wall Design

4.7.4.1 Due to security, safety and privacy reasons, side walls (in the height of 1.8m) and parapet wall (in the height of 1.1m) at the rear are provided at each house unit's private garden. These walls could minimize the direct line of sight to New Hiram's Highway, hence, to provide noise screening to openings facing New Hiram's Highway.

4.8 Assessment Results for Base Scenario

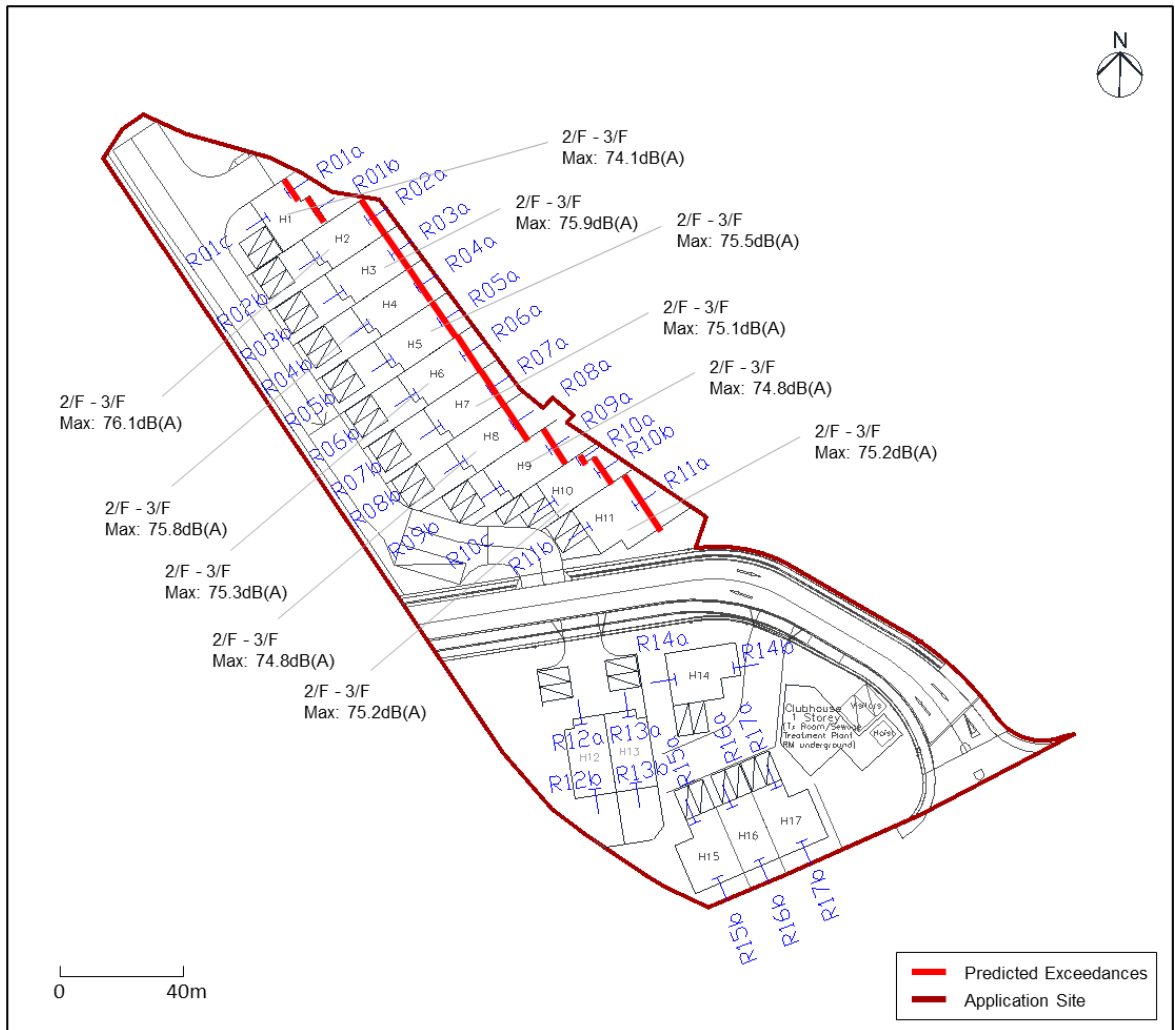
4.8.1.1 With the above optimised design, it is estimated that a total number of 11 houses will be exposed to the noise level in excess of the 70 dB(A) criterion and the overall compliance rate is 35.3%. Results of the road traffic noise assessments for the Proposed House Development are summarised in **Table 4.3**. Details are presented in **Appendix 4.2**.

Table 4.3: Road noise assessment results (Base Scenario)

Scenario	Total No. of Houses	No. of Houses Exceeding the Noise Criteria	Max. Predicted Noise Levels, dB(A)	Compliance Rate
Base Scenario	17	11	76.1	35.3%

4.8.1.2 Results indicate that the predicted exceedances are located on the northeastern facades directly facing New Hiram's Highway. The locations of exceedances are shown in **Figure 4.4** below.

Figure 4.4: Location of predicted exceedances



Note:

For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

4.9 Noise Mitigation Measures for Residential Block

4.9.1.1 Optimised building design has been adopted in the current scheme as described in the above sections. Other practicable noise mitigation measures have also been investigated and the findings are discussed as follows:

4.9.2 Boundary Wall / Barrier

4.9.2.1 Since the affected NSRs are found on 1/F and 2/F, barrier along the site boundary is not able to provide effective screening to the affected units.

4.9.3 Noise Shielding Building

4.9.3.1 The Application Site has limited space available for noise shielding building and hence will not be considered.

4.9.4 Acoustic Window Design (Baffle Design)

4.9.4.1 Based on the assessment results of base scenario, acoustic window (baffle type) is proposed as mitigation measure. The acoustic window is designed with two layers of window including push open window at outer layer and sliding window at inner layer. The opening and gap between the two layers of window allows sufficient air flow to satisfy ventilation requirement; while at the same time, direct transmitted noise to the room is obstructed by inner slide window and hence noise reduction could be achieved. In order to achieve the intended noise reduction, the sliding window should be behind the opened side-hung window while the fixed glazing should be kept close. Special locking device (e.g. allen key) would be installed to the fixed glazing at the outer layer for keeping them in the above setting. The fixed glazing at the outer layer needs not to be opened for ventilation. The schematic and sectional drawing of the proposed acoustic window (baffle type) is extracted from Practice Note on Application of Acoustic Windows (Baffle Type) in Planning Residential Developments against Road Traffic Noise Impact and shown in **Figure 4.5**. The locations of the proposed acoustic window (baffle type) are summarised in **Table 4.4** and indicated in **Figure 4.6**. On referencing to EPD's Practice Note on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact (PN 5/23), noise attenuation by the acoustic window (baffle type) is taken as 6 dB(A) for this assessment considering the proposed acoustic window will be parallel to dominant line source.

4.9.4.2 According to the PN 5/23, while the noise attenuation of acoustic window (baffle type) would vary with room sizes and window opening size, the following ranges of variations would not affect the Relative Noise Reduction (RNR) of acoustic window (baffle type):

- Variations of room size within $\pm 10\%$;
- Variations of floor-to-ceiling height within $\pm 5\%$; and
- Variations of window opening size $\pm 5\%$.

4.9.4.3 Should there be any variation on the room size, window opening size and configurations of acoustic window such as overlapping length or gap width, justifications with technical documents such as corrections, laboratory testing reports, in-situ measurement reports, etc. should be submitted to EPD for consideration. The principal and set-up of the laboratory and in-situ measurements should be agreed with EPD.

Table 4.4: Proposed locations of acoustic windows as mitigation measure for road traffic noise

Acoustic Window at NSR	Floor Requiring Acoustic Window
R01a	2/F - 3/F
R01b	2/F - 3/F
R02a	2/F - 3/F
R03a	2/F - 3/F
R04a	2/F - 3/F
R05a	2/F - 3/F
R06a	2/F - 3/F
R07a	2/F - 3/F
R08a	2/F - 3/F
R09a	2/F - 3/F
R10a	2/F - 3/F
R10b	2/F - 3/F
R11a	2/F - 3/F

Note:

For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Figure 4.5: Schematic and sectional drawing of acoustic window

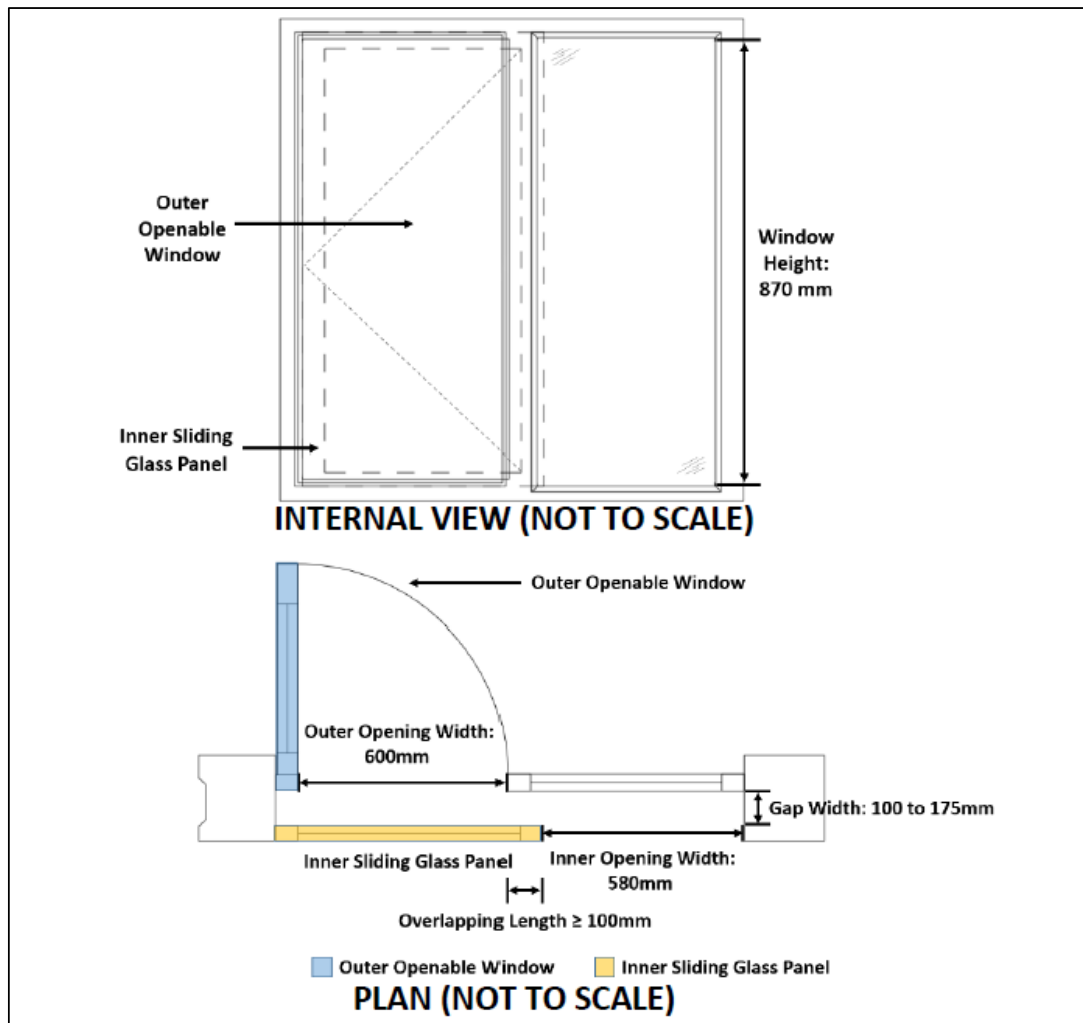
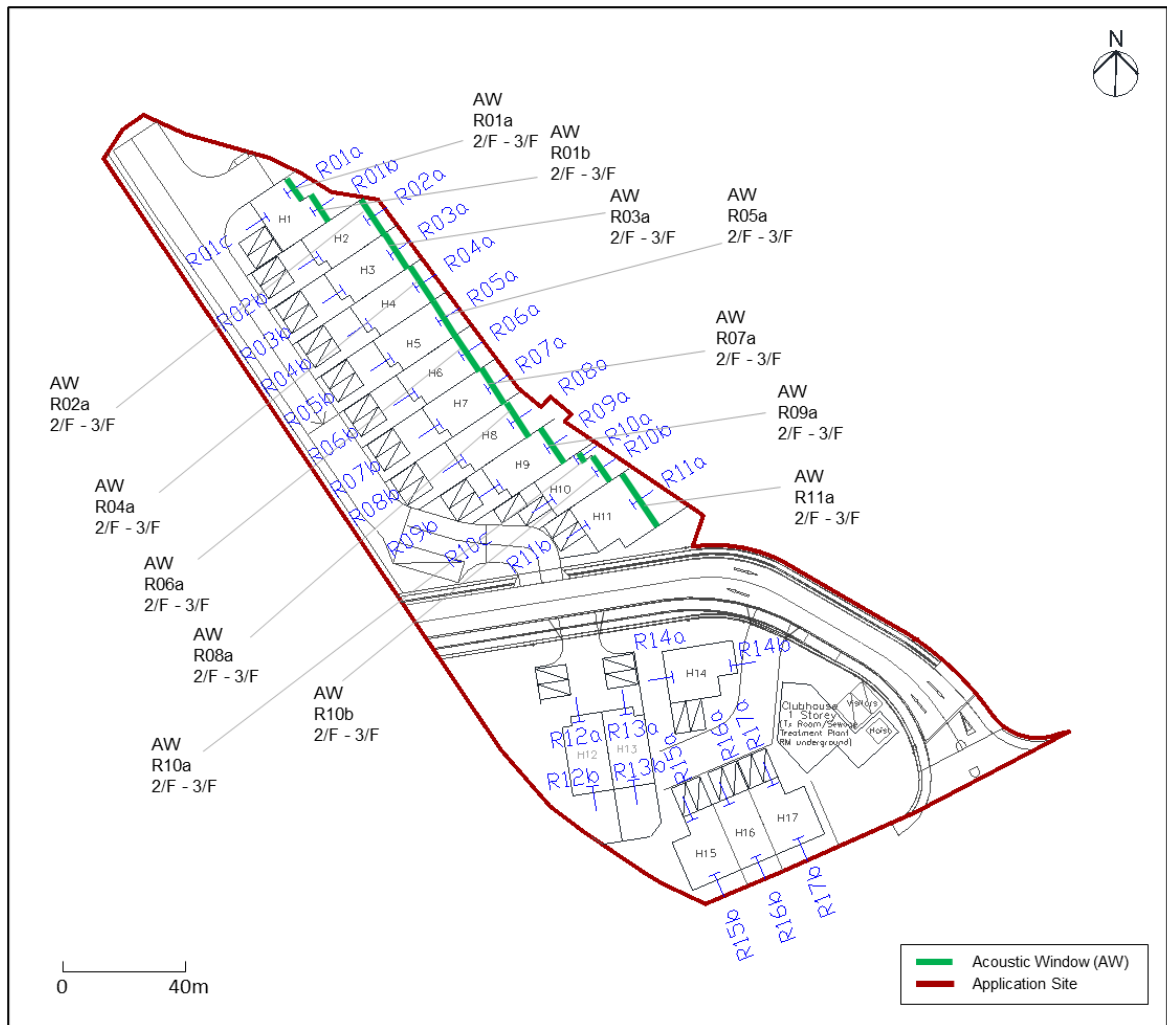


Figure 4.6: Proposed locations of acoustic window



Note:

For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

4.9.4.4 With the provision of the recommended acoustic windows (baffle type), all residential units will comply with the criterion of 70 dB(A) and a compliance rate of 100% could be achieved. Detailed results are attached in **Appendix 4.3**. Therefore, adverse road traffic noise impact is not anticipated.

5 Fixed Noise Assessment

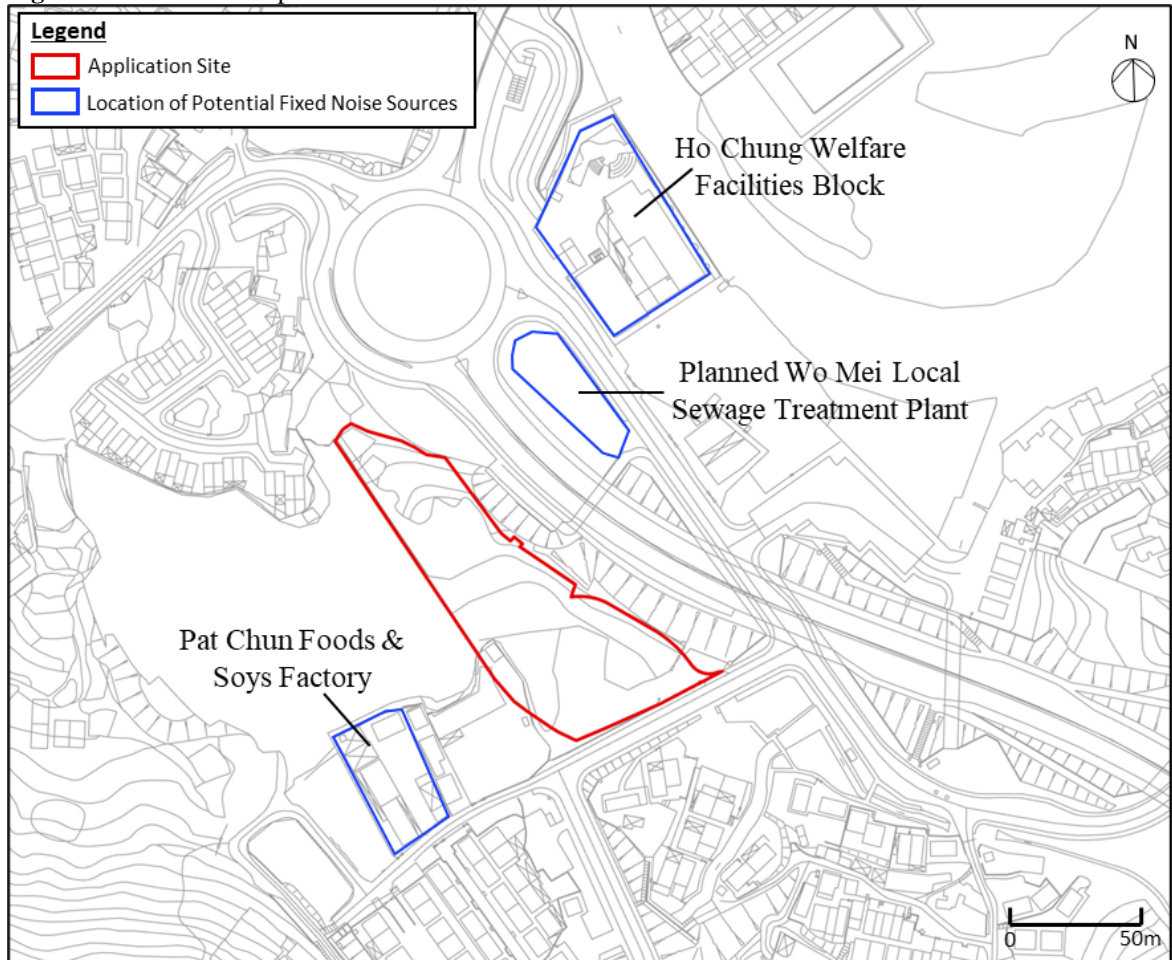
5.1 Review of Existing Fixed Noise Sources

5.1.1.1 Desktop study and site survey have been carried out in November 2023 to identify any potential fixed noise sources within 300m assessment area of the Application Site. **Figure 5.1** indicates the locations of the identified potential fixed noise sources. These include the existing Pat Chun Foods & Soys Factory to the southwest of the site and Ho Chung Welfare Facilities Block to the northeast of the site. All major and significant fixed noise sources which may have potential noise impact on the planned NSRs of the Proposed House Development have been identified and summarized in **Table 5.1**. Meanwhile, no major fixed noise sources are identified in Tsuen Tung Film & TV Ltd adjoining the site during the site survey.

Table 5.1: Summary of identified potential fixed noise sources

Name of Fixed Noise Source	Source
Pat Chun Foods & Soys Factory	<ul style="list-style-type: none"> It is located at about 40m to the southwest of the Proposed House Development. Site access is not allowed. Based on site inspection, no noisy activity was observed and noise was not perceived at the boundary of the factory.
Ho Chung Welfare Facilities Block	<ul style="list-style-type: none"> It is located at about 80m to the northeast of the Proposed House Development. Site access is not allowed. Based on the desktop study, no fixed plant is identified. No noticeable fixed noise was perceived at the boundary of the facilities block during the site inspection. Given the reason above, potential fixed noise impact on the Proposed House Development is not anticipated.

Figure 5.1: Locations of potential fixed noise sources



5.1.1.2 The existing noise climate is dominated by traffic noise during daytime and night-time. Based on site inspections, noise generated from the operation of Pat Chun Foods & Soys Factory and Ho Chung Welfare Facilities Block was not noticeable at the subject site. It is considered that adverse fixed plant noise impact on the Proposed House Development is not anticipated.

5.1.2 Review of Potential Fixed Plants Noise Impact Arising from the Planned Wo Mei Local Sewage Treatment Plant (STP)

5.1.2.1 **Figure 5.1** indicates the location of the Planned Wo Mei Local Sewage Treatment Plant (STP). Under Agreement No. CE 56/2012(DS), a Preliminary Environmental Review has been conducted and concluded that no noise impact is expected during operation of the STP. Acoustic measures such as enclosing all mechanical equipment inside the building structure, use of silencers / acoustic louvers and acoustic doors will be incorporated in the design of the STP. Therefore, adverse fixed plant noise impact from the Wo Mei local STP is not anticipated.

5.1.3 Review of Potential Fixed Plant Noise Impact Arising from the Proposed House Development

- 5.1.3.1** Fixed plants, including air-conditioning units, primary air-handling units and water pumps will be provided within the Proposed House Development. These fixed plants may have potential noise impact on the nearby NSRs. However, detailed information and specifications of these fixed plants are not available at the time of noise assessment. All fixed plants will be enclosed in the plant rooms with the intakes/exhausts located on the podium facades. It is suggested that the plant room intakes/exhausts should be installed at the facades facing away from the nearby existing NSRs such as The Yosemite, Royal Garden, and the adjacent planned residential development, and the planned NSRs within the Proposed House Development as far as practicable. If necessary, installation of silencers/acoustic louvres at the intakes/exhausts will be considered to further minimise the noise impact. The Contractor is required to carry out a noise commissioning test for the fixed plant sources before the operation of the Proposed House Development to ensure that the operational noise levels are in compliance with the relevant noise criteria stipulated in HKPSG and NCO.
- 5.1.3.2** With appropriate noise mitigation measures, adverse noise impact from the planned fixed plant noise sources due to the operation of the Proposed House Development is not anticipated.

6 Review of Construction Noise Impact

6.1 Legislation, Standards and Guidelines

6.1.1 General

6.1.1.1 The relevant legislation and associated guidance applicable to the present study for the assessment of noise impact include:

- Noise Control Ordinance (NCO) (Cap. 400);
- TM on Noise from Construction Work other than Percussive Piling (TM-GW);
- TM on Noise from Percussive Piling (TM-PP); and
- TM on Noise from Construction Work in Designated Areas (TM- DA).

6.1.2 Construction Noise Standards

6.1.2.1 There is no statutory noise limit for general construction works during daytime (i.e. 0700 to 1900 hours on any day not being a Sunday or general holiday) under the Noise Control Ordinance (NCO) and related Technical Memoranda (TMs) while the NCO provides statutory control of general construction works during restricted hours (i.e. 1900 to 0700 hours (of the next day) from Monday to Saturday and at any time on Sundays or general holidays). Nevertheless, ProPECC PN1/24 "Minimizing Noise from Construction Activities" stipulates criteria of 65 to 75dB(A) for daytime construction activities. **Table 6.1** below shows the criteria as stipulated in ProPECC PN1/24 "Minimizing Noise from Construction Activities".

Table 6.1: Noise standards for construction activities

Uses	Noise Standards ^[1] , L_{eq} (30mins)
	0700-1900 hours on any day not being a Sunday or general Holiday
<ul style="list-style-type: none"> • All domestic premises, • Temporary housing accommodation, • Hostels • Convalescent homes, and • Homes for the aged 	75
<ul style="list-style-type: none"> • Places of public worship, • Courts of law, and • Hospitals and medical clinics 	70
<ul style="list-style-type: none"> • Educational institutions (including kindergartens and nurseries) 	70 65 (During Examination)

Notes:

[1] The above standards apply to uses that rely on opened windows for ventilation.

[2] The standards shall be viewed as the maximum permissible noise levels assessed at 1m from the external façade.

6.2 Evaluation of Construction Phase Impact

6.2.1.1 Potential source of noise impact during construction phase would be construction noise generated from the use of Powered Mechanical Equipment (PME) for various construction activities. The key construction activities include site clearance, demolition, soil excavation for basement, piling works and superstructure works, which would involve the use of excavator, breaker, dump truck, etc.

6.2.1.2 The shortest horizontal separation distance between the site and the nearest NSR (i.e., Villa Royale House 39) is less than 20m. The Contractor would be required to implement the mitigation measures mentioned in ProPECC PN 1/24 "Minimizing Noise from Construction Activities" as good practices. By adopting appropriate mitigation measures and good site practices, the construction noise impact can be minimised.

6.3 Recommended Mitigation Measures

6.3.1.1 In accordance with ProPECC PN 1/24 "Minimizing Noise from Construction Activities", the following mitigation measures should be given wherever practicable:

- Implementation of good site practices to limit noise emissions at source;
- Use of Quality Powered Mechanical Equipment (QPME);
- Installation of temporary noise barriers, panels or enclosures around the site boundary;
- Siting noisy equipment, such as emergency generators, water pumps, as far as possible from the NSR; and
- Scheduling of work to avoid simultaneous operations of noisy equipment.

6.3.1.2 The above recommended practices would need to be implemented in worksite as good practices whenever possible. Reference shall also be made to EPD's recommended pollution control clauses for construction contracts. With the implementation of the recommended mitigation measures, no insurmountable construction noise impact is therefore anticipated.

7 Review of Potential Air Quality Impact

7.1 Vehicular Emissions

7.1.1.1 Hong Kong Planning Standards and Guidelines (HKPSG) provides environmental guidance for residential developments on air quality. The guidelines recommend the minimum buffer distance required for active and passive recreational uses.

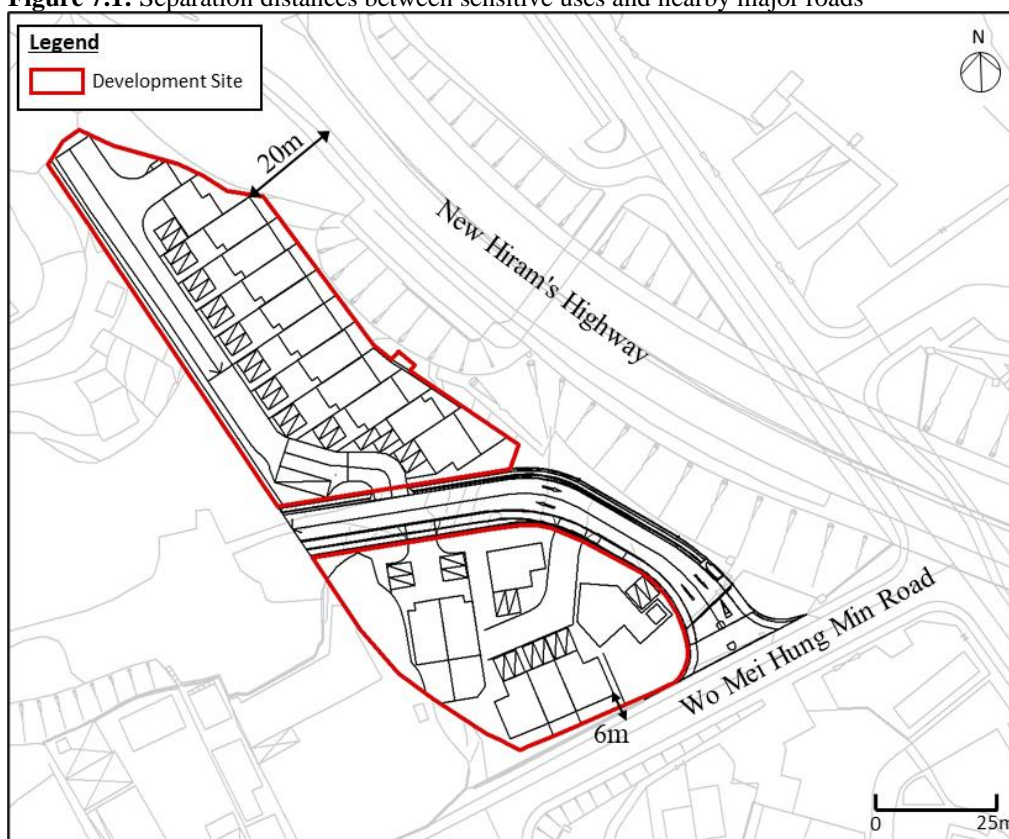
7.1.1.2 The buffer distances between the sensitive uses of the current development scheme and the surrounding major roads are summarized in **Table 7.1** and illustrated in **Figures 7.1** below. TD endorsement on road type classification of Wo Mei Hung Min Road is provided in **Appendix 4.1**.

Table 7.1: Separation distances between sensitive uses and nearby major roads

Name of Road	Type of Road ^[1]	HKPSG Recommended Setback Distance	Shortest Horizontal Setback Distance from the Nearest Air Sensitive Uses to Road Kerb
New Hiram's Highway	RR	>5m	~20m
Wo Mei Hung Min Road	LD	>5m	~6m

Note: [1] TD has classified Wo Mei Hung Min Road as feeder road. According to HKPSG Chapter 8, feeder road is a road type smaller than rural road (RR). Since the recommended setback distance for feeder road is not provided in HKPSG Chapter 9, the setback distance for feeder road is therefore referred to that for local road (LD) for conservative assessment.

Figure 7.1: Separation distances between sensitive uses and nearby major roads



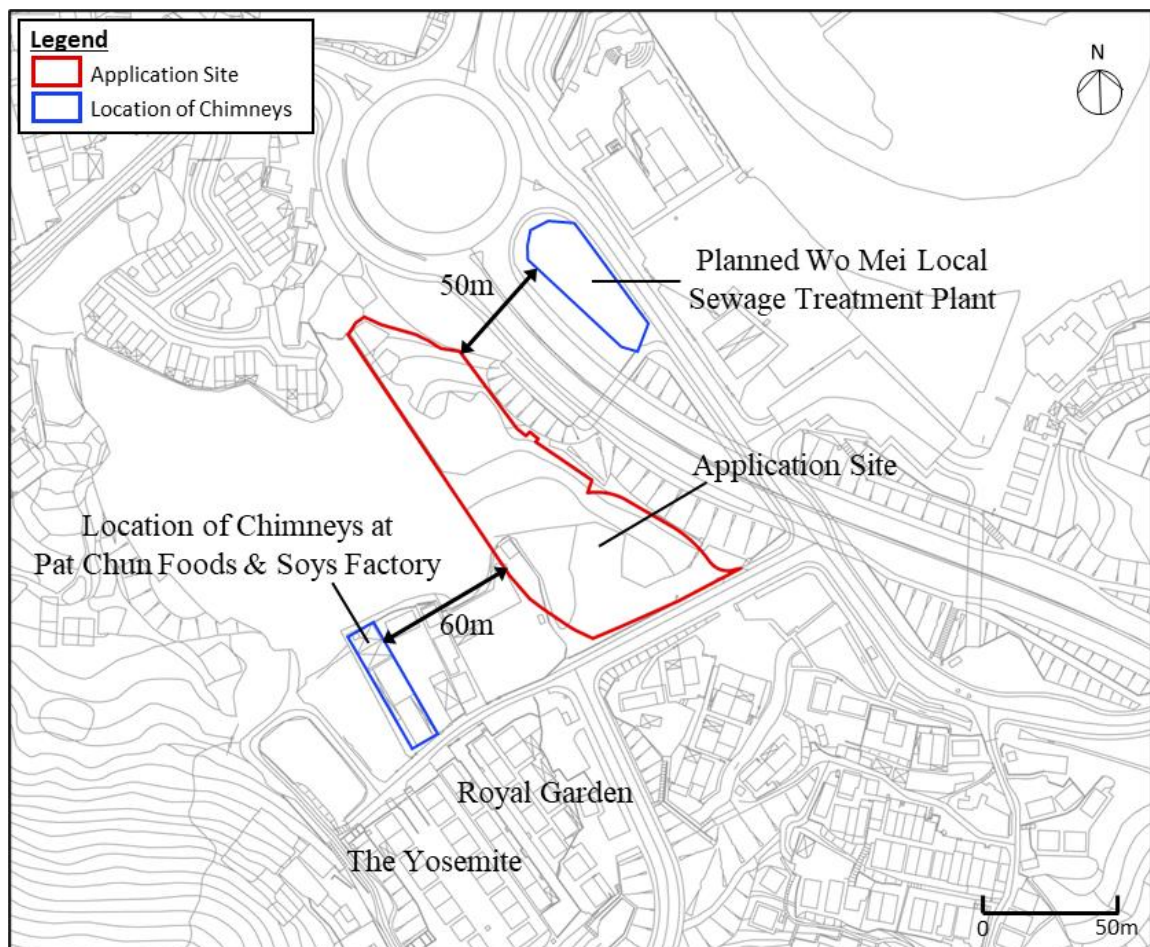
7.1.1.3 The internal road network within the Proposed House Development is private access road with security gate limited the access. Therefore, it is not regard as road system stated in Table 3.1 of the HKPSG and the buffer distance requirement is not applicable.

7.1.1.4 The current scheme can satisfy the setback distance requirements as stipulated in the HKPSG. No sensitive active and passive uses have been planned within the recommended buffer zone of 5m setback from road kerbs of New Hiram's Highway and Wo Mei Hung Min Road. Besides, no pedestrian area (i.e. seating place) have been planned within the recommended buffer zone. Adverse vehicular emission impact on the Proposed House Development is therefore not anticipated.

7.2 Chimney Emissions

7.2.1.1 A chimney survey was conducted on a walk-over basis within 500m from the site boundary where site access was allowed in November 2023. There are 2 chimneys identified at Pat Chun Foods & Soys Factory at Wo Mei Hung Min Road. No plume or other emissions were observed during the survey. The locations of the identified chimney are illustrated in **Figure 7.2**.

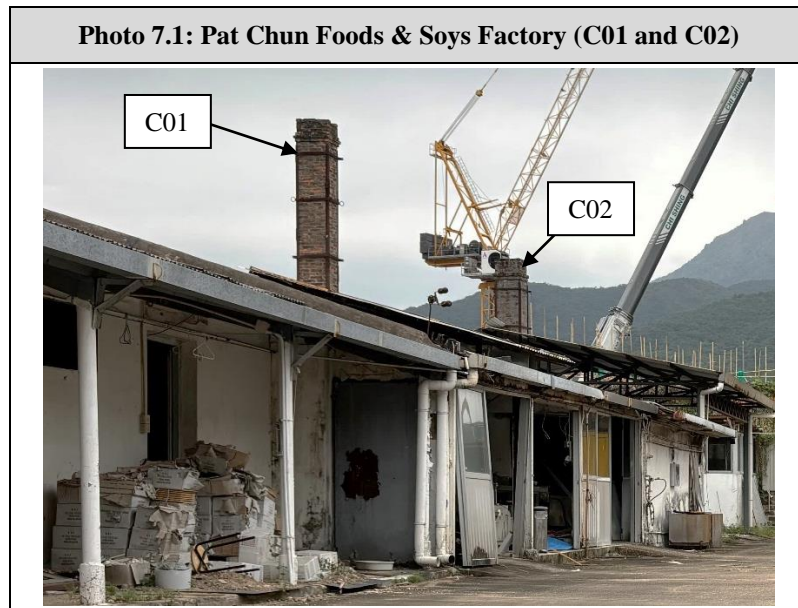
Figure 7.2: Location of the identified chimneys and the Planned Wo Mei Local STP



7.2.1.2 Distances between the chimneys and the Application Site boundary are summarized in **Table 7.2** and the photo record of the chimney is given in **Photo 7.1** below.

Table 7.2: Separation distances between sensitive uses and nearby major roads

Chimney ID	Location of Chimney	Shortest Horizontal Distance from Site Boundary to Chimney
C01	Pat Chun Foods & Soys Factory	~60m
C02	Pat Chun Foods & Soys Factory	~60m



7.2.1.3 The operator of the Pat Chun Foods & Soys Factory has advised the Project Team that the chimneys are no longer in use and the site is currently for storage use only. Hence, no adverse chimney emission impact on the Proposed House Development is anticipated.

7.2.2 Review of Potential Air Quality Impact Arising from the Planned Wo Mei Local Sewage Treatment Plant (STP)

7.2.2.1 **Figure 7.2** indicates the location of the Planned Wo Mei Local Sewage Treatment Plant (STP). It is located around 50m from the Proposed House Development. Measures would be implemented to minimize any potential odour impacts including installation of deodorization unit using activated carbon or biotrickling filter or other equivalent odour removal techniques, all screenings and sludge will be properly stored and handled inside the STP building for further treatment and disposal offsite, and good housekeeping practices will be practiced during operation. The Preliminary Environmental Review for the planned Wo Mei STP under Agreement No. CE 56/2012(DS) has also concluded that its operation is not expected to generate air quality emission or odour nuisance as it is fully enclosed. Therefore, adverse air quality or odour impact from the Wo Mei local STP is not anticipated.

7.2.3 Review of Potential Air Quality Impact Arising from the Proposed Local Sewage Treatment Plant within the Proposed House Development

7.2.3.1 The Proposed House Development has proposed a local sewage treatment plant (STP) to support the development. According to the current design, the proposed STP would have a designed capacity of around 32 m³/day ADWF. The proposed STP will be located at underground with full enclosure. The major process equipment (including screen and grit removal, and the associated washing facilities) of the proposed STP would be the odour sources to the nearby ASRs during operational phase. Mitigation measures including provision of deodorizing units of at least 99.5% odour removal efficiency, locating the exhaust vent as far away from sensitive receivers as possible, covering up of the major odour source, providing adequate ventilation, and full enclosure of trucks transporting the sludge, would be provided during operation. In order to avoid potential odour emissions from the decommissioning activities, the existing sewage pumping station and rising main will be flushed out and sludge will be pumped away before the start of decommissioning works. Hence, potential odour impact to the nearby planned and existing ASRs can be controlled.

8 Land Contamination Appraisal

8.1 Relevant Legislation, Standard and Guidelines

8.1.1.1 The relevant legislations, standards and guidelines applicable to the present study for the assessment of land contamination include:

- Guidance Note for Contaminated Land Assessment and Remediation, EPD, (Revised in April 2023);
- Practice Guide for Investigation and Remediation of Contaminated Land, EPD, 2011 (Revised in April 2023); and
- Guidance Manual for Use of Risked-based Remediation Goals for Contaminated Land Management, 2007 (Revised in April 2023).

8.2 Site Description

8.2.1.1 The Application Site is situated in Nam Pin Wai, Sai Kung, New Territories. The site is currently largely vacant with some existing trees. Surrounding the Application Site are Villa Royale to the north, Wo Mei Village to the south, New Hiram's Highway to the east, and a low-rise residential development under construction to the west. The location of Application Site is indicated in **Figure 2.1**.

8.3 Review of Aerial Photographs and Historical Land Uses

8.3.1.1 Selected historical aerial photographs between 1973 to 2022 (i.e. 1973, 1982, 1992, 2004, 2012 and 2023) have been reviewed to identify any past land uses which may have the potential for causing land contamination. The historical aerial photographs are given in **Appendix 8.1**. The key findings are summarised in **Table 8.1** below.

Table 8.1: Description of historical land uses

Year	Description
1973	<ul style="list-style-type: none"> • The Application Site was filled with vegetation. • Ho Chung River was observed to the northeast of the Application Site. • Village houses were observed to the southwest of the Application Site.
1982	<ul style="list-style-type: none"> • Village houses were observed to the north of the Application Site. • No other significant change in historical land use was observed as compared with that in Year 1973.
1992	<ul style="list-style-type: none"> • Some vegetation was cleared at the central part of the Application Site. • Some vegetation in the southeast part of the Application Site was replaced by agricultural land. • No other significant change in historical land use was observed as compared with

Year	Description
	that in Year 1982.
2004	<ul style="list-style-type: none"> • Village houses were observed at the south part of the Application Site, replacing agricultural land and vegetation. • New Hiram's Highway was observed to the east of the Application Site. • Villa Royale was observed to the north of the Application Site. • Wo Mei Village was observed to the south of the Application Site. • No other significant change in historical land use was observed as compared with that in Year 1992.
2012	<ul style="list-style-type: none"> • A small carpark was observed at the central part of the Application Site. • No significant change in historical land use was observed as compared with that in Year 2002.
2023	<ul style="list-style-type: none"> • Some vegetation at the central area of the Application Site was cleared for the Approved Access Road under Planning Application No. A/SK-HC/223 and the temporary works area for construction of the Access Road • Vegetation to the west of the Application Site was cleared. • No other significant change in historical land use was observed as compared with that in Year 2010.

8.4 Site Survey Findings

8.4.1.1 Site survey was conducted in January and November 2023 to identify any existing land uses within the Application Site and the adjoining sites which may have potential for causing land contamination. Photo record of the site survey is given in **Appendix 8.2** and the site walkover checklist is given in **Appendix 8.3**. Vegetation and temporary works area for construction of the Approved Access Road under Planning Application No. A/SK-HC/223 were observed within the Application Site. As identified in site survey, the temporary works area for the Approved Access Road is for site office use and no potential land contamination is anticipated. Village houses such as Villa Royale and Wo Mei Village and a low-rise residential development under construction are observed adjacent to the Application Site. Potential land contamination activities were not identified. By site observation, chemicals and dangerous goods (DGs) were not found within the site. No potential land contamination issue was observed during the site visits.

8.5 Relevant Information Request

8.5.1 Fire Services Department

8.5.1.1 Information request on any Dangerous Goods license registered, and any record of DGs spillage/leakage incidents within the Application Site have been sent to Fire Services Department (FSD). The correspondence with FSD is attached in **Appendix 8.4**.

8.5.1.2 Based on the reply from FSD, there are no records of Dangerous Goods license issued, fire incidents, and incidents of spillage/leakage of Dangerous Goods in the Application Site.

8.5.2 Environmental Protection Department

8.5.2.1 Information request on any Chemical Waste Producer (CWP) registered, and any record of chemical spillage/leakage incidents within the Application Site were made to Environmental Protection Department (EPD). The correspondence with EPD is attached in **Appendix 8.5**.

8.5.2.2 Based on the reply from EPD, there was no record of reported accident spillage or leakage of chemicals in the past five years. No valid and invalid registration record of chemical waste producer was found.

8.6 Identification of Potentially Contaminated Site

8.6.1.1 Review of desktop data and site visits have been conducted. In addition, as confirmed through site visits, potentially land contamination activities not observed within the Application Site. Chemicals/DGs and relevant spillages/incidents were not found within the Application Site. It is therefore concluded that land contamination is not anticipated in the Application Site.

9 Waste Management

9.1 Relevant Legislation, Standard and Guidelines

9.1.1.1 The relevant legislation, standards and guidelines applicable to the present study for the assessment of waste management implications include:

- Waste Disposal Ordinance (WDO) (Cap. 354) and subsidiary Regulations;
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Land (Miscellaneous Provisions) Ordinance (Cap. 28); and
- Public Health and Municipal Services Ordinance (Cap. 132) - Public Cleansing and Prevention of Nuisances Regulation.

9.2 Evaluation of Constructional Phase Impact

9.2.1 Identification and Evaluation of Impact

9.2.1.1 During the construction phase, key construction activities which would potentially result in the generation of waste include minor site clearance including any temporary structure, piling works, soil excavation for basement and superstructure, etc. within the site area. These activities would result in the generation of wastes including both inert and non-inert construction and demolition (C&D) materials, chemical wastes and general refuse from on-site workforce.

9.2.1.2 However, in general, the handling and disposal of these materials and wastes will require proper management in order not to cause environmental impacts and nuisance. It is anticipated that there would not be any insurmountable impacts provided good site practices and other appropriate mitigation measures are implemented.

9.2.2 C&D Materials

9.2.2.1 Based on the preliminary design, it is estimated that about 6,000 m³ of inert soft C&D materials (e.g. excavated soil, demolition C&D materials) and 2,000 m³ non-inert C&D materials will be generated during the construction phase of the site clearance and site formation works. All C&D materials arising from the construction will be sorted on-site to recover the inert C&D materials as well as the reusable and recyclable materials.

9.2.2.2 Any surplus C&D materials will become the property of the Contractor once they are removed from the site. The Contractor will be responsible for devising a system to work

for on-site sorting of C&D materials and to promptly remove all sorted and processed material arising from the construction activities to optimise temporary stockpiling on-site. It is recommended that the system should include the identification of the source of generation, estimated quantity, arrangement for on-site sorting and/or collection, temporary storage areas, and frequency of collection by recycling contractors or frequency of removal off-site.

9.2.2.3 Disposal of C&D materials can be minimized through careful planning during the detailed design stage and with good site practice during construction. This includes the use of non-timber formwork and temporary works and on-site sorting of the C&D materials for reuse and recycling as far as practicable. Any remaining non-inert C&D waste will be disposed of to public landfills. For the inert C&D materials, it would be reused on-site as far as possible or else it would be delivered to public fill reception facilities. The opportunity of reusing excavated C&D materials would be investigated in the Waste Management Plan, which will be derived in later detailed design stage.

9.2.2.4 With the proper implementation of good construction site practice and recommended mitigation measures, the on-site handling, reuse, transportation and disposal of C&D materials would not cause adverse environmental impacts.

9.2.3 Chemical Waste

9.2.3.1 Chemical wastes likely to be generated from the construction activities and associated facilities may include:

- scrap batteries or spent acid/alkali from their maintenance;
- used paint, engine oils, hydraulic fluids and waste fuel;
- spent mineral oils/cleansing fluids from mechanical machinery; and
- spent solvents/solutions, some of which may be halogenated, from equipment cleansing activities.

9.2.3.2 Chemical wastes may pose environmental, health and safety hazards if not stored and disposed of in an appropriate manner as outlined in the Waste Disposal (Chemical Waste) (General) Regulation and the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste. These hazards may include:

- toxic effects to workers;
- adverse effects on air, water and land from spills; and
- fire hazards.

9.2.3.3 It is difficult to quantify the amount of chemical waste as it will be highly dependent on the contractor's on-site maintenance practice the number of plant and vehicles utilized. Nevertheless, it is anticipated that the quantity of chemical wastes would be small and in

the order of few hundred kilograms/ few hundred litres per month. The estimated amount of chemical waste to be generated during construction phase is summarized in **Table 9.2**.

Table 9.2 Summary of chemical waste during construction phase

Waste type	Total amount generated
Scrap batteries	A few hundred kilograms per month
Spend hydraulic oil and waste fuel	A few hundred litres per month
Spent lubrication oil and cleaning fluids	
Spend solvent	

9.2.3.4 Suitable arrangements for the storage, handling, transport and disposal of chemical wastes shall be made in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste and Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C). Wherever possible opportunities should be taken to reuse and recycle materials. Given that the quantity of chemical wastes would be small and that the regulations as stipulated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste and Cap. 354C would be strictly followed, adverse impacts brought by the generation of chemical waste is not anticipated.

9.2.4 General Refuse

9.2.4.1 The general refuse generated by the construction workforces mainly consists of food waste, aluminium cans and wastepaper. These general refuses will require off-site disposal. The number of workforce (clerical and workers) to be employed for the Proposed House Development is not available at this stage, but is anticipated not to be over 100 staff. Based on the generation rate of 0.65kg/person/day, the total refuse generated per day would be less than 65kg/day. Therefore, it is estimated that around 120 tonnes of general refuse would be generated during construction phase. The breakdown of estimated amount of general refuse to be generated during construction phase is summarised in **Table 9.3** below.

Table 9.3 Summary of general refuse during construction phase

Activities	Period	Daily Waste Generation (kg/day)	Total Amount Generated (tonne)
Construction phase	Approx. 5 years	> 65	> 120

9.2.4.2 Effective collection of site waste will be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, or creating an odour nuisance or pest and vermin problem. Waste storage areas shall be well maintained and cleaned regularly. In addition, disposal of waste at sites other than approved waste transfer or disposal facilities shall be prohibited.

9.2.4.3 With the implementation of good waste management practices at the site, adverse environmental impacts are not expected to arise from the storage handling and transportation of general refuse generated from the site.

9.3 Recommended Practices for Construction Phase

9.3.1.1 Good site practice to avoid or reduce potential adverse environmental impacts associated with handling, collection and disposal of waste are proposed. These recommendations are based on the waste management hierarchy principles. The waste management options considered to be most preferable have the least environmental impacts and are more sustainable in the long term. The hierarchy is as follows (the priority follows descending order):

- avoidance and minimization,
- separation of inert C&D materials, reusable and recyclable materials from other wastes,
- reuse of materials,
- recovery and recycling, and
- treatment and disposal.

9.3.1.2 Prior to the commencement of the construction works, the contractors should incorporate these recommendations into a Waste Management Plan to provide an overall framework for waste management and reduction. Recommended good site practice, waste reduction measures as well as the waste transportation, storage and collection are as follows:

9.3.2 Good Site Practices

9.3.2.1 Adverse waste management implications are not expected, provided that good site practices are strictly implemented. The following good site practices are recommended throughout the construction phase of the Proposed House Development:

9.3.2.2 Nomination of an approved personnel to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site;

- training of site personnel in proper waste management and chemical handling procedures;
- provision of sufficient waste disposal points and regular collection for disposal;
- separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Centre;
- regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;

- implementation of a recording system for the amount of wastes generated/recycled and disposal sites. and
- Waste Management Plan (WMP) should be prepared and implemented by the Contractor in accordance with the Building Department's "Practice Note for Authorized Persons and Registered Structural Engineers (PN for AP & RSE) No. 243". The WMP will be submitted to the Architect/Engineer for approval.

9.3.3 Waste Reduction Measures

9.3.3.1 The amount of waste generated can be significantly reduced through good management and control. Waste reduction is best achieved at the site planning and design phase, as well as by ensuring the implementation of good site practices when the works are in progress. Recommendations for achieving waste reduction include:

- on-site reuse of any material excavated as far as practicable;
- segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of material and their proper disposal;
- collection of aluminium cans and waste paper by individual collectors during construction should be encouraged. Separately labelled recycling bins should also be provided to segregate these wastes from other general refuse by the workforce;
- recycling of any unused chemicals and those with remaining functional capacity as far as possible;
- prevention of potential damage or contamination to the construction materials through proper storage and good site practices;
- planning and stocking of construction materials should be made carefully to minimise amount of waste generated and to avoid unnecessary generation of waste; and
- training on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling should be provided to workers.

9.3.4 Storage, Collection and Transportation of Waste

9.3.4.1 Storage of waste on site may induce adverse environmental implications if not properly managed. The following recommendations should be implemented to minimise the impacts:

- waste such as soil should be handled and stored well to ensure secure containment;
- stockpiling area should be provided with covers and water spraying system to prevent materials from being washed away and to reduce wind-blown litter
- different locations should be designated to stockpile each material to enhance reuse.

9.3.4.2 With respect to the collection and transportation of waste from the construction works area to respective disposal sites, the following recommendations should be implemented to minimise the potential adverse environmental impacts:

- remove waste in timely manner;
- employ trucks with cover or enclosed containers for waste transportations;
- obtain relevant waste disposal permits from the appropriate authorities; and
- disposal of waste should be done at licensed waste disposal facilities.

9.3.4.3 In addition to the above measures, other specific mitigation measures on handling other specific waste generated from construction phase are recommended in the following subsections:

9.3.5 C&D Materials

9.3.5.1 Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the waste:

- maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;
- carry out on-site sorting;
- make provisions in the contract documents to allow and promote the use of recycled aggregates where appropriate; and
- implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified.

9.3.5.2 In addition, disposal of the C&D materials onto any sensitive location such as agricultural land, etc. should be avoided. Disposal of C&D materials or any other wastes at unauthorized locations and sites other than approved waste transfer or disposal facilities shall be prohibited. To prevent fly-tipping, utilizing dump trucks equipped with real-time tracking and monitoring devices could be considered. Non-inert C&D waste will be disposed of to public landfills; while inert C&D materials would be disposed of at Public Fill Reception Facilities, if necessary, for beneficial reuse in other projects.

9.3.5.3 Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage.

9.3.5.4 The contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to

enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the construction site should be considered for such segregation and storage.

9.3.5.5 According to the "Project Administrative Handbook Chapter 4, Section 4.1.3", for DPs, a Construction and Demolition Material Management Plan (C&DMMP) has to be submitted to the Public Fill Committee (PFC) for approval in case of C&D materials disposal exceeding 50,000m³. For non-DPs, a C&DMMP has to be submitted to PFC for approval prior to commencement of the detailed design in case of generating surplus C&D materials in excess of 300,000 m³ or requiring imported fill exceeding 300,000m³. The C&DMMP should be vetted and endorsed by the departmental Vetting Committee before submitting to PFC for approval. Since the Proposed House Development is a non-DP and will generate less than 300,000m³ C&D materials, a C&DMMP is not required under PAH. Nonetheless, the Project Proponent shall consult the Public Fill Committee of CEDD for the advisory outlet of the C&D materials.

9.3.6 Chemical Waste

9.3.6.1 For those processes that generate chemical wastes, the contractor shall identify any alternatives that generate reduced quantities or even no chemical wastes, or less dangerous types of chemical wastes.

9.3.6.2 If chemical wastes are produced at the construction site, the contractors should register with EPD as chemical waste producers. Chemical wastes should be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes. Containers used for storage of chemical wastes should:

- be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed;
- have a capacity of less than 450 L unless the specification has been approved by EPD; and
- display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations.

9.3.6.3 The storage area for chemical wastes should:

- be clearly labelled and used solely for the storage of chemical wastes;
- be enclosed on at least 3 sides;
- has an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical wastes stored in the area, whichever is greatest;
- have adequate ventilation;

- be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical wastes, if necessary); and
- be arranged so that incompatible materials are adequately separated.

9.3.6.4 Disposal of chemical wastes should:

- be via a licensed waste collector; and
- be to a facility licensed to receive chemical wastes, such as the Chemical Waste Treatment Centre (CWTC) which also offers a chemical waste collection service and can supply the necessary storage containers; or
- be to a re-user of the waste, upon approval granted by EPD.

9.3.7 General Refuse

9.3.7.1 General refuse generated on-site should be stored in enclosed bins or compaction units separated from construction and chemical wastes. Recycling bins should also be provided to encourage recycling. A reputable waste collector should be employed by the contractor to remove general refuse from the site on a daily basis to separate from the construction and chemical wastes. General refuse collected each day shall only be carried away and disposed of at approved waste transfer or disposal facilities. Burning of refuse on construction sites or fly tipping is prohibited by law.

9.4 Evaluation of Operational Phase Impact

9.4.1 Identification and Evaluation of Impact

9.4.1.1 The operational phase of the Proposed House Development would generate municipal solid waste. With reference to the latest data from "Monitoring of Solid Waste in Hong Kong 2021" by EPD, the MSW disposal rate was 1.53 kg/person/day in Year 2021, and the recovery rate for recycling was 31% of the MSW generation. By calculation, the MSW generation rate, disposal rate and recycled rate were 2.22 kg/person/day, 1.53 kg/person/day and 0.69 kg/person/day in 2021 respectively. The estimated MSW based on planned residential and employment populations respectively is summarized in **Table 9.4**.

Table 9.4 Estimated quantities of MSW from planned Residential and Employment Population during operation phase

Estimated MSW from Residential Population (tpd) ^[1]			
Residential Population	Generated ^[2]	Required Disposal ^[2]	Recycled ^[2]
51	0.113	0.078	0.035

Note:

[1] tpd: tonne per day

[2] MSW disposal rate was 1.53 kg/person/day according to "Monitoring of Solid Waste in Hong Kong 2021" by EPD (<https://www.wastereduction.gov.hk/sites/default/files/msw2021.pdf>). By calculation, the MSW generation rate was 2.22kg/person/day. MSW recovery rate for recycling was 31% of the MSW generation. by calculation, the MSW recycling rate was 0.69kg/person/day.

9.4.1.2 A reputable waste collector should be employed to provide routine cleaning of the Proposed House Development to minimize odour, pest and litter impacts associated with the generation of general refuse. Recycling bins should also be provided to encourage recycling.

9.4.1.3 Screening and grits and dewater sludge will be generated from the operation of the on-site STP. It is estimated that insignificant amount of screening and grits and dewatered sludge would be generated during the operation phase of the Proposed House Development. Screening and grits generated will be transferred to closed containers before transportation and disposal at designated landfill sites. The collected dewater sludge shall be transported to the nearby public sewage treatment plants where anaerobic digestion systems are in place for energy recovery and waste reduction by designated sewage tankers for disposal. Disposal in landfills should be considered as a last resort.

9.4.1.4 With the implementation of the recommended mitigation measures for the handling, transportation and disposal of the identified waste, adverse residual waste management implications are not anticipated for the operational phase.

9.5 Recommended Practices for Operational Phase

9.5.1 Waste Collection and Disposal

9.5.1.1 An effective and efficient waste handling system is essential in order to minimize potential adverse environmental impacts during waste storage, collection and transport, such impacts may include odour if waste is not collected frequently; water quality if waste enters storm water drains; aesthetics and vermin problems if the waste storage area is not well maintained and cleaned regularly. The waste handling system may also facilitate materials recovery and recycling.

9.5.1.2 A refuse collection room would be installed at the ground floor for localized refuse collection and the waste would be transported to a refuse transfer station (RFS). To avoid potential odour nuisance during transport of waste, enclosed waste collection trucks should be used and the collection route and time should be properly planned. At least daily collection should be arranged by the waste collector.

9.5.2 Waste Recycling

9.5.2.1 In order to facilitate recycling, a 4-bin recycling system for paper, metals, plastics and glass should be adopted together with a general refuse bin. They should be placed in

prominent places to promote waste separation at source. All recyclable materials should be collected by recyclers. In addition, the feasibility of recycling other types of waste, such as fluorescent lamps & tubes, rechargeable batteries, food waste, etc shall be explored.

10 Water Quality Impact

10.1 Legislation, Standards and Guidelines

10.1.1.1 The relevant legislation, standards and guidelines applicable to the present study for the assessment of water quality impacts include:

- Water Pollution Control Ordinance (WPCO) (Cap. 358);
- Technical Memorandum - Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 2/23);
- Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works (ETWB TC(Works) No.5/2005); and
- Drainage Plans subject to Comment by the Environmental Protection Department (ProPECC PN 1/23).

10.1.1.2 The Application Site is located in the Port Shelter Water Control Zone (WCZ). The corresponding WQOs are provided in **Table 10.1**.

Table 10.1 Water Quality Objectives for Port Shelter Water Control Zone

Parameters	Objectives	Sub-Zone
Aesthetic appearance	(a) Waste discharges shall cause no objectionable odours or discolouration of the water.	Whole zone
	(b) Tarry residues, floating wood, articles made of glass, plastic, rubber or of any other substances should be absent.	Whole zone
	(c) Mineral oil should not be visible on the surface. Surfactants should not give rise to a lasting foam.	Whole zone
	(d) There should be no recognisable sewage-derived debris.	Whole zone
	(e) Floating, submerged and semi-submerged objects of a size likely to interfere with the free movement of vessels, or cause damage to vessels, should be absent.	Whole zone
	(f) Waste discharges shall not cause the water to Whole Zone contain substances which settle to form objectionable deposits.	Whole zone
Bacteria	(a) The level of <i>Escherichia coli</i> should not exceed 610 per 100mL, calculated as the geometric mean of all samples collected in one calendar year.	Secondary Contact Recreation Subzones and Fish Culture Subzones

Parameters	Objectives	Sub-Zone
	(b) The level of <i>Escherichia coli</i> should not exceed 180 per 100 mL, calculated as the geometric mean of all samples collected from March to October inclusive in one calendar year. Samples should be taken at least 3 times in a calendar month at intervals of between 3 and 14 days.	Bathing Beach Subzones
Colour	(a) Waste discharges shall not cause the colour of water to exceed 50 Hazen units.	Inland waters
Dissolved Oxygen	(a) Waste discharges shall not cause the level of dissolved oxygen to fall below 4 mg per litre for 90% of the sampling occasions during the year; values should be calculated as water column average (arithmetic mean of at least 3 measurements at 1 metre below surface, mid-depth and 1 metre above seabed). In addition, the concentration of dissolved oxygen should not be less than 2 milligrams per litre within 2 metres of the seabed for 90% of the sampling occasions during the year.	Marine waters except Fish Culture Subzones
	(b) The dissolved oxygen level should not be less than 5 milligrams per litre for 90% of the sampling occasions during the year; values should be calculated as water column average (arithmetic mean of at least 3 measurements at 1 metre below surface, mid-depth and 1 metre above seabed). In addition, the concentration of dissolved oxygen should not be less than 2 milligrams per litre within 2 metres of the seabed for 90% of the sampling occasions during the year.	Fish Culture Subzones
	(c) Waste discharges shall not cause the level of dissolved oxygen to be less than 4 milligrams per litre.	Inland waters
pH	(a) The pH of the water should be within the range of 6.5-8.5 units. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.2 units.	Marine waters excepting Bathing Beach Subzones
	(b) The pH of the water should be within the range of 6.0-9.0 units for 95% of samples. In addition, waste discharges shall not cause the natural pH range to be extended by more than 0.5 units.	Bathing Beach Subzones
	(c) Waste discharges shall not cause the pH of the water to exceed the range of 6.5-8.5 units.	Ho Chung (A) Subzone
	(d) The pH of the water should be within the range of 6.0-9.0 units.	Other inland waters
Temperature	(a) Waste discharges shall not cause the natural daily temperature range to change by more than 2.0 degrees Celsius.	Whole Zone
Salinity	(a) Waste discharges shall not cause the natural ambient salinity level to change by more than 10%	Whole Zone
Suspended solids	(a) Waste discharges shall neither cause the natural ambient level to be raised by 30% nor give rise to accumulation of suspended solids which may adversely affect aquatic communities.	Marine waters
	(b) Waste discharges shall not cause the annual median of	Inland waters

Parameters	Objectives	Sub-Zone
	suspended solids to exceed 25 mg per litre.	
Ammonia	(a) The ammonia nitrogen level should not be more than 0.021 mg per litre, calculated as the annual average (arithmetic mean), as unionised form.	Whole Zone
Nutrients	(a) Nutrients shall not be present in quantities sufficient to cause excessive or nuisance growth of algae or other aquatic plants.	Marine waters
	(b) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.1 mg per litre, expressed as annual water column average (arithmetic mean of at least 3 measurements at 1 m below surface, mid-depth and 1 m above seabed).	Marine waters
5 day biochemical oxygen demand	(a) Waste discharges shall not cause the 5-day biochemical oxygen demand to exceed 5 mg per litre.	Inland waters
Chemical oxygen demand	(a) Waste discharges shall not cause the chemical oxygen demand to exceed 30 milligrams per litre.	Inland waters
Dangerous substnaces	(a) Waste discharges shall not cause the concentration of dangerous substances in the water to attain such levels as to produce significant toxic effects in humans, fish or any other aquatic organisms, with due regard to biologically cumulative effects in food chains and to toxicant interactions with each other.	Whole Zone
	(b) Waste discharges of dangerous substances shall not put a risk to any designated beneficial uses of the aquatic environment.	Whole Zone
Phenol	(a) Phenols shall not be present in such quantities as to produce a specific odour, or in concentrations greater than 0.05 mg per litre as C ₆ H ₅ OH.	Bathing Beach Subzones
Turbidity	(a) No changes in turbidity or other factors arising from waste discharges shall reduce light transmission substantially from the normal level.	Bathing Beach Subzones

10.2 Description of the Environment

10.2.1.1 The Application Site falls within the Port Shelter WCZ and is located at the west of Port Shelter. The Application Site is located inland, therefore water quality impact to coastal water is not anticipated. This section presents the assessment of potential water quality impact associated with the construction and operation phases of the Proposed House Development. Recommendations for mitigation measures have been made, where necessary, to minimize the potential water quality impacts.

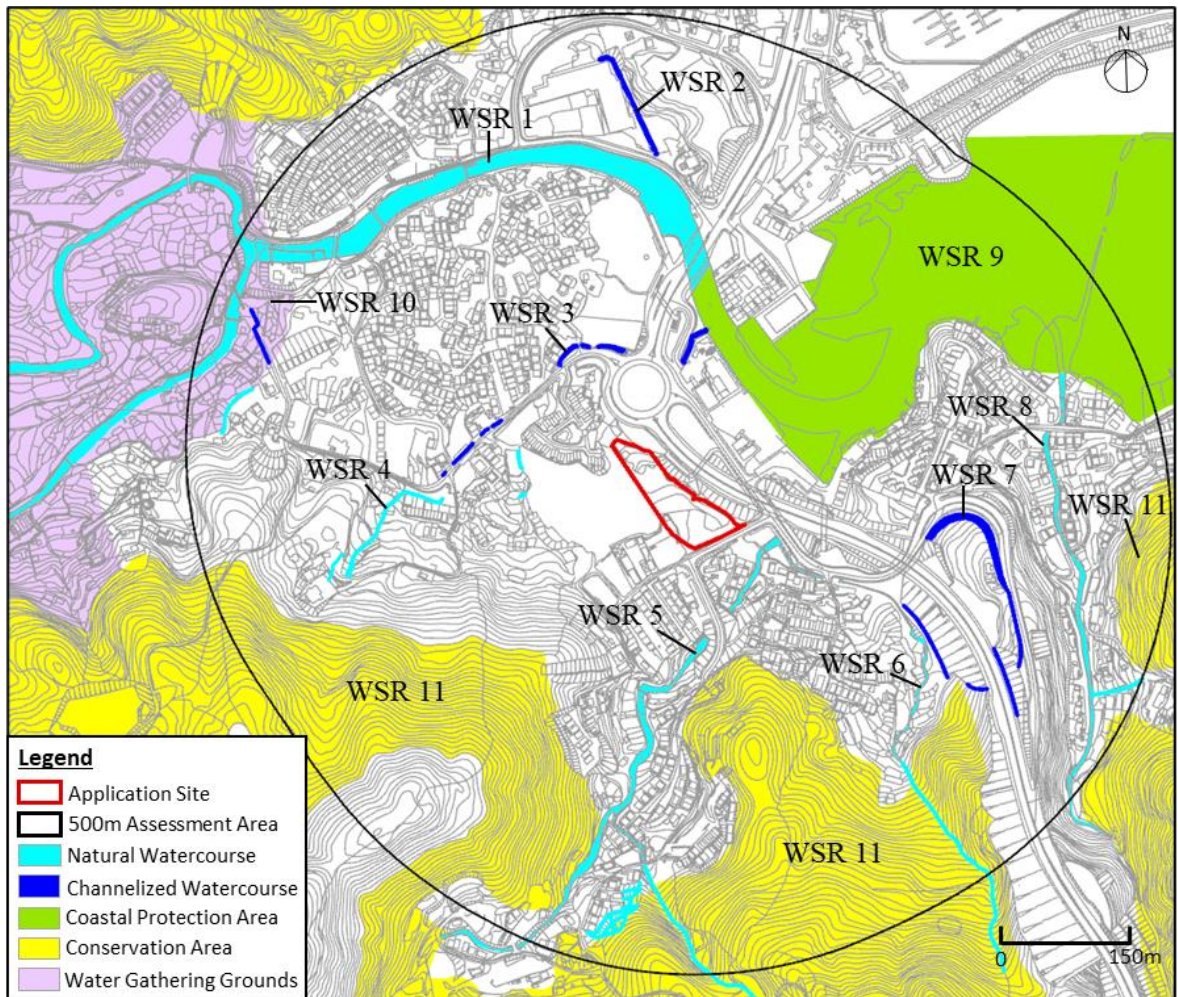
10.3 Water Sensitive Receivers

10.3.1.1 There are several Water Sensitive Receivers (WSRs) identified within 500m from the Application Site. These WSRs are listed in **Table 10.2** and presented in **Figure 10.1**.

Table 10.2: Water sensitive receivers

ID	WSRs	Status	Approx. Nearest Distance of WSR to the Application Site
WSR 1	Ho Chung River	Natural Watercourse	~100m
WSR 2	Along the east of Asia Television Limited at Ho Chung Road	Channelized Watercourse	~340m
WSR 3	Along Nam Pin Wai Road	Channelized Watercourse	~100m
WSR 4	Along Nam Pin Wai Village	Natural Watercourse	~110m
WSR 5	From Hebe Knoll running through Mok Tse Che Village and Wo Mei Village	Natural Watercourse	~35m
WSR 6	From Ta Ku Ling running through Wo Mei Village	Natural Watercourse	~130m
WSR 7	Along Hiram's Highway near Wo Mei Rest Garden	Channelized Watercourse	~210m
WSR 8	Running through Nam Wai Village and located to the east of WSR 7	Natural Watercourse	~360m
WSR 9	Coastal Protection Area near Ho Chung River	Coastal Protection Area	~100m
WSR 10	Water Gathering Grounds at Shui Hau	Water Gathering Grounds	~400m
WSR 11	Conservation Areas near Hebe Knoll and Ta Ku Ling	Conservation Area	~140m

Figure 10.1: Locations of water sensitive receivers



10.4 Construction Phase Impact Evaluation

10.4.1 Construction Site Runoff

10.4.1.1 During rainstorm events, construction site runoff would come from all over the works site. The surface runoff might be polluted by:

- Runoff and erosion from site surfaces, earth working areas and stockpiles;
- Wash water from dust suppression sprays and wheel washing facilities; and
- Chemicals spillage such as fuel, oil, solvents and lubricants from maintenance of construction machinery and equipment.

10.4.1.2 Construction runoff may cause physical, biological and chemical effects. The physical effects include potential blockage of drainage channels and increase of suspended solid levels in the receiving water bodies. Runoff containing significant amounts of concrete and cement-derived material may cause primary chemical effects such as increasing turbidity and discoloration, elevation in pH, and accretion of solids. A number of secondary effects may also result in toxic effects to water biota due to elevated pH values, and reduced

decay rates of faecal microorganisms and photosynthetic rate due to the decreased light penetration.

10.4.1.3 Construction site runoff could be carefully controlled and mitigated through the recommended mitigation measures outlined in **Section 10.4**. Construction site runoff impacts would therefore be reduced to satisfactory levels before discharges such that adverse water quality impact would not be anticipated.

10.4.2 Sewage from Workforce

10.4.2.1 Sewage effluents will arise from the sanitary facilities provided for the on-site construction workforce. The sewage is characterized by high levels of biochemical oxygen demand (BOD), ammonia, E. coli and oil / grease.

10.4.2.2 The sewage generated should be properly managed to minimize the adverse impact of odour and potential health risks to the workers by attracting pests and other disease vectors.

10.4.2.3 Adequate portable chemical toilets should be provided to ensure all sewage is properly collected. It is anticipated that no adverse environmental implications would arise if the chemical toilets are properly maintained and licensed collectors are employed for the collection and disposal of sewage on a regular basis.

10.5 Recommended Mitigation Measures for Construction Phase

10.5.1 Construction Site Runoff

10.5.1.1 In accordance with the Practice Note for Professional Persons on Construction Site Drainage (ProPECC PN 2/23) and the Technical Circular of Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works (ETWB TC(Works) No.5/2005), the proposed construction phase mitigation measures is given below.

- At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.
- Diversion of natural storm water should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or minimize polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m³ capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system

capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped.

- The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/sediment trap. The silt/sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates.
- The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction.
- Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.
- All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.
- Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.
- All open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m³ should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
- Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.
- Precautions should be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.
- All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient back fall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains.
- Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain.

- Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.
- All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.
- Temporary sewerage system should be designed and installed to collect wastewater and prevent it from entering rivers and streams.
- Proper locations well away from rivers/streams for temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil should be identified before commencement of the works.
- Stockpiling of construction materials, if necessary, should be properly covered and located away from any natural stream/river.
- Construction debris and spoil should be covered up and/or properly disposed of as soon as possible to avoid being washed into nearby rivers/streams by rain.
- Construction effluent, site run-off and sewage should be properly collected and/or treated. Wastewater from a construction site should be managed with the following approach in descending order: (i) minimisation of wastewater generation; (ii) reuse and recycle; (iii) treatment. Proper locations for discharge outlets of wastewater treatment facilities well away from the natural streams/rivers should be identified.
- Supervisory staff should be assigned to station on site to closely supervise and monitor the works.

10.5.1.2 By adopting the above mitigation measures with best management practices, it is anticipated that the impacts of construction site runoff from the construction site will be reduced to satisfactory levels before discharges. The details of best management practices will be highly dependent to actual site condition and the Contractor shall apply for a discharge license under WPCO.

10.5.2 Sewage from Workforce

10.5.2.1 Sufficient portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets to cater employed populations and be responsible for appropriate disposal and maintenance.

10.5.2.2 Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.

10.6 Operational Phase Impact Evaluation and Recommended Mitigation Measures

10.6.1 Runoff from the Development

10.6.1.1 The Proposed House Development will lead to an increase in area of impermeable surfaces and hence the peak surface runoff rates. Besides, vehicle dust, tyre scraps and oils might be washed away from the road surface to the nearby water courses by surface runoff or road surface cleaning. Subject to detailed design and requirement of relevant government departments, the capacities of road drainage system shall cater the runoff from 50 year-return-period rainstorm. Proper drainage systems with silt traps and oil interceptors should be installed and connected to the existing drainage system. The design of road gullies with silt traps should be incorporated in the detailed design stage.

10.6.1.2 Runoff will be controlled by best management practice. Runoff will be intercepted by properly designed and managed silt traps at appropriate spacings so that common roadside debris, refuse and fallen leaves etc. can be captured before allowing the runoff to drain into watercourses. At the outlets to watercourses, the Project Proponent or the delegated operation parties should manage the road/open area cleaning prior to the occurrence of a storm. Moreover, it is recommended each of the cleaning events should be carried out during low traffic flow period, preferably using either manual methods or mechanical means such as vacuum sweeper/truck equipped with side broom to sweep road sludge and debris into the suction nozzle to increase the removal efficiency of pollutants. The collected pollutants would be tankered away for off-site disposal at landfill sites. After the removal of the pollutants, the pollution levels from stormwater would be much reduced.

10.6.1.3 The Professional Persons Environmental Consultative Committee Practice Note 1/23 Drainage Plans subject to Comment by the Environmental Protection Department (ProPECC PN 1/23), also provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of site effluents generated within the Proposed House Development area should follow the relevant guidelines and practices as given in the ProPECC PN 1/23.

10.6.2 Sewage from the Development

10.6.2.1 As mentioned above, the Proposed House Development will be properly sewered and adverse water quality impact is not anticipated. A separate Sewerage Impact Assessment has been conducted to assess the impact of sewage generation as a result of the Proposed House Development. According to the current design, the proposed onsite STP would have a designed capacity of around 32 m³/day ADWF. Detailed design submission should follow the "Guidelines for the Design of Small Sewage Treatment Plants" published by the

EPD for approval by EPD. Details of mitigation measures, if necessary, shall be referred to the Sewerage Impact Assessment.

10.6.2.2 Sewage generated from the Application Site would be conveyed by the internal sewerage system to the onsite STP with treatment level reaching the secondary level plus disinfection for treatment. Subject to the subsequent detailed design by specialist contractor, package Membrane Bioreactor (MBR) sewage treatment plant with UV disinfection or equivalent could be utilised. The on-site STP will be located in underground plant room underneath the clubhouse. The treated sewage would be discharged to Ho Chung River via the stormwater drain along Wo Mei Hung Min Road and Hiram's Road. Details of the onsite STP shall be referred to **Appendix 10.1**. Standards of treated effluent discharge should follow the "Standards for Effluents Discharged into Inland Waters" in the "Technical Memorandum Standards for Effluent Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters". The contingency arrangement in the event of operation failure of the STP will include tankering away of untreated sewage. Hence, no adverse water quality impact is anticipated during normal operations.

10.6.2.3 Contingency measures including standby power supply, alarms, storage tank and tankering away of untreated sewage shall be allowed to prevent discharge of treated or untreated sewage effluent in emergency situation (e.g. pump failure, electricity cut off, pipe bursting, etc). Contingency measures shall be documented in a contingency plan to be prepared by the operator of the STP. The contingency plan shall cover situations when the STP is out of service, and shall be implemented throughout operation of the onsite STP.

11 Conclusion

- 11.1.1.1** An Environmental Assessment Study has been conducted to support the Section 12A Planning Application for Proposed House Development at Various Lots in D.D.244 and Adjoining Government Land, Nam Pin Wai, Sai Kung, New Territories.
- 11.1.1.2** The Application Site is bounded by New Hiram's Highway to the east. Road traffic noise assessment has shown that with provision of the recommended acoustic windows (baffle type), all residential units will comply with the criterion of 70 dB(A) and a compliance rate of 100% could be achieved. Therefore, adverse road traffic noise impact is not anticipated.
- 11.1.1.3** Two potential fixed noise sources, including Pat Chun Foods & Soys Factory and Ho Chung Welfare Facilities Block, have been identified within 300m assessment area of the Application Site. Based on site inspection, no noticeable fixed noise was perceived at the boundary of these potential fixed noise sources. Given the reason above, potential fixed noise impact on the noise sensitive uses of the Proposed House Development is not anticipated.
- 11.1.1.4** For the planned fixed plant noise sources at the Planned Wo Mei Local Sewage Treatment Plant and within the Proposed House Development, acoustic measures such as use of silencers / acoustic louvers and acoustic doors will be incorporated in the design. With appropriate noise mitigation measures, adverse noise impact from these planned fixed plant noise sources is not anticipated.
- 11.1.1.5** The current design scheme has allowed sufficient setback from the surrounding roads to meet the minimum requirement as stipulated in the HKPSG. Hence, potential vehicular emission impact is not anticipated.
- 11.1.1.6** Two chimneys at Pat Chun Foods & Soys Factory to the west of the Application Site are identified within 500m from the Application Site. No plume or other emissions were observed during the survey. Adverse air quality impact due to chimney emission is not anticipated.
- 11.1.1.7** For the Planned Wo Mei Local Sewage Treatment Plant and the proposed local sewage treatment plant within the Proposed House Development, measures such as use of activated carbon filter at exhaust and odour removal system would be provided. Adverse odour impact from these sewage treatment plants is not anticipated.
- 11.1.1.8** A preliminary land contamination site appraisal through desktop review and site survey has been conducted to review any past and existing land uses within and adjoining the

Application Site. It is found that there is no potential of land contamination within and adjoining the Application Site.

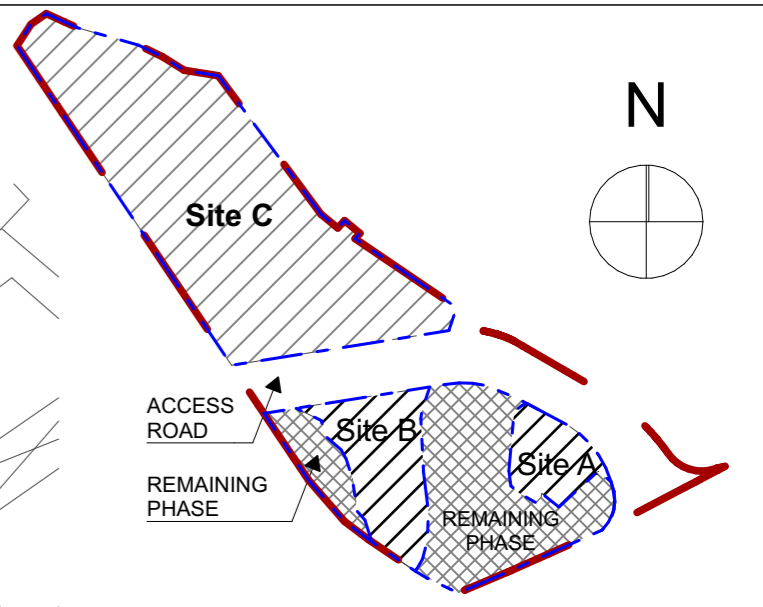
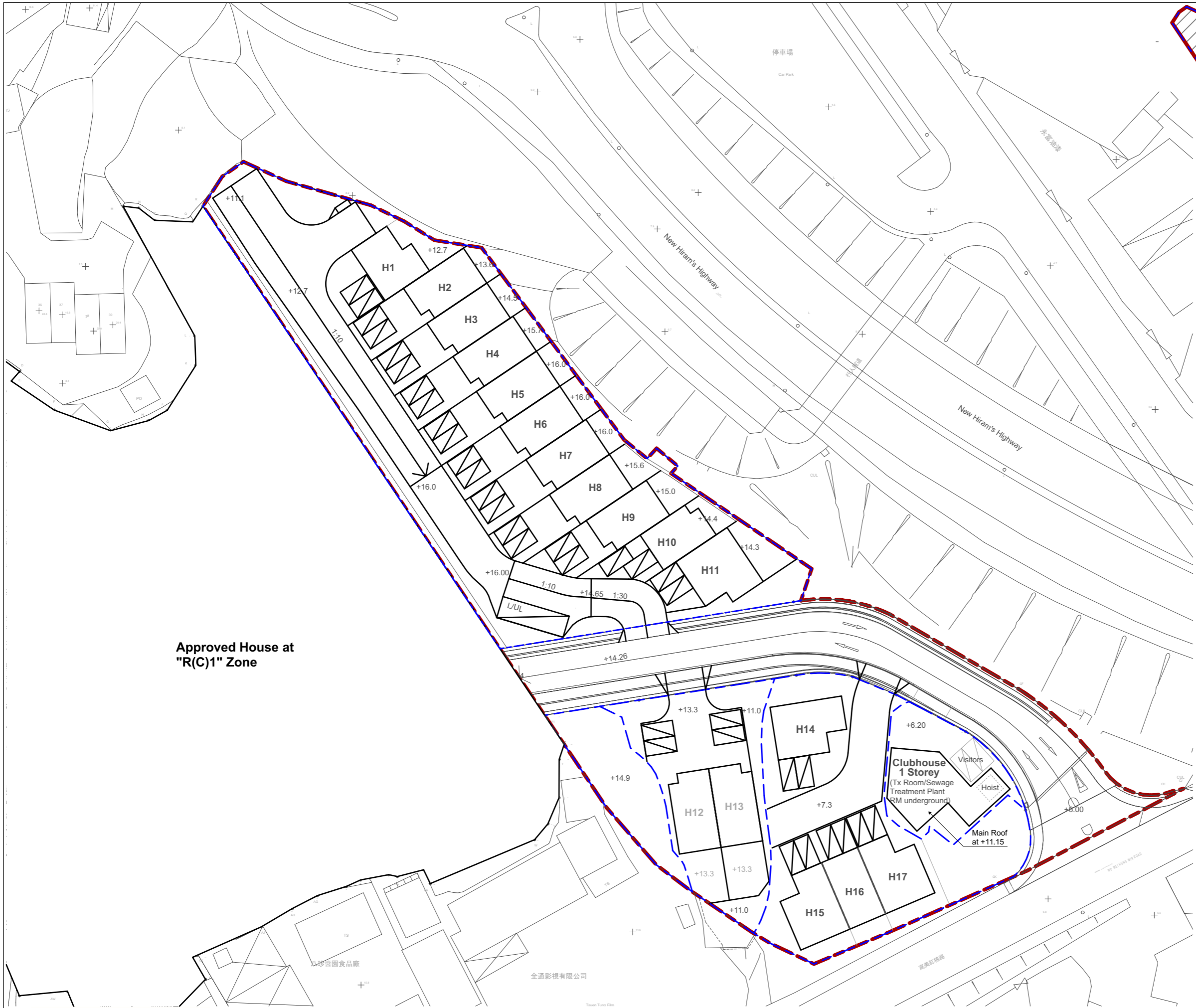
11.1.1.9 For waste management, implications due to construction and operational phases are not anticipated provided good practices are in place.

11.1.1.10 For water quality, adverse impacts due to construction and operational phases are not anticipated, given mitigation measures and proper connection with public drainage and sewerage network should be maintained.

11.1.1.11 It is concluded that there are no insurmountable environmental impacts on the Proposed House Development at Various Lots in D.D.244 and Adjoining Government Land, Nam Pin Wai, Sai Kung, New Territories.

Appendix 2.1

Master Layout Plan



LEGEND

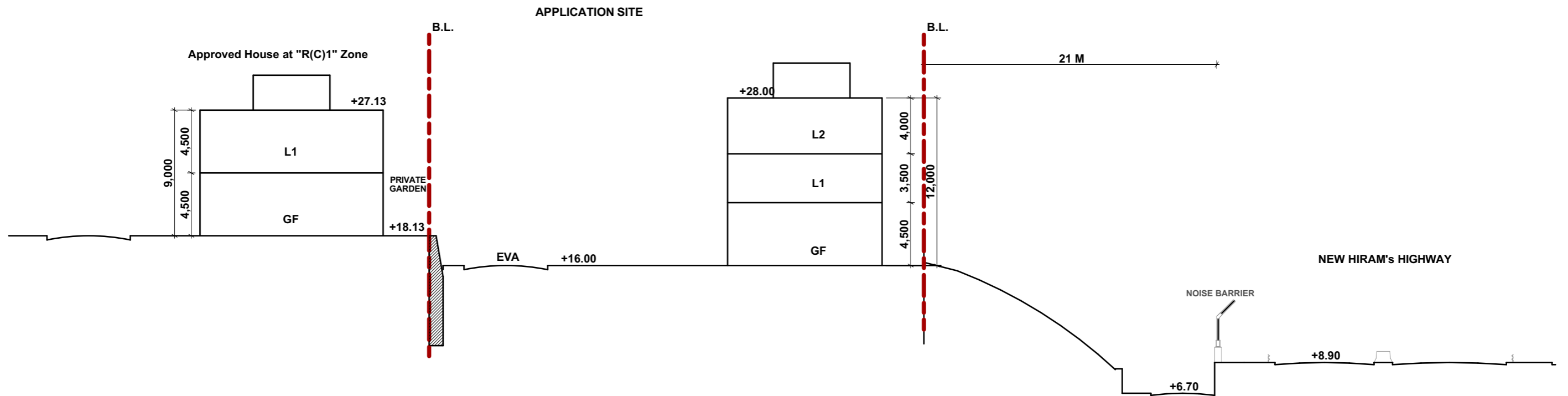
- - - Application Site
- - - Development Site
- Phase 1
- Remaining Phase

Approved House at "R(C)1" Zone



LEGEND

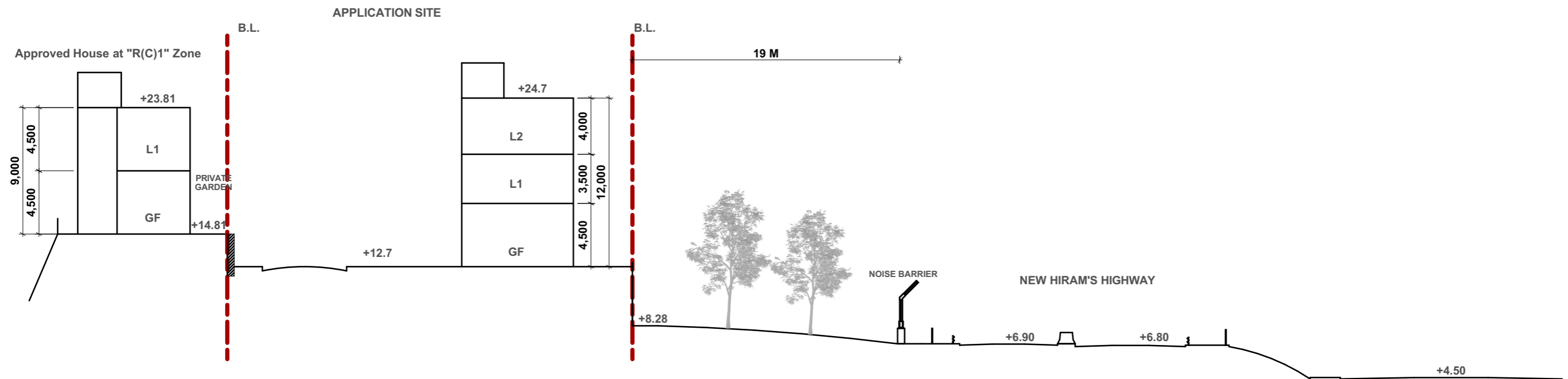
- Application Site
- Development Site

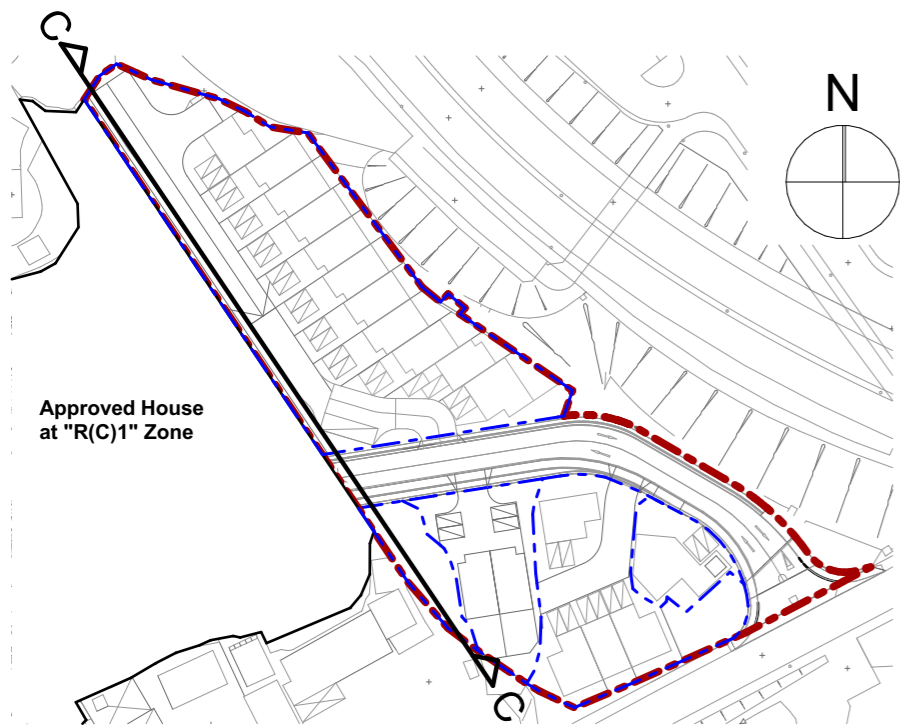




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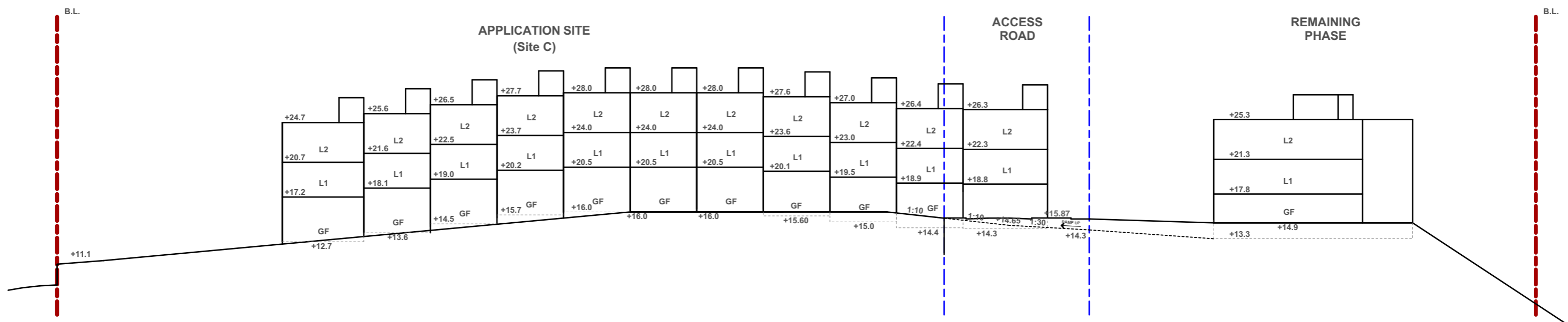
- Application Site
- Development Site



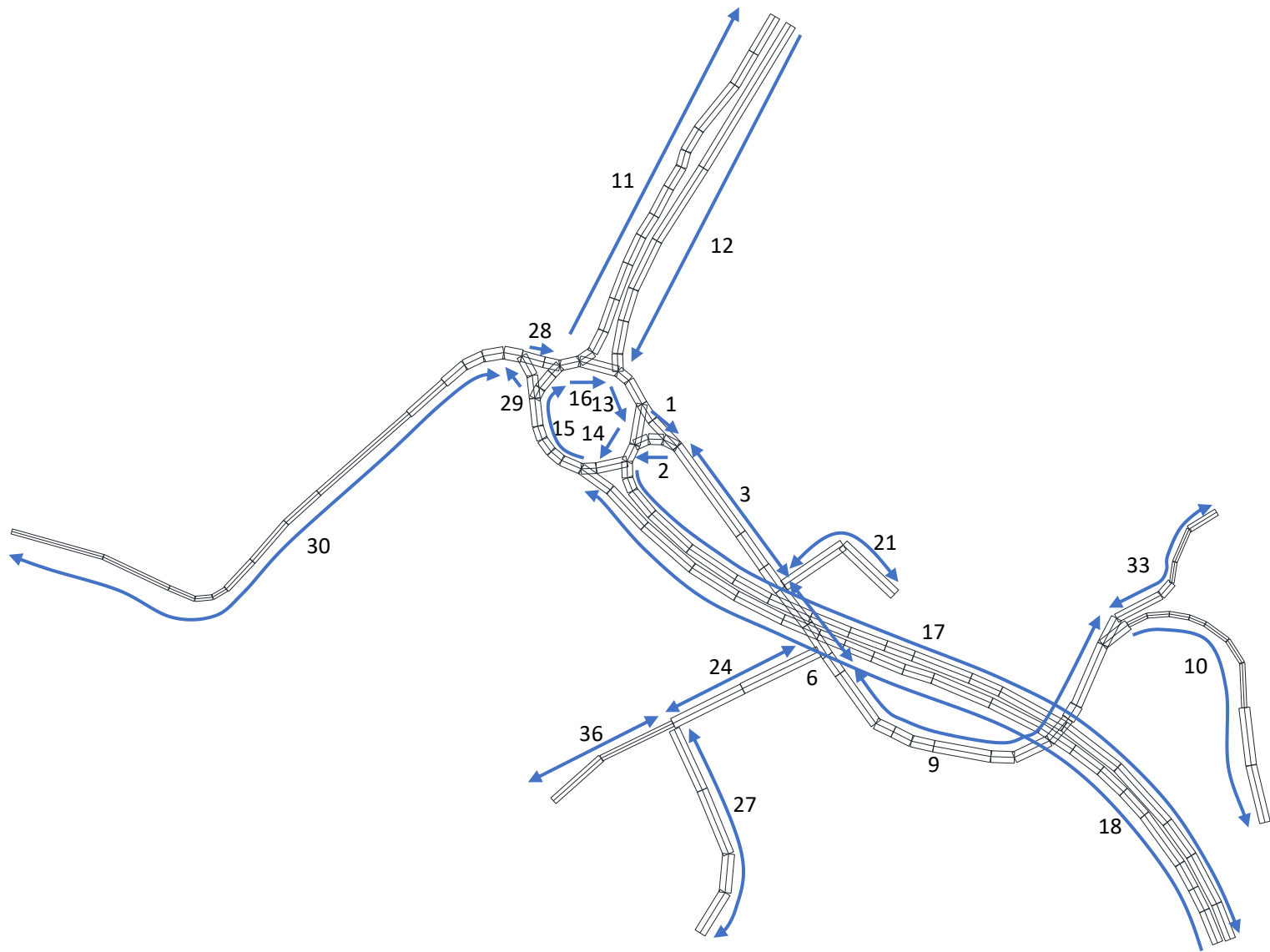


LEGEND

- Application Site
- Development Site



Appendix 4.1
Traffic Forecast for
Assessment Year 2045



294065 Nam Pin Wai EAS Study Traffic Forecast

Road Name	Link ID	Speed Limit	2045 AM	
			Total Veh	HV%
Hiram's Highway (EB)	1	50	150	58.0
Hiram's Highway (WB)	2	50	100	10.0
Hiram's Highway (1+2)	3	50	250	38.8
Hiram's Highway (EB)	4	50	200	49.0
Hiram's Highway (WB)	5	50	50	10.0
Hiram's Highway (4+5)	6	50	250	41.2
Hiram's Highway (EB)	7	50	200	44.0
Hiram's Highway (WB)	8	50	50	13.0
Hiram's Highway (7+8)	9	50	250	37.8
Hiram's Highway (SB)	10	50	100	49.0
Hiram's Highway (NB)	11	50	1250	24.0
Hiram's Highway (SB)	12	50	1500	20.0
Hiram's Highway (SB)	13	50	1300	22.0
Hiram's Highway (WB)	14	50	1400	14.0
Hiram's Highway (NB)	15	50	1200	23.0
Hiram's Highway (EB)	16	50	1150	22.0
New Hiram's Highway (EB)	17	70	1400	13.0
New Hiram's Highway (WB)	18	50	1150	24.0
Heung Chung Road (19+20)	21	50	100	18.0
Wo Mei Hung Min Road (22+23)	24	50	150	11.7
Mok Tse Che Road (25+26)	27	50	100	12.0
Nam Pin Wai Road (EB)	28	50	150	9.0
Nam Pin Wai Road (WB)	29	50	50	29.0
Nam Pin Wai Road (28+29)	30	50	200	14.0
Nam Wai Road (31+32)	33	50	100	12.5
Wo Mei Hung Min Road (34+35)	36	50	100	12.5

By Fax and by Post
2831 0003



運輸署
Transport Department

本署檔案 Our Ref. : (NPLJN) in TD NR157/161/SKDD-244
來函檔號 Your Ref. : 40862/L47660/SLN/SKL/amw
電話 Tel. : 2399 2224
圖文傳真 Fax : 2381 3799
電郵 Email : j_boedihardjo@td.gov.hk

19 December 2023

LLA Consultantcy Limited
Unit 610, 6/F., Island Place Tower,
510 King's Road, North Point, Hong Kong
(Attn.: S L Ng)

Dear Sir/Madam,

**Application for Amendment of Plan under Section 12A of the Town Planning Ordinance (Cap. 131)
to Rezone the Application Site from "Green Belt" to "Residential (Group C)1" for Proposed House
Development at Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai
Kung
- 2045 Traffic Forecast for Environmental Assessment**

We refer to your above quoted letter dated 13 December 2023 regarding the captioned subject and have no adverse comment.

2. Please note that Noise Impact Assessment is not under our purview. We are not in a position to provide comments on the traffic figures tailor-made for the environmental assessment study.
3. Notwithstanding the above, we have no objection in principle to the methodology of traffic forecast provided that the methodology is consistent with the TIA Report submitted in the project.

Yours faithfully,

Tom Boedi
(BOEDIHARDJO, Johnathan)
for Commissioner for Transport

c.c.
DPO/SK&Is, PlanD

Fax: 2367 2976

新界分區辦事處
NT Regional Office
九龍聯運街三十號旺角政府合署七樓
7th Floor, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO)
網址 Web Site: <http://www.td.gov.hk>

From: [Johnathan Ding Chian BOEDIHARDJO](#)
To: [Steven Lui](#)
Cc: [S L Ng](#); [Chi Wai KO](#)
Subject: Re: Proposed House Development at Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai Kung - Road Classification
Date: Thursday, December 14, 2023 12:13:50 PM

Dear Steven,

I refer to your email dated 13.12.2023. I have no comment on the road classification of Wo Mei Hung Min Road as feeder road.

Regards,
Johnathan BOEDIHARDJO
E/SK, TE/NTE, TD
Tel: 2399 2224

From: Steven Lui <steven@lla.com.hk>
To: "J_boedihardjo@td.gov.hk" <J_boedihardjo@td.gov.hk>
Cc: S L Ng <slng@lla.com.hk>
Date: 13/12/2023 04:15 PM
Subject: Proposed House Development at Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai Kung - Road Classification

Dear Mr. BOEDIHARDJO ,

We are the traffic consultant for the captioned (please see attached for the site location).

We would like to seek your confirmation on the road type of the following road section in the vicinity of the Site, solely for environmental assessment use:

1. **Wo Mei Hung Min Road (Feeder Road)**

Justifications are provided as below:

1. Wo Mei Hung Min Road

According to TPDM, it states that feeder roads are roads connecting villages or more remote settlements to Rural Roads.

Please note that Wo Mei Hung Min Road links local development, like Royal Garden, to Hiram's Highway which is classified as "Rural Road" under Annual Traffic Census 2022 (Station No.6055).

As a result, Wo Mei Hung Min Road can be considered to classify as a "Feeder Road" matching with the definition in the TPDM.

We would be pleased if you could consider and provide your comment on the above.

Should you have any query or require any additional information, please feel free to contact

our Mr. S L Ng or the undersigned at 2831 9191.

Thanks & Regards

Steven Lui

LLA Consultancy Ltd.

Unit 610, 6/F., Island Place Tower,

510 King's Road, North Point, Hong Kong

Tel : (852) 2831 9191 Fax : (852) 2831 0003

Web Site : <http://www.lla.com.hk>

Email : steven@lla.com.hk

Company Email : lla@lla.com.hk[attachment "FIGURE2.1-A4.pdf" deleted by Johnathan Ding
Chian BOEDIHARDJO/TD/HKSARG]

Appendix 4.2

Predicted Road Traffic Noise Levels
(Base Scenario)

Floor	R01a	R01b	R01c	R02a	R02b	R03a	R03b	R04a	R04b	R05a	R05b	R06a	R06b	R07a	R07b	R08a	R08b	R09a	R09b
3	74.1	73.4	50.7	76.1	49.0	75.9	50.2	75.8	50.7	75.5	51.4	75.3	51.2	75.1	51.4	74.8	51.9	74.8	52.3
2	73.1	72.4	50.0	75.3	47.0	75.2	48.5	75.3	49.0	75.0	49.9	74.6	50.0	74.4	50.1	74.0	50.4	73.9	50.3
1	66.6	66.0	49.0	69.0	45.7	68.5	47.5	68.6	48.0	68.0	49.0	67.6	49.3	67.6	49.4	65.8	49.6	66.3	49.2
Max	74.1	73.4	50.7	76.1	49.0	75.9	50.2	75.8	50.7	75.5	51.4	75.3	51.2	75.1	51.4	74.8	51.9	74.8	52.3
Min	66.6	66.0	49.0	69.0	45.7	68.5	47.5	68.6	48.0	68.0	49.0	67.6	49.3	67.6	49.4	65.8	49.6	66.3	49.2

Total Houses 17
 Exceedance 11
 Compliance Rate 35.3%

75.9 Noise sensitive receivers with exceedance (≥ 70.5 dB(A))
 For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Floor	R10a	R10b	R10c	R11a	R11b	R12a	R12b	R13a	R13b	R14a	R14b	R15a	R15b	R16a	R16b	R17a	R17b
3	75.1	75.2	49.1	75.2	49.1	63.5	64.3	67.0	65.1	54.0	67.2	60.6	69.6	60.2	69.6	65.2	69.6
2	74.0	74.1	47.9	73.9	47.5	60.2	63.0	64.2	63.7	51.8	65.0	59.5	70.0	58.3	70.0	63.6	70.1
1	66.2	67.4	47.1	67.1	46.5	56.9	55.7	61.1	56.9	50.6	62.5	58.3	62.6	55.7	62.1	61.4	62.2
Max	75.1	75.2	49.1	75.2	49.1	63.5	64.3	67.0	65.1	54.0	67.2	60.6	70.0	60.2	70.0	65.2	70.1
Min	66.2	67.4	47.1	67.1	46.5	56.9	55.7	61.1	56.9	50.6	62.5	58.3	62.6	55.7	62.1	61.4	62.2

 Noise sensitive receivers with exceedance (≥ 70.5 dB(A))
 For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Floor	R01max	R02max	R03max	R04max	R05max	R06max	R07max	R08max	R09max	R10max	R11max	R12max	R13max	R14max	R15max	R16max	R17max
3	74.1	76.1	75.9	75.8	75.5	75.3	75.1	74.8	74.8	75.2	75.2	64.3	67.0	67.2	69.6	69.6	69.6
2	73.1	75.3	75.2	75.3	75.0	74.6	74.4	74.0	73.9	74.1	73.9	63.0	64.2	65.0	70.0	70.0	70.1
1	66.6	69.0	68.5	68.6	68.0	67.6	67.6	65.8	66.3	67.4	67.1	56.9	61.1	62.5	62.6	62.1	62.2
Max	74.1	76.1	75.9	75.8	75.5	75.3	75.1	74.8	74.8	75.2	75.2	64.3	67.0	67.2	70.0	70.0	70.1
Min	66.6	69.0	68.5	68.6	68.0	67.6	67.6	65.8	66.3	67.4	67.1	56.9	61.1	62.5	62.6	62.1	62.2

Noise sensitive receivers with exceedance (≥ 70.5 dB(A))
 For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Appendix 4.3

Predicted Road Traffic Noise Levels
(Mitigated Scenario)

294065-04 Nam Pin Wai EAS Study - Road Traffic Noise Assessment (Mitigated Scenario)

Floor	R01a	R01b	R01c	R02a	R02b	R03a	R03b	R04a	R04b	R05a	R05b	R06a	R06b	R07a	R07b	R08a	R08b	R09a	R09b
3	68.1	67.4	50.7	70.1	49.0	69.9	50.2	69.8	50.7	69.5	51.4	69.3	51.2	69.1	51.4	68.8	51.9	68.8	52.3
2	67.1	66.4	50.0	69.3	47.0	69.2	48.5	69.3	49.0	69.0	49.9	68.6	50.0	68.4	50.1	68.0	50.4	67.9	50.3
1	66.6	66.0	49.0	69.0	45.7	68.5	47.5	68.6	48.0	68.0	49.0	67.6	49.3	67.6	49.4	65.8	49.6	66.3	49.2
Max	68.1	67.4	50.7	70.1	49.0	69.9	50.2	69.8	50.7	69.5	51.4	69.3	51.2	69.1	51.4	68.8	51.9	68.8	52.3
Min	66.6	66.0	49.0	69.0	45.7	68.5	47.5	68.6	48.0	68.0	49.0	67.6	49.3	67.6	49.4	65.8	49.6	66.3	49.2

Total Houses 17
 Exceedance 0
 Compliance Rate 100.0%

Noise sensitive receivers applied with acoustic window (Baffle Design)
 For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Floor	R10a	R10b	R10c	R11a	R11b	R12a	R12b	R13a	R13b	R14a	R14b	R15a	R15b	R16a	R16b	R17a	R17b
3	69.1	69.2	49.1	69.2	49.1	63.5	64.3	67.0	65.1	54.0	67.2	60.6	69.6	60.2	69.6	65.2	69.6
2	68.0	68.1	47.9	67.9	47.5	60.2	63.0	64.2	63.7	51.8	65.0	59.5	70.0	58.3	70.0	63.6	70.1
1	66.2	67.4	47.1	67.1	46.5	56.9	55.7	61.1	56.9	50.6	62.5	58.3	62.6	55.7	62.1	61.4	62.2
Max	69.1	69.2	49.1	69.2	49.1	63.5	64.3	67.0	65.1	54.0	67.2	60.6	70.0	60.2	70.0	65.2	70.1
Min	66.2	67.4	47.1	67.1	46.5	56.9	55.7	61.1	56.9	50.6	62.5	58.3	62.6	55.7	62.1	61.4	62.2

Noise sensitive receivers applied with acoustic window (Baffle Design)
 For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Floor	R01max	R02max	R03max	R04max	R05max	R06max	R07max	R08max	R09max	R10max	R11max	R12max	R13max	R14max	R15max	R16max	R17max
3	68.1	70.1	69.9	69.8	69.5	69.3	69.1	68.8	68.8	69.2	69.2	64.3	67.0	67.2	69.6	69.6	69.6
2	67.1	69.3	69.2	69.3	69.0	68.6	68.4	68.0	67.9	68.1	67.9	63.0	64.2	65.0	70.0	70.0	70.1
1	66.6	69.0	68.5	68.6	68.0	67.6	67.6	65.8	66.3	67.4	67.1	56.9	61.1	62.5	62.6	62.1	62.2
Max	68.1	70.1	69.9	69.8	69.5	69.3	69.1	68.8	68.8	69.2	69.2	64.3	67.0	67.2	70.0	70.0	70.1
Min	66.6	69.0	68.5	68.6	68.0	67.6	67.6	65.8	66.3	67.4	67.1	56.9	61.1	62.5	62.6	62.1	62.2

Noise sensitive receivers applied with acoustic window (Baffle Design)
 For modelling purpose, floors are labelled as 1/F, 2/F and 3/F, which identical to GF, L1 and L2 labelled in **Appendix 2.1** respectively.

Appendix 8.1

Historical Aerial Photos

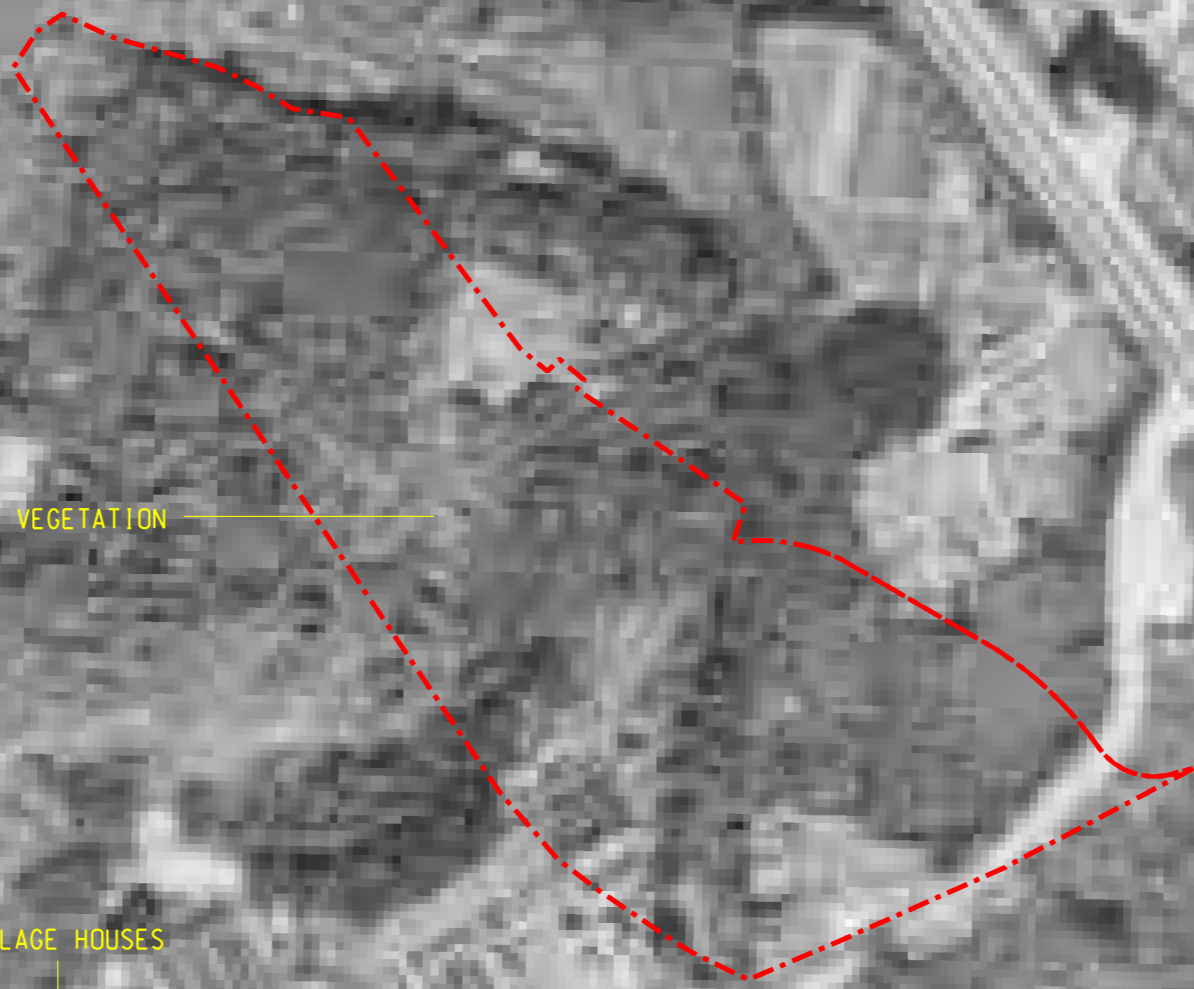
HISTORICAL AERIAL PHOTO - YEAR 1973



HO CHUNG RIVER

VEGETATION

VILLAGE HOUSES



Printed by : 20/12/2023
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\294065\13 Drawing Deliverables\Report\Draft EA Report\Appendix\Appendix 8.1 - Historical Aerial Photo - Year 1973.dgn



LEGEND

 APPLICATION SITE

HISTORICAL AERIAL PHOTO - YEAR 1982



VILLAGE HOUSES

HO CHUNG RIVER

VEGETATION



Printed by : 20/12/2023
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\294065\13 Drawing_Deliverables\Report\Draft EA_Report\Appendix\Appendix 8.1 - Historical Aerial Photo - Year 1982.dgn



LEGEND

 APPLICATION SITE



HO CHUNG RIVER

VEGETATION

AGRICULTURAL LAND

VILLAGE HOUSES

LEGEND

 APPLICATION SITE



HISTORICAL AERIAL PHOTO - YEAR 2004



HO CHUNG RIVER

VILLA ROYALE

VEGETATION

NEW HIRAM'S HIGHWAY

VILLAGE HOUSES

WO MEI VILLAGE



LEGEND

 APPLICATION SITE

HISTORICAL AERIAL PHOTO - YEAR 2012



HO CHUNG RIVER

VILLA ROYALE

VEGETATION

NEW HYRAM'S HIGHWAY

VILLAGE HOUSES

WO MEI VILLAGE



LEGEND

 APPLICATION SITE



Imperial Lodge Block 10
帝皇居10座

Villa Royale Block 1
御花園1座

HO CHUNG RIVER

Villa Royale Block 19
御花園19座

VILLA ROYALE

Villa Royale Block 33
御花園33座

VEGETATION

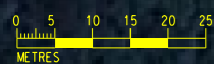
APPROVED ACCESS ROAD
UNDER PLANNING APPLICATION
NO. A/SK-HC/223

TEMPORARY WORKS AREA FOR
CONSTRUCTION OF THE APPROVED ACCESS ROAD

NEW HIRAM'S HIGHWAY

WO MEI VILLAGE

Royal Garden House B2
御庭園B2座

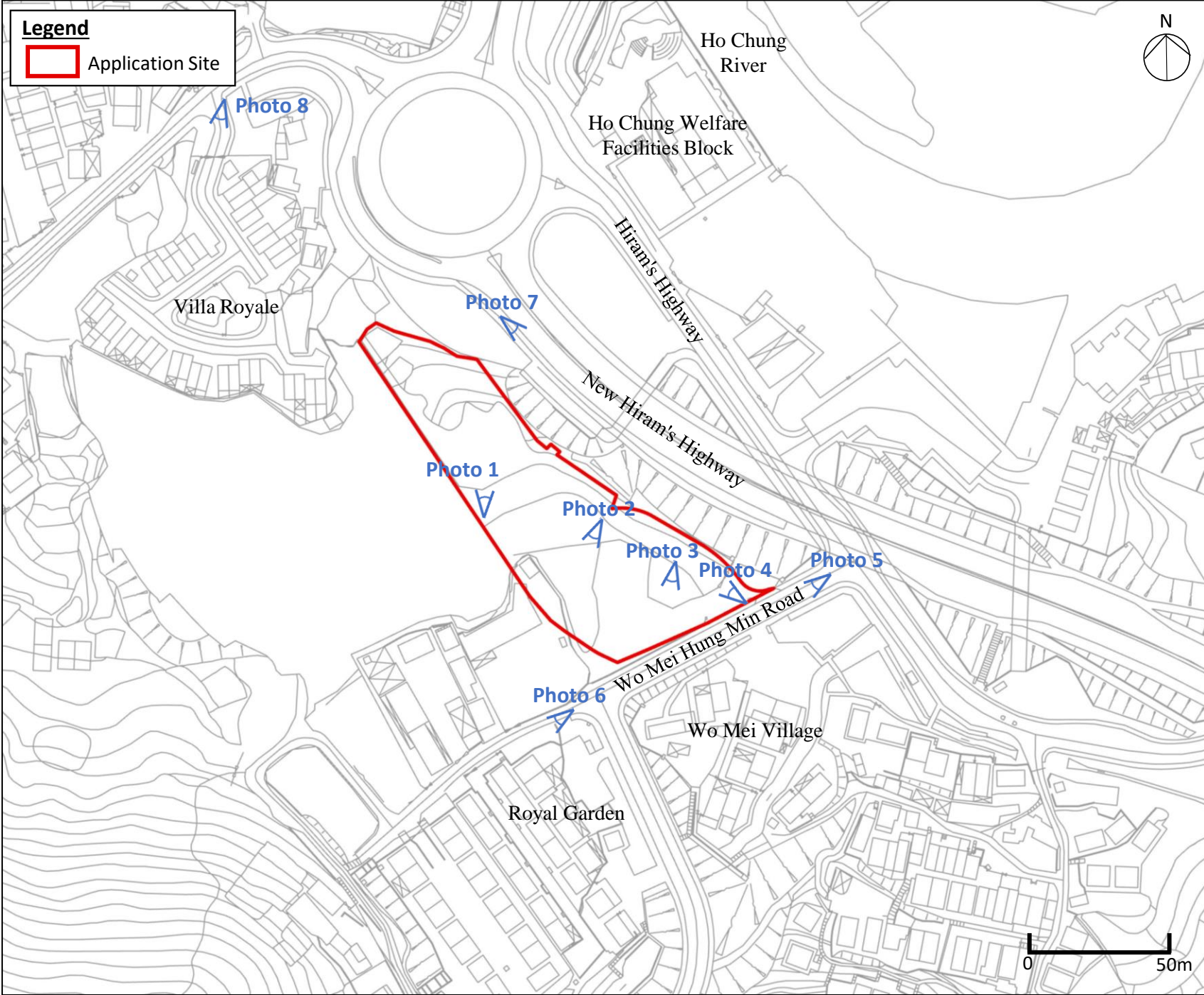


LEGEND

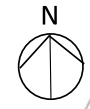
 APPLICATION SITE

Appendix 8.2

Photo Record of Site Survey



Legend
Application Site



Ho Chung River

Ho Chung Welfare Facilities Block

Hiram's Highway

New Hiram's Highway

Villa Royale

Photo 8

Photo 7

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Wo Mei Hung Min Road

Wo Mei Village

Royal Garden

0 50m

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6



Photo 7



Photo 8



Appendix 8.3

Site Walkover Checklist

1) GENERAL SITE DETAILS	
Site Owner/ Client	Top Deluxe Limited
Property Address	Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai Kung
Person Conducting the Questionnaire (name & position)	Stevie Law, Assistant Consultant
Authorised Owner/ Client Representative (if applicable) (name, position & telephone)	Top Deluxe Limited

2) ACTIVITIES	
Briefly describe activities carried out on site, including types of products/chemicals/materials handled. Obtain a flow schematic if possible.	Temporary works area for construction of access road
Number of employees:	N/A
- Full-time:	N/A
- Part-time:	N/A
- Temporary/Seasonal:	N/A
Maximum no. of people on site at any time:	N/A
Typical hours of operation:	N/A
Number of shifts:	N/A
Days per week:	N/A
Weeks per year:	N/A
Scheduled plant shut-down:	N/A
Detail the main sources of energy at the site:	
Gas (Yes/No)	N/A
Electricity (Yes/No)	N/A
Coal (Yes/No)	N/A
Oil (Yes/No)	N/A
Other (Yes/No)	N/A

3) SITE DESCRIPTION	
This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.	
What is the total site area (m ²):	6601
What area of the site is covered by buildings (%):	0%
Please list all current and previous owners/occupiers if possible.	Top Deluxe Limited
Is a site plan available? (Yes/No) If yes, please attach.	No
Are there any other parties on site as tenants or sub-tenants? (Yes/No) If yes, identify those parties.	No
Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.	
North:	Villa Royale
South:	Wo Mei Hung Min Road
East:	New Hiram's Highway
West:	A low-rise residential development under construction
Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).	Generally flat terrain with some slope
State the size and location of the nearest residential communities.	Villa Royale at the North of the site
Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands, or sites of special scientific interest?	No

4) QUESTIONNAIRE WITH EXISTING/ PREVIOUS SITE OWNER OR OCCUPIER		
	Yes/No	Notes
1. What are the main activities/operations at the above address?	N/A	Temporary works area for construction of access road
2. How long have you been occupying the site?	N/A	-
3. Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy.)	N/A	-
4. Prior to your occupancy, who occupied the site?	N/A	No information
5. What were the main activities/operations during their occupancy?	N/A	No information
6. Have there been any major changes in operations carried out at the site in the last 10 years?	N/A	No information
7. Have any polluting activities been carried out in the vicinity of the site in the past?	N/A	No information
8. To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	N/A	-
9. Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	N/A	-
10. Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	N/A	-
11. Are any chemicals used in your daily operations? (If yes, please provide details.)	N/A	-
- Where do you store these chemicals?	N/A	-
12. Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	N/A	-
13. Has the facility produced a separate hazardous substance inventory?	N/A	-
14. Have there ever been any incidents or accidents (e.g. spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	N/A	-
15. How are materials received (e.g. rail, truck, etc.) and stored on site (e.g. drums, tanks, carboys, bays, silos, cisterns, vaults and cylinders)?	N/A	-

4) QUESTIONNAIRE WITH EXISTING/ PREVIOUS SITE OWNER OR OCCUPIER (CONTINUED)		
	Yes/No	Notes
16. Do you have any underground storage tanks? (If yes, please provide details.)	N/A	-
- How many underground storage tanks do you have on site?		
- What are the tanks constructed of?		
- What are the contents of these tanks?		
- Are the pipelines above or below ground?		
- If the pipelines are below ground, has any leak and integrity testing been performed?		
- Have there been any spills associated with these tanks?		
17. Are there any disused underground storage tanks?	N/A	-
18. Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	N/A	-
19. How are the wastes disposed of?	N/A	-
20. Have you ever received any notices of violation of environmental regulations or received public complains? (If yes, please provide details.)	N/A	-
21. Have any spills occurred on site? (If yes, please provide details)	N/A	-
- When did the spill occur?		
- What were the substances spilled?		
- What was the quantity of material spilled?		
- Did you notify the relevant departments of the spill?		
- What were the actions taken to clean up the spill?		
- What were the areas affected?		
22. Do you have any records of major renovation of your site or re-arrangement of underground utilities, pipe work/underground tanks? (If yes, please provide details.)	N/A	-
23. Have disused underground tanks been removed or otherwise secured (e.g. concrete, sand, etc.)?	N/A	-
24. Are there any known contaminations on site? (If yes, please provide details.)	N/A	-
25. Has the site ever been remediated? (If yes, please provide details.)	N/A	-

5) SITE SURVEY INFORMATION	
1. Date of Survey:	27/01/2023 & 08/11/2023

6) OBSERVATIONS		
	Yes/No	Notes
1. Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	N/A	N/A
2. What are the conditions of the bund walls and floors?	N/A	N/A
3. Are any surface water drains located near to drum storage and unloading areas?	No	N/A
4. Are any solid or liquid waste (other than wastewater) generated at the site? (If yes, please provide details.)	No	N/A
5. Is there a storage site for the wastes?	No	N/A
6. Is there an on-site landfill?	No	N/A
7. Were any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	N/A
8. Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	N/A
9. Are there any potential off-site sources of contamination?	No	N/A
10. Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	N/A
11. Are there any sumps, effluent pits, interceptors or lagoons on site?	No	N/A
12. Any noticeable odours during site walkover?	No	N/A
13. Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives, and polyurethane foam?	No	N/A

Appendix 8.4

Relevant Correspondence with FSD

消防處

香港九龍尖沙咀東部康莊道1號
消防總部大廈



FIRE SERVICES DEPARTMENT
FIRE SERVICES HEADQUARTERS BUILDING,
No.1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon,
Hong Kong.

本處檔號 OUR REF. : (158) in FSD GR 6-5/4 R Pt. 50
來函檔號 YOUR REF. : 294065/00/L002/WSTY/CKJL/JS/sl/05190
電子郵件 E-mail : hkfsdenq@hkfsd.gov.hk
圖文傳真 FAX NO. : 2988 1196
電話 TEL NO. : 2733 7570

28 December 2023

ARUP
Level 5, Festival Walk,
80 Tat Chee Avenue,
Kowloon Tong, Kowloon
(Attn: Ms. Theresa YEUNG, Director)

Dear Ms. YEUNG,

CON1	Date	By	ARUP
	Job no.	294065100	
File no.	File original: Yes / No		
Registration no.	05943		
Received	- 5 JAN 2024		
Initials	WTL	WSTY	MYNUCKJL
Action			
Info.			
Copy			
Archive	Dis		Scan

**Environmental Assessment Study for Proposed House Development
at Various Lots in D.D. 244 and Adjoining Government Land,
Nam Pin Wai, Sai Kung
Request for Information of Dangerous Goods & Incident Records**

I refer to your letter of 13.12.2023 regarding the captioned request and reply below in response to your questions:-

Please be advised that neither records of dangerous goods license, fire incidents nor incidents of spillage / leakage of dangerous goods were found in connection with the given conditions of your request at the subject location.

If you have further questions, please feel free to contact the undersigned.

Yours sincerely,

(LAI Kin-man)

for Director of Fire Services

Appendix 8.5

Relevant Correspondence with EPD

本署檔號
OUR REF: EP640/G1/2 PT.III
來函檔號
YOUR REF:
電話
TEL. NO.: 2117 7531
圖文傳真
FAX NO.: 2756 8588
電子郵件
E-MAIL: chhung@epd.gov.hk
網址
HOMEPAGE: <http://www.epd.gov.hk>

**Environmental Protection Department
Environmental Compliance Division
Regional Office (East)**

5th Floor, Nan Fung Commercial Centre,
-19 Lam Lok Street, Kowloon Bay,
Kowloon, Hong Kong.



環境保護署
環保法規管理科
區域辦事處(東)
香港九龍九龍灣臨華街
十九號南豐商業中心五樓

ARUP						087
Job No.		294065/00				
Register No.		05930				
Received		19 Dec 2023				
Initial	WTL	WSTY	MYNL	CKJL		
Action						
Info						
Copy						

By Post and Fax (2268 3954)
18 December 2023

Arup Hong Kong Limited
Level 5, Festival Walk
80 Tat Chee Avenue, Kowloon Tong, Kowloon, Hong Kong
(Attn. : Theresa YEUNG, Director)

Dear Sir/ Madam,

Re: Environmental Assessment Study for Proposed House Development at Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai Kung
Request for Information of Chemical Waste Producers Registration and Chemical Spillage Accident Records

I refer to your letter dated 13.12.2023 requesting below information for the captioned site in Sai Kung district

- The records of Chemical Waste Producers Registration of the area within the Site Boundary and;
- Past and present chemical spillage / leakage records of the area within the Site Boundary.

2. According to our office record, there is no relevant record within the project site stated in your letter ref. 294065/00/L001/WSTY/CKJL/JS/sl/05189. You are reminded that this information is not exhaustive and you are advised to check with other concerned parties / authorities responsible for handling chemical leakage / spillage incidents. You may also consider taking samples for your study of land contamination, if necessary.

3. If you have any enquiry, please contact the undersigned.

Yours faithfully,

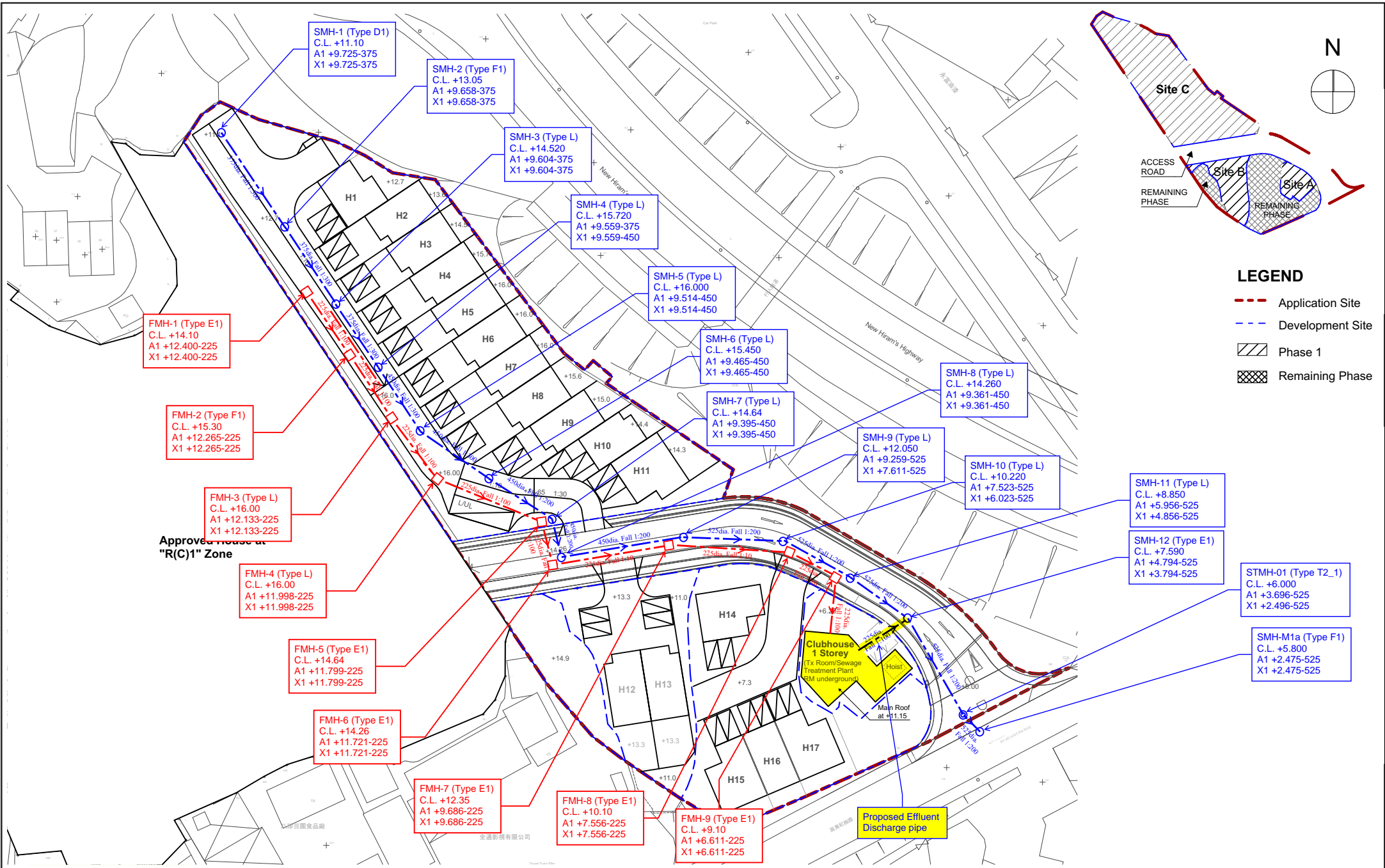
Jack Hung

(Jack C.H. HUNG)
Regional Office (East)

Environmental Protection Department

Appendix 10.1

Details of the Proposed Onsite
Sewage Treatment Plant

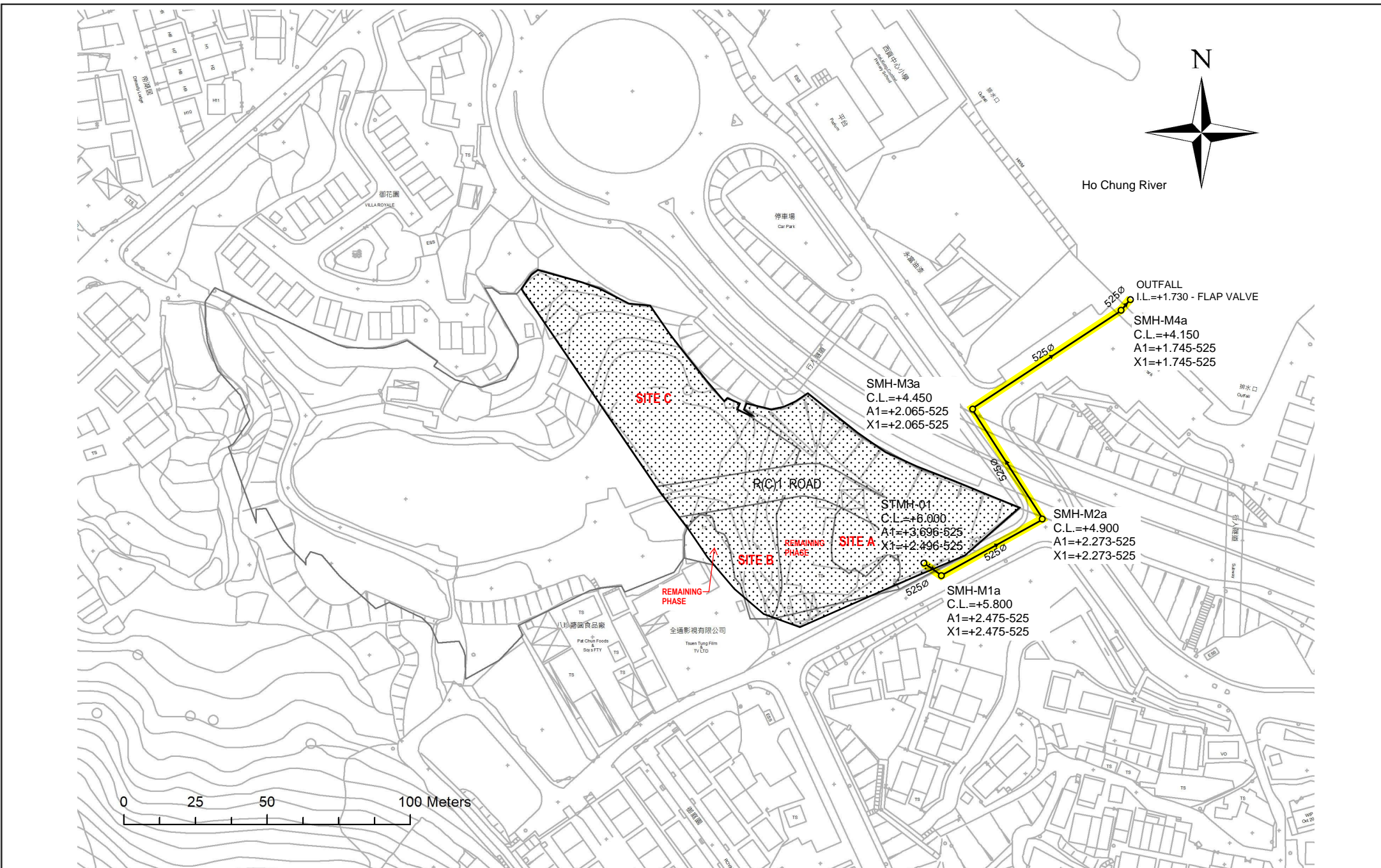


MARK	DATE	BY	REV.

Application for Amendment of Plan under Section 12A of the Town Planning Ordinance (Cap. 131) to Rezone the Application Site from "Green Belt" to "Residential (Group C1)" for Proposed House Development at Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai Kung			
JOB TITLE			
DRAWING TITLE			
SCALE 1:6000A3			
DRN IP DATE 17/11/2023 CHD CC PASSED CC			
DRAWING STATUS			
FOR INFORMATION			

JOB TITLE			
DRAWING TITLE			
SCALE 1:6000A3			
DRN IP DATE 17/11/2023 CHD CC PASSED CC			
DRAWING STATUS			
FOR INFORMATION			



ARUP			
SCALE 1:6000A3			
DRN IP DATE 17/11/2023 CHD CC PASSED CC			
DRAWING STATUS			
FOR INFORMATION			



MARK	DATE	BY	REV.

NOTE:
THE PROPOSED DRAINAGE ALIGNMENTS SHOWN IN THE DRAWINGS ARE INDICATIVE ONLY. THE EXACT ALIGNMENTS SHALL BE DETERMINED ON SITE AND AGREED BY THE PROJECT MANAGER AND HIS REPRESENTATIVE.

LEGEND:

-  PROPOSED CATCHMENT AREA
-  PROPOSED DRAINAGE MANHOLE

1050Ø

→ PROPOSED STORMWATER DRAIN

JOB TITLE
Application for Amendment of Plan under Section 12A of the Town Planning Ordinance (Cap. 131) to Rezone the Application Site from "Green Belt" to "Residential (Group C)" for Proposed House Development at Various Lots in D.D. 244 and Adjoining Government Land, Nam Pin Wai, Sai Kung

DRAWING TITLE
Proposed Drainage Layout Plan outside Site

DRAWING STATUS
FOR INFORMATION

ARUP

SCALE	AS SHOWN	CHK.	CC.	PASSED	CC.
DRAWN	IP	DATE			
JOB NO.	282344	DRAWING NO.	PLAN 2	REV.	

