

Appendix C

Preliminary Environmental Assessment

CONFIDENTIAL

Civil Engineering and Development
Department

**Application for Permission under
Section 16 of the Town Planning
Ordinance (Cap. 131) for Proposed
Temporary Centralised Quarters for
Imported Labour in Construction
Sector for a Period of 3 Years in
“Industrial” Zone and Area Shown as
‘Road’ of Planning Area 36 of Hung
Shui Kiu/ Ha Tsuen New Development
Area**

Preliminary Environmental
Assessment Report

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 278463

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1 INTRODUCTION

1.1 Background

1.1.1 Ove Arup and Partners Hong Kong Limited (Arup) was commissioned by the Civil Engineering and Development Department (CEDD) to submit a Section 16 Planning Application for Proposed Temporary Centralised Quarter for Imported Labour in Construction Sector within "Industrial" ("I") Zone and area shown as "Road" of Planning Area 36 of the draft Hung Shui Kiu and Ha Tsuen Outline Zoning Plan ("the HSK/HT OZP") No. S/HSK/3 for a Period of 3 Years ("the proposed development").

1.1.2 The proposed development will have a total PR of about 0.456 with domestic GFA of about 13,414m² and non-domestic GFA of about 1,065m² respectively. The 8 nos. of two-storey residential blocks will provide about 450 residential modules of Modular Integrated Construction (MiC) to provide accommodation for about 1,800 numbers of imported labour. The Proposed Development is targeted to commence operation in Q3 2027.

1.1.3 This PEA presents a study of the potential air quality, noise, water quality, waste implications and land contamination issues according to the current scheme and timeframe and recommends necessary mitigation measures in order to confirm the environmental suitability of the proposed development.

1.2 Site Location and Project Description

1.2.1 The Application Site, with an area of about 31,787 m², is situated at the western part of HSK/HT NDA adjacent to the planned high-density development under the Second Phase Development of Hung Shui Kiu / Ha Tsuen New Development Area (HSK/HT NDA), of which the construction works have commenced since 2024. The Application Site itself is part of the Advance Works phase 3 of HSK/HT NDA for implementation of site clearance/ site formation and associated infrastructure works. The location of the Application Site is shown in **Figure 1.1**.

1.2.2 All of these modular units will be equipped with air conditioning (A/C) units and basic furniture. Ancillary facilities including toilets, washing basins and shower facilities will also be provided.

1.3 Purpose and Structure of this Report

1.3.1 The purpose of this PEA Report is to evaluate the identified potential environmental impacts on the proposed development with respect to the guidance for environmental considerations provided in Chapter 9 – Environment of the Hong Kong Planning Standards & Guidelines (HKPSG).

1.3.2 The structure of this Report is as follows:

Chapter	Title	Aims
1	Introduction	To give a general introduction of the Project.

Chapter	Title	Aims
2	Air Quality	To review the potential air quality impacts of the proposed development.
3	Noise	To review the potential noise impacts of the proposed development.
4	Water Quality	To review the potential water quality impacts of the proposed development.
5	Waste Management	To review the potential waste implications of the proposed development.
6	Other Environmental Issue	To review the potential land contamination issue of the proposed development.
7	Conclusion	To conclude the findings of this PEA.

2 AIR QUALITY

2.1 Legislation, Standards and Guidelines

2.1.1 This PEA has been made reference to the following relevant legislation, standards and guidelines:

- Air Pollution Control Ordinance (APCO) (Cap. 311);
- Hong Kong Air Quality Objectives (AQOs);
- Air Pollution Control (Construction Dust) Regulation;
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation;
- Air Pollution Control (Fuel Restriction) Regulation;
- Recommended Pollution Control Clauses for Construction Contracts; and
- Hong Kong Planning Standards and Guidelines (HKPSG).

Air Pollution Control Ordinance (APCO) (Cap. 311)

2.1.2 The principal legislation for controlling air pollutants is the APCO (Cap. 311) and its subsidiary regulations, which defines statutory Air Quality Objectives (AQOs).

2.1.3 The APCO (Cap.311) provides the power for controlling air pollutants from a variety of stationary and mobile sources and encompasses a number of AQOs. In addition to the APCO, the following overall policy objectives are laid down in Chapter 9 of the HKPSG as follows:

- Limit the contamination of the air in Hong Kong, through land use planning and through the enforcement of the APCO to safeguard the health and well-being of the community; and
- Ensure that the AQOs for 7 common air pollutants are met as soon as possible.

2.1.4 Prevailing AQOs are listed in **Table 2.1** below.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Limits on Concentration, $\mu\text{g}/\text{m}^3$ ^[1] (Number of Exceedance per year allowed in brackets)					
	10-min	1-hr	8-hr	24-hr ^[2]	Annual ^[2]	Peak season
Sulphur Dioxide (SO ₂)	500 (3)			40 (3)		
Respirable Suspended Particulates (RSP, or PM ₁₀) ^[3]				75 (9)	30	
Fine Suspended Particulates (FSP, or PM _{2.5}) ^[4]				37.5 (18)	15	

Pollutant	Limits on Concentration, $\mu\text{g}/\text{m}^3$ ^[1] (Number of Exceedance per year allowed in brackets)					
	10-min	1-hr	8-hr	24-hr ^[2]	Annual ^[2]	Peak season
Carbon Monoxide (CO)		30,000 (0)	10,000 (0)	4,000 (0)		
Nitrogen Dioxide (NO ₂)		200 (18)		120 (9)	40	
Ozone (O ₃)			160 (9)			100
Lead (Pb)					0.5	

Note:

[1] Measured at 293K and 101.325 kPa (for gaseous pollutants only).

[2] Arithmetic mean.

[3] RSP means suspended particulates in air with a nominal aerodynamic diameter of 10 micrometres or smaller.

[4] FSP means suspended particulates in air with a nominal aerodynamic diameter of 2.5 micrometres or smaller.

Air Pollution Control (Construction Dust) Regulation

- 2.1.5** The Air Pollution Control (Construction Dust) Regulation specifies processes that require special dust control. The Contractors are required to inform the Environmental Protection Department (EPD) and adopt proper dust suppression measures while carrying out "Notifiable Works" (which requires prior notification by the regulation) and "Regulatory Works" to meet the requirements as defined under the regulation.

Air Pollution Control (Non-road mobile Machinery) (Emission) Regulation

- 2.1.6** Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation specifies that all Non-road Mobile Machinery (NRMMS), except those exempted, used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes are required to comply with the prescribed emission standards.

Air Pollution Control (Fuel Restriction) Regulations

- 2.1.7** Air Pollution Control (Fuel Restriction) Regulations controls the types of fuel allowed for use and their sulphur contents in commercial and industrial processes to reduce SO₂ emissions. Under Air Pollution Control (Fuel Restriction) Regulations, it is restricted to use any liquid fuel that has a sulphur content of more than 0.001% by weight.

Recommended Pollution Control Clauses for Construction Contracts

- 2.1.8** The recommended pollution control clauses are generally good engineering practice to minimise inconvenience and environmental nuisance to nearby residents and other sensitive receivers. The Contractors shall design, construct, operate and maintain pollution control measures to ensure compliance with the contract provisions as well as the environmental ordinances and their regulations.

Hong Kong Planning Standards and Guidelines

- 2.1.9** Chapter 9 of HKPSG outlines the environmental requirements that need to be considered in land use planning. The HKPSG lists out environmental factors influencing land use

planning and recommend buffer distances for land uses. It also recommends minimum setback distance from different categories of air pollution sources. **Table 2.2** shows these minimum setback distances.

Table 2.2 Guidelines on buffer distance between air pollution sources and different land uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	Type of Road		
	Trunk Road and Primary Distributor	> 20m	Active and passive recreational uses
		3 – 20m	Passive recreational uses
		< 3m	Amenity areas
	District Distributor	> 10m	Active and passive recreational uses
		< 10m	Passive recreational uses
	Local Distributor	> 5m	Active and passive recreational uses
		< 5m	Passive recreational uses
Industrial Areas	Difference in Height between Industrial Chimney Exit and the Site		
	< 20m	> 200m	Active and passive recreational uses
		5 – 200m	Passive recreational uses
	20 – 30m (*)	> 100m	Active and passive recreational uses
		5 – 100m	Passive recreational uses
	30m – 40m	> 50m	Active and passive recreational uses
		5 – 50m	Passive recreational uses
	> 40m	> 10m	Active and passive recreational uses
Construction and Earth Moving Activities	-	< 50m	Passive recreational uses
		> 50m	Active and passive recreational uses

Note:

- [1] In situations where the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available.
- [2] The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.
- [3] The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishments which are likely to be significant air pollution sources. Consult EPD when planning open space sites close to such establishments.
- [4] Amenity areas are permitted in any situation.

2.2 Description of the Environment

Existing Ambient Air Quality Conditions

2.2.1 Currently, there are 18 Air Quality Monitoring Stations (AQMS) in Hong Kong, including 15 General Monitoring Stations and 3 Roadside Monitoring Stations, operated by EPD to monitor the air quality in Hong Kong.

2.2.2 This Project is located at HSK/HT NDA. The existing ambient air quality could be referred to the EPD's Yuen Long AQMS which is the nearest one to the Application Site. The air quality monitoring data between Year 2021 and Year 2025 of various air pollutants monitored at Yuen Long AQMS is presented in **Table 2.3** and compared with the AQOs.

Table 2.3 Air Quality Monitoring Data (Yuen Long AQMS, Year 2021-2025)

Pollutant	Parameter	Concentration ($\mu\text{g}/\text{m}^3$) ^[1]						AQO ($\mu\text{g}/\text{m}^3$) ^[2]
		2021	2022	2023	2024	2025	5-year Mean ^[2]	
SO ₂	4 th highest 10-minute	24	21	20	14	22	20 [4%]	500 (3)
	4 th highest 24-hour	14	7	10	5	5	8 [20%]	50 (3)
RSP	Annual	30	25	26	25	26	26 [87%]	30
	10 th highest 24-hour	73	56	59	61	63	62 [83%]	75 (9)
FSP	Annual	<u>17</u>	<u>16</u>	<u>16</u>	<u>17</u>	<u>16</u>	<u>16</u> [107%]	15
	19 th highest 24-hour	36	<u>38</u>	34	<u>38</u>	37	37 [99%]	37.5 (18)
NO ₂	Annual	40	37	37	35	36	37 [93%]	40
	10 th highest 24-hour	78	68	67	66	72	70 [58%]	120 (9)
	19 th highest 1-hour	148	122	130	125	134	132 [66%]	200 (18)
O ₃	10 th highest 8-hour	<u>178</u>	<u>194</u>	155	<u>168</u>	141	<u>167</u> [104%]	160 (9)
	Peak season	84	95	84	92	84	88 [88%]	100
CO	Max. 1-hour	2,090	1,700	1,580	1,920	2,000	1,858 [6%]	30,000 (0)
	Max. 8-hour	1,591	1,519	1,273	1,778	1,500	1,532 [15%]	10,000 (0)
	Max. 24-hour	1,183	1,159	1,047	1,342	1,400	1,226 [31%]	4,000 (0)

Notes:

[1] Monitoring results exceeding the AQOs are **bold and underlined**.

[2] Number of exceedance allowed under the AQO is shown in (). % of the AQO is shown in [].

- 2.2.3** The NO₂ concentrations can comply with the AQOs for all 5 years, with the 19th highest 1-hour NO₂ levels ranging from 122 to 148 µg/m³, 10th highest daily NO₂ levels ranging from 66 to 78 µg/m³ and annual NO₂ levels ranging from 35 to 40 µg/m³.
- 2.2.4** The RSP concentrations can comply with the AQOs for all 5 years, with the 10th highest daily RSP levels ranging from 61 to 73 µg/m³, and annual RSP levels ranging from 25 to 30 µg/m³.
- 2.2.5** The 19th highest daily FSP levels were at a level of 34 to 38 µg/m³, and exceedances were found in Year 2022 and 2024. The annual FSP levels were found high in the range of 16 to 17 µg/m³, with exceedances recorded for all 5 years.
- 2.2.6** The 4th highest 10-minute SO₂, 4th highest daily SO₂, maximum 1-hour CO, maximum 8-hour CO and maximum daily CO levels were well within the corresponding AQOs, with the five year means about 31% of the AQO.
- 2.2.7** The 10th highest 8-hour O₃ levels ranged from 141 to 194 µg/m³. Exceedances were found in Year 2021, 2022 and 2024. The peak season O₃ levels ranged from 84 to 95 µg/m³, and no exceedance was recorded in the past 5 years.
- 2.2.8** The best available information has been evaluated to verify the status of the nearby industrial developments, i.e. desktop review and site surveys were conducted in July 2026 to review the validity of the existing chimneys in the vicinity of the Application Site as identified in the approved HSK EIA report. No existing and planned industrial emission was identified within 200 m from the Application Site as shown in **Figure 2.1**. The setback distance requirements as stipulated in HKPSG could be well satisfied, and air quality impact from industrial emission is not considered to be of concern to the proposed development. Therefore, this section addresses the potential air quality impact associated with road vehicular emissions and odour emission on and/or from the proposed development.

2.3 Air Sensitive Receivers

- 2.3.1** As the major construction activities, i.e. site formation works, that would generate fugitive dust, of the Application Site are targeted to complete by Year 2027, existing Air Sensitive Receivers (ASRs) and planned/ committed ASRs (Year 2019 – 2030), with the year of population intake by 2027 in the approved HSK EIA report were reviewed, with consideration of the tentative land resumption programme. Existing ASRs identified in the approved HSK EIA report have been reviewed by means of reviewing topographic maps, aerial photos and land status plans. They mainly include place of worship, residential, educational and recreational uses. Planned/committed ASRs have been identified by referring to the approved HSK EIA report.
- 2.3.2** No committed or planned ASRs are identified within the 500m assessment area for construction phase. Considering the land resumption programme of nearby area, the target land resumption will be by end 2026, and would temporarily overlap with the construction of the proposed development. Within this area, one representative ASR is identified, which is an existing farm house (i.e. A01) located at about 80m away from the boundary of the Application Site. Following the completion of land resumption process, A01 would no longer be considered as a representative ASR, and the nearest representative ASR from the Application Site would be an existing farm house (i.e. A603 identified under the

approved HSK EIA report) which is located at about 590m away from the boundary of the Application Site. During the operational phase, the proposed development within the Application Site is identified as ASR (i.e. PA01). Locations of the identified representative ASRs are shown in **Figure 2.2**

2.4 Construction Air Quality Impact

2.4.1 As mentioned in **Section 2.3**, no committed or planned ASRs are identified within the 500m assessment area. An existing representative ASR (i.e. farm house (A01) located at about 80m away from the boundary of the Application Site) is identified with a short overlapping period with the construction of the proposed development before the completion of land resumption. Upon the completion of land resumption process, the nearest representative ASR from the Application Site would be an existing farm house, which is located at about 590m away from the boundary of the Application Site.

2.4.2 According to the construction air quality impact assessment in the approved HSK EIA report, the construction air quality impacts of current footprint of the proposed development are included under the same assessment scenario, i.e. within Year 2019 and Year 2030. The major dusty construction activities, i.e. site formation works, for the proposed development have therefore been addressed in the approved HSK EIA report. As confirmed with the Project Engineer, the construction details, the construction period, the construction methods, the total area for site formation and excavation, the amount of excavated material, the number of dump trucks needed per time over work sites as well as the number of on-site mechanical equipment to be used, would be the same as that assumed in the approved HSK EIA report. Besides, based on the latest development timeline of HSK/HT NDA, the overall timeline for the developments included in the approved HSK EIA report will be shifted but remains generally consistent with the original planning framework and will not significantly deviate from the approved HSK EIA report. With the implementation of mitigation measures as recommended in the approved HSK EIA report, no adverse construction air quality impacts would be anticipated.

2.4.3 Moreover, the proposed development will comprise reused Modular Integrated Construction (MiC) units supplied by CEDD. The superstructure works would mainly involve the installation and assembly of reused MiC modules, rather than dusty construction activities. Therefore, significant dust impacts from superstructure works are not anticipated.

2.4.4 With the implementation of good site practices and mitigation measures as recommended in the approved HSK EIA report, no adverse construction air quality impact is anticipated from the proposed development.

2.5 Vehicular Emission Impact

2.5.1 The best information available at the time of report preparation has been evaluated for the road networks in the surrounding environment of the proposed development. Based on the best available information, Road P1 and Road L24 planned under the approved HSK EIA nearby the proposed development will be in full operation in 2030 Q1. Therefore, considering the proposed development will operate from 2027 Q3 to 2030 Q3, there will be short overlapping period with the operation of the planned roads. The recommended

minimum buffer distances in the HKPSG for the surrounding roads are considered and summarized in **Table 2.5** below.

Table 2.5 Classification of type of road and buffer distance for nearby major roads

Name of Road	Type of Road ^[1]	HKPSG Recommended Setback Distance (m)
KSWH ^[2]	EX	>20
Road P1	PD	>20
Road L24	LD	>5

Notes:

[1] EX – Expressway; PD – Primary Distributor; LD – Local Distributor.

[2] The road type is referred to AADT 2024.

[3] The road type of planned roads is determined from the road configuration by traffic engineer in the Traffic Impact Assessment Report under this Study.

2.5.2 **Figure 2.3** shows the minimum setback distances from the surrounding roads. Based on the latest preliminary building layout plan for the proposed development at the time of this PEA submission, all air-sensitive uses could comply with the HKPSG's minimum setback distance requirement. Adverse vehicular emission impact on the proposed development is not anticipated.

2.6 Odour Emission Impact

2.6.1 According to the approved HSK EIA report, a refuse collection point (RCP) is planned in Site 3-46, which is located at about 24m from the Application Site as shown in **Figure 2.4**. In order to minimize the potential odour nuisance on the proposed residential blocks, proper ventilation, deodorizing unit with 95% odour removal efficiency and exhaust system shall be provided at the planned and proposed RCPs. Good site practices will be also adopted to enhance the hygiene of the refuse collection point by frequent washing, proper covering of refuse bins, closing of roller shutters and proper maintenance of the ventilation, deodourising and exhaust systems. Given the mitigation measures to be implemented for potential odour emissions, no adverse odour impact from the planned and proposed RCPs is anticipated.

2.6.2 Besides, a sewage pumping station (SPS) with designed capacity of 12,000 m³ per day is planned at Site 3-48 under HSK/HT NDA, which is located at around 68m from the nearest air sensitive use within the Application Site as shown in **Figure 2.4**.

2.6.3 In order to minimize the potential odour nuisance, all facilities and areas with potential odour emission such as wet wells, inlet chamber and screen chambers should be covered by reinforced concrete structure. The exhausted air should be conveyed to a deodouriser with improved odour removal efficiency of at least 90% for treatment before discharge to the environment as stated in the approved HSK EIA report. The ventilation system would also maintain a slight negative pressure within the facilities.

2.6.4 A desktop review of the Tuen Mun Area 54 SPS (AEIAR-122/2008), which has a greater design capacities (90,000 m³/day), shorter separation distances from the nearest ASRs to the SPS site boundary (10 m), and a deodorizer with similar odour removal efficiency (at least 90%), has concluded that there are no adverse odour impacts on ASRs. Considering large separation distances between the proposed development and the proposed SPS with

proper implementation of odour mitigation measure, no adverse odour impact arising from the proposed SPS is anticipated.

3 NOISE

3.1 Legislation, Standards and Guidelines

3.1.1 This PEA has been made reference to the following relevant legislation, standards and guidelines:

- Noise Control Ordinance (NCO) (Cap.400);
- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM);
- Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM);
- Practice Note for Professional Persons: Minimizing Noise from Construction Activities (ProPECC PN 1/24); and
- Hong Kong Planning Standards and Guidelines (HKPSG);

Construction Noise during Non-restricted Hours

3.1.2 For construction activities other than percussive piling, there is no statutory limit on daytime construction noise under the NCO and related TMs, except during the restricted hours which cover daytime on general holidays (including Sundays). Nevertheless, the Environmental Protection Department's Practice Note For Professional Persons: "Minimizing Noise from Construction Activities – Non-statutory Controls (Practice Note PN 1/24)" stipulates noise standards of 65 – 75dB(A) for daytime construction activities, as shown in the following table:

Table 3.1 Noise Standards for Construction Activities

Noise Sensitive Receivers	Noise Standards ^[1] ^[2] , Leq (30 mins) dB(A)
	0700 to 1900 hours on any day not being a Sunday or general holiday
All domestic premises Temporary housing accommodation Hostels Convalescences homes Home for the aged	75
Places of public worship Courts of law Hospitals and medical clinics	70
Educational institutions (including kindergartens and nurseries)	70 65 (During examinations)

Note:

[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.

Construction Noise during Restricted Hours

3.1.3 The NCO also provides statutory control on 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 public holidays). The use of Powered Mechanical Equipment (PME) for construction works during restricted hours would require a Construction Noise Permit (CNP). The TM-GW details the procedures adopted by Noise Control Authority (NCA) for assessing such application. The granting of a CNP is subject to conditions stated in the CNP and it may be revoked at any time for failure to comply with the permit conditions.

3.1.4 In addition to the general controls on the use of PME during restricted hours, the use of Specified Powered Mechanical Equipment (SPME) and the undertaking of Prescribed Construction Work (PCW) during the restricted hours in a designated area are controlled by the TM-DA. Construction plants or equipment classified as SPME under the TM-DA includes hand-held breakers, bulldozers, concrete lorry mixers, dump trucks and hand-held vibratory pokers. The PCW includes the erection or dismantling of formwork or scaffolding, hammering and loading, unloading or handling of rubble, wooden boards, steel bars, wood or scaffolding material. The TM-DA details the procedures that should generally be adopted by the NCA for assessing the use of SPME during restricted hours and for determining whether a CNP would be issued.

3.1.5 Maximum noise level from construction activities during restricted hours at affected Noise Sensitive Receivers (NSRs) are controlled under the TMs and shall not exceed the specified Acceptable Noise Levels (ANLs). These ANLs are stipulated in accordance with the Area Sensitivity Ratings established for the NSRs. The definitions of Area Sensitivity Ratings "A", "B" and "C" are summarised in **Table 3.2**. The ANLs for construction works in Designated Areas are more stringent than those given in the TM-GW and summarised in **Table 3.3**.

Table 3.2 Area Sensitivity Rating

Type of Area Containing NSR ^[1]	Degree to Which NSR Is Affected by Influencing Factor (IF) ^{[1] [2]}		
	Not Affected	Indirectly Affected	Directly Affected
(i) Rural area, including country parks or village type developments	A	B	B
(ii) Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
(iii) Urban area	B	C	C
(iv) Area other than those above	B	B	C

Notes:

[1] For the purpose of **Table 3.2**, the following definitions shall apply:

"country park" means an area that is designated as a country park pursuant to section 14 of the Country Parks Ordinance;

"directly affected" means that the NSR is at such a location that noise generated by the IF is readily noticeable at the NSR and is a dominant feature of the noise climate of the NSR;

"indirectly affected" means that the NSR is at such a location that noise generated by the IF, whilst noticeable at the NSR, is not a dominant feature of the noise climate of the NSR;

"not affected" means that the NSR is at such a location that noise generated by the IF is not noticeable at the NSR; and

"urban area" means an area of high density, diverse development including a mixture of such elements as industrial activities, major trade or commercial activities and residential premises.

- [2] Influencing Factors include any industrial area, major road or the area within the boundary of Hong Kong International Airport.

Table 3.3 ANLs for Construction Works during Restricted Hours

Time Period	ANLs for Area Sensitive Ratings ^[1] , dB(A)		
	A	B	C
All weekdays during the evening (1900 to 2300 hours), and general holidays (including Sundays) during the day and evening (0700 to 2300 hours)	60 (45)	65 (50)	70 (55)
All days during the night-time (2300 to 0700 hours)	45 (30)	50 (35)	55 (40)

Note:

- [1] Figures in brackets are ANLs for SPME construction work in designated areas.

3.1.6

The issue of CNP for the project construction is subject to the decision of the NCA. The NCA will consider a well-justified CNP application, once filed, for construction works within restricted hours as guided by the relevant TMs issued under the NCO. The NCA will take into account contemporary conditions/ situations of adjoining land uses and any previous complaints against construction activities at the Project before making a decision in granting a CNP. Nothing in this Report shall bind the NCA in making a decision. If a CNP is to be issued, the NCA shall include in it any conditions demanded. Failure to comply with any such conditions will lead to cancellation of the CNP and prosecution under the NCO.

Noise Standards for Road Traffic Noise

3.1.7

The criteria for assessing road traffic noise follows the HKPSG and is in L₁₀ (1 hour). For domestic premises, hotels, hostels and offices, the criterion is 70dB(A). For educational institutions and places of public worship, the criterion is 65dB(A). For hospitals, clinics etc., a more stringent criterion of 55dB(A) is stipulated. It should be noted that all these L₁₀ (1 hour) criteria only apply to uses that rely on openable windows for ventilation.

Noise Standards for Fixed Noise

3.1.8

The HKPSG states that in order to plan for a better environment, all planned fixed noise sources should be located and designed that when assessed in accordance with the IND-TM, the level of intruding noise at the façade of the nearest sensitive use should be at least 5dB(A) below the appropriate Acceptable Noise Levels (ANLs) shown in Table 2 of the IND-TM or, in the case of the background being 5dB(A) lower than the ANL, should not be higher than the background.

3.1.9

The ANL for a particular NSR is dependent upon the Area Sensitive Rating of the area within which the NSR is located, and the time period under consideration.

3.1.10

Area Sensitivity Rating is defined in the IND-TM issued under the NCO. The Area Sensitivity Rating depends on the type of area and the degree of impact that Influencing Factors (IFs) have on the NSRs. Industrial area, major road (with an annual average daily traffic (AADT) flow in excess of 30,000) or the area within the boundary of Hong Kong International Airport shall be considered to be an IF.

- 3.1.11** The appropriate Area Sensitivity Rating for the NSR shall be assigned on the basis of **Table 3.1**. Having regard to the appropriate Area Sensitivity Rating and the time period under consideration, the appropriate ANL for a given NSR could be determined from **Table 3.4**. All these criteria only apply to NSRs relying on openable windows for ventilation.

Table 3.4 Acceptable Noise Level for Different Area Sensitivity Ratings

Time Period	Area Sensitivity Rating		
	A ^[1]	B ^[1]	C ^[1]
Day (0700 to 1900 hours)	60 (55)	65 (60)	70 (65)
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50 (45)	55 (50)	60 (55)

Notes:

- [1] The brackets show the permissible noise levels at NSRs for any planned fixed plant noise sources, i.e. 5 dB(A) below the corresponding ANLs.

3.2 Representative Noise Sensitive Receiver

- 3.2.1** With reference to HKPSG, Noise Sensitive Receivers (NSRs) shall include residential uses (all domestic premises including temporary housing), institutional uses (educational institutions including kindergarten and nurseries), hospitals, medical clinics, homes for the aged, convalescent homes, places of worship, libraries, court of law, performing arts centres, auditoria and amphitheatres, country park and others.
- 3.2.2** The Assessment Area is defined as within 300m from the boundary of Application Site for noise impact assessment. The first layer of representative existing, committed and planned NSRs within 300m from the boundary of the Project has been identified. Existing NSRs are identified by means of reviewing topographic maps, aerial photos, land status plans, supplemented by site inspection. Committed/planned NSRs have been identified by making reference to the relevant OZP, and other development layout plans where available.
- 3.2.3** No existing, committed or planned NSRs are identified within the 300m assessment area for construction phase. The nearest representative NSR from the Application Site is an existing village house at Tin Sum Tsuen (i.e. E4-IA identified under the approved HSK EIA report), which is located at about 720m away from the boundary of the Application Site, as shown in **Figure 3.1**. During the operational phase, the proposed residential use within the Application Site is identified as NSR (i.e. PN01).

3.3 Construction Noise Impact

- 3.3.1** As mentioned in **Section 3.2**, no existing, committed or planned NSRs are identified within the 300m assessment area. The nearest representative NSR from the Application Site is an existing village house at Tin Sum Tsuen, which is located at more than 700m away from the boundary of the Application Site. Given the large separation, adverse construction noise impact from the proposed development is not anticipated.
- 3.3.2** Notwithstanding this, good site practice and suitable mitigation measures as recommended in the approved HSK EIA report and in the following sections will still be

implemented to avoid and minimise the potential construction noise impact to the nearby NSRs as far as practicable.

3.3.3 It is recommended that good site practices and mitigation measures stipulated in the Recommended Pollution Control Clauses for Construction Contracts shall be implemented. The following recommended practices would be considered in all work sites as good practices to limit noise emissions at the source include:

- good site practices to limit noise emissions at the source;
- use of quality powered mechanical equipment (QPME); and
- use of movable noise barriers, noise enclosure and acoustic mat to screen noise from relatively static PME.

3.3.4 The above mitigation measures would need to be implemented in work sites as good practices where appropriate. Detailed descriptions of these mitigation measures are given in the following sections.

Good Site Management Practices

3.3.5 Good site practice and noise management techniques could considerably reduce the noise impacts from construction site activities on nearby NSRs. The following measures should be practised during each phase of construction:

- only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;
- machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;
- plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;
- silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;
- mobile plant should be sited as far away from NSRs as far as practicable; and
- material stockpiles, site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.

3.3.6 The benefits of these techniques can vary according to specific site conditions and operations. The environmental noise climate would certainly be improved with these control practices, although the improvement can only be quantified during implementation when specific site parameters are known.

Use of Quality Powered Mechanical Equipment (QPME)

3.3.7 The use of quiet plant associated with the construction works should make reference to the PME listed in the TM or the QPME/ other commonly used PME listed in EPD web pages as far as possible which includes the SWLs for specific quiet PME. It is generally known (supported by field measurement) that particular models of construction equipment are quieter than standard types given in the TM-GW. Whilst it is generally considered too restrictive to specify that the Contractor has to use specific models or items of plant, it is reasonable and practicable to set plant noise performance specifications for specific PME so that some flexibility in selection of plant is allowed. A pragmatic

approach would be to request the Contractor independently verifies the noise level of the plant proposed to be used and demonstrates through furnishing of these results, that the plant proposed to be used on the Project site meets the requirements.

Use of Movable Noise Barrier & Full Enclosure for Relatively Fixed Plant Sources

- 3.3.8** Movable temporary noise barriers that can be located close to noisy plant and be moved concurrently with the plant along a worksite can be very effective for screening noise from NSRs. A typical design which has been used locally is a wooden framed barrier with a small-cantilevered upper portion of superficial density no less than 10kg/m^2 on a skid footing with 25mm thick internal sound absorptive lining. This measure is particularly effective for low level zone of NSRs. A cantilevered top cover would be required to achieve screening benefits at upper floors of NSRs.
- 3.3.9** Movable temporary noise barriers will be used for some PME items. The use of standard enclosure shall be considered to shelter relatively fixed plant such as generator.
- 3.3.10** The Recommended Pollution Control Clauses for Construction Contracts will be strictly enforced through the construction contracts. In addition, the construction noise criteria enumerating in **Table 3.1** shall be specified in the contract document for the Contractor to follow. HKHA will manage the construction contracts to ensure that the recommended good site practices and mitigation measures will be implemented.

3.4 Road Traffic Noise Impact

- 3.4.1** The nearby road network within 300m from the Application Site is shown in **Figure 3.1**. Surrounding roads include the existing Kong Sham Western Highway, and planned access road L24 and planned Road P1 under the approved HSK EIA report. With reference to the proposed temporary centralised quarter at Tam Mi, considering all proposed noise sensitive uses will be served by A/C units and not rely on openable windows for ventilation, no road traffic noise impact is anticipated on the proposed development. Nevertheless, it is recommended that the windows pane should be with 6mm in thickness to offer the future occupants an option for a quieter indoor noise environment. In addition, the future occupants will be informed of the potential noise impact and shall keep window closed during normal occupancy to achieve a suitable living environment.
- 3.4.2** Based on the latest available information, to cater for the future population, there would be about 20 vehicles/hour/ direction induced traffic flow at peak on the planned access road. Considering the nearest representative NSR (i.e. the existing village house at Tin Sum Tsuen) is located at about 650m away from the planned access road, and that its existing noise climate is dominated by the rail noise from the West Rail Line, adverse road traffic noise impact induced from the proposed development to the nearby NSRs is not anticipated.

3.5 Fixed Noise Impact

- 3.5.1** According to the approved HSK EIA report and based on best available information, no existing fixed noise sources are identified, while there are various potential planned fixed noise sources within 300m from the Application Site as shown in **Figure 3.2**. Fixed plants, including air-conditioning units, primary air-handling units and water pumps will

be provided within the proposed development. These fixed plants may have potential noise impact on the nearby NSRs. With reference to the proposed temporary centralised quarter at Tam Mi, considering all proposed noise sensitive uses will be served by A/C units and not rely on openable windows for ventilation, no fixed noise impact is anticipated on the proposed development. Nevertheless, it is recommended that the windows pane should be with 6mm in thickness to offer the future occupants an option for a quieter indoor noise environment. In addition, the future occupants will be informed of the potential noise impact and shall keep window closed during normal occupancy to achieve a suitable living environment.

4 WATER QUALITY

4.1 Legislation, Standards and Guidelines

4.1.1 This PEA has been made reference to the following relevant legislation, standards and guidelines:

- Water Pollution Control Ordinance (WPCO) (Cap. 358);
- Technical Memorandum for Effluents Discharged into Drainage and Sewerage Systems Inland and Coastal Waters (TM-DSS);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Environment, Transport and Works Bureau Technical Circular (ETWB TC) (Works) No. 5/2005 "Protection of Natural Streams / Rivers from Adverse Impacts Arising from Construction Works";
- Professional Persons Environmental Consultative Committee Practice Note (ProPECC) PN 2/24 "Construction Site Drainage"; and
- Professional Persons Environmental Consultative Committee Practice Note (ProPECC) PN 1/23 "Drainage Plans subject to Comment by the EPD".

4.2 Water Sensitive Receivers

4.2.1 Key Water Sensitive Receivers (WSRs) within 500m from the Application Site include tributaries of Tin Shui Wai Main Channel and Conservation Area designated under the Ha Tsuen Fringe OZP (Statutory Plan No. S/YL-HTF/12), which have been identified in the water quality and ecological impact assessments under the approved HSK EIA report.

4.3 Construction Water Quality Impact

4.3.1 According to construction water quality impact assessment conducted in the approved HSK EIA report, major potential pollution sources associated with the construction works for the proposed development include construction site run-off, accidental spillage, and sewage effluent from construction workforce. With the implementation of recommended mitigation measures in the approved HSK EIA report such as adopting good site practices as outlined in the ProPECCPN 2/24 "Construction Site Drainage" and the ETWB TC (Works) No. 5/2005 "Protection of natural streams / rivers from adverse impacts arising from construction works", adverse water quality impact on surrounding WSRs during construction phase is not anticipated.

4.3.2 With the provision of portable toilets as well as appropriate disposal and maintenance of the toilets by licensed contractor as recommended in the approved HSK EIA report, adverse water quality impact on surrounding WSRs due to sewage generation during construction phase is not anticipated.

4.3.3 Therefore, with the implementation of good site practices and mitigation measures as recommended in the approved HSK EIA report, no adverse construction water quality impact is anticipated from the proposed development.

4.4 Operational Water Quality Impact

- 4.4.1** The major potential water pollution sources associated with operational phase of the proposed development include sewage and surface runoff. Based on the current development scheme, sewage holding tanks are proposed within the Application Site. A separate Sewage Impact Assessment (SIA) has been conducted to assess the impact of sewage generation as a result of the proposed development. Details of the proposed sewer network shall be referred to the separated SIA report.
- 4.4.2** All sewage generated from the proposed development would be discharged to sewage holding tanks, with regular removal by tanker to the nearby sewage pumping station or sewage treatment works for disposal. Details to be referred to the SIA. Adverse water quality impact on surrounding WSRs due to the sewage from the proposed development during operational phase is not anticipated.
- 4.4.3** Surface runoff from the proposed 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. Proper drainage systems with silt traps and oil interceptors should be installed and connected to the existing drainage system. A separate Drainage Impact Assessment (DIA) has been conducted to for the proposed drainage system as a result of the proposed development. Details shall be referred to the separated DIA report.
- 4.4.4** 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 the drainage system. Adverse water quality impact on surrounding WSRs due to the surface runoff from the proposed development during operational phase is not anticipated.

5 WASTE MANAGEMENT

5.1 Legislation, Standards and Guidelines

5.1.1 This PEA has been made reference to the following relevant legislation, standards and guidelines:

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

5.1.2 The documents and guidelines listed in **Table 5.1** are also related to waste management and disposal during construction.

Table 5.1: Other relevant documents and information

Bureau / Department	Documents / Guidelines / Technical Circulars
Environmental Protection Department (EPD)	• Monitoring of Solid Waste in Hong Kong 2024 • Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes • A Guide to the Chemical Waste Control Scheme • A Guide to the Registration of Chemical Waste Producers
Civil Engineering and Development Department (CEDD)	• Project Administration Handbook for Civil Engineering Works, 2022 Edition • CEDD TC No. 11/2019, Management of Construction and Demolition Materials
Development Bureau (DEVB)	• Works Branch Technical Circular (WBTC) No. 2/93, Public Dumps • WBTC No 2/93B, Public Filling Facilities • WBTC No. 16/96, Wet Soil in Public Dumps • WBTC Nos. 4/98 and 4/98A, Use of Public Fill in Reclamation and Earth Filling Project • WBTC No. 19/2001, Metallic Site Hoardings and Signboards • ETWB TCW No. 19/2005, Environmental Management on Construction Sites • Development Bureau Technical Circular (Works) (DEVB TCW) No. 6/2010, Trip-ticket System for Disposal of Construction and Demolition Material • DEVB TCW No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness

Bureau / Department	Documents / Guidelines / Technical Circulars
	DEVB TCW No. 9/2011, Enhanced Control Measures for Management of Public Fill
Planning Department (PlanD)	Chapter 9 Environment, Hong Kong Planning Standards and Guidelines (HKPSG)

5.2 Construction Phase

5.2.1

According to the waste management implication assessment in the approved HSK EIA report, the waste management implications of current footprint of the proposed development are included and have therefore been addressed in the approved HSK EIA report. As confirmed with the Project Engineer, the construction details, the construction period, the construction methods, the total area for site formation and excavation, the amount of excavated material, the number of dump trucks needed per time over work sites as well as the number of on-site mechanical equipment to be used, would be similar to that assumed in the approved HSK EIA report.

5.2.2

Moreover, the proposed development will comprise reused MiC units supplied by CEDD. As the superstructure works would mainly involve the installation and assembly of reused MiC modules, significant waste management implications arising from superstructure works are not anticipated.

5.2.3

The typical waste types associated with these activities include both inert and non-inert construction and demolition (C&D) materials, chemical wastes and general refuse from the on-site workforce, etc. Based on the best available information, there will be approximately 16,000m³ inert C&D materials generated, with approximately 3,800m³ for on-site reuse, while approximately 900m³ of non-inert C&D material will be generated throughout the construction phase. Waste management hierarchy principle will be followed and the amount of waste generation could be reduced through good site practices and management.

5.2.4

It is difficult to quantify the amount of chemical waste as it will be highly dependent on the Contractor's on-site maintenance practice and the quantities of plant and vehicles utilized. Nevertheless, it is anticipated that the quantity of chemical waste, such as lubricating oil and solvent produced from plant maintenance, will be small (i.e. as low as few litres per month only) due to small scale of Project. Chemical waste would be collected by a licensed waste collector and to be disposed of at a licensed chemical treatment and disposal facility (e.g. Chemical Waste Treatment Centre).

5.2.5

General refuse is mainly generated from construction workforce during the construction period and mainly comprises food waste, wastepaper, aluminium cans and plastics bottles. The workforce to be deployed on site for the Project is approximately 100 at peak during the 12-month construction. Based on the generation rate of 0.65 kg/person/day and assuming 24 working days per month, the total refuse generated would be about 18.7 tonnes at maximum during the construction phase. To minimise the quantities of general refuse for final disposal, recycle bins will be provided together with general refuse bins. Arrangements should be made with the recycling companies to collect the recyclable waste, whilst the rest will be collected by waste collectors for disposal to landfill (i.e. West New Territories Landfill).

5.2.6 Adverse waste management implications are not anticipated, provided that good site practices are implemented. The following good site practices are also recommended throughout the construction phase:

- nomination of an approved personnel, such as a site manager, 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 site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling;
- appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and
- the contractor should prepare an Environmental Management Plan (EMP), which includes a Waste Management Plan (WMP), as recommended in the ETWB TCW No. 19/2005 Environmental Management on Construction Sites. The EMP should be submitted to the Engineer for approval.

5.2.7 Waste reduction is best achieved at the site planning and design phase, as well as by ensuring the implementation of good site practices by the Contractor. The following good site practices are recommended:

General

- provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling; and
- segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and ensure proper disposal.

C&D Waste and Excavated Inert Material

- exercise proper storage and site practices to minimise the potential for damage and contamination of construction materials;
- devise a system for on-site sorting of C&D materials and remove all sorted and processed material arising from the construction activities promptly to optimise temporary stockpiling on-site;
- reuse the excavated material on-site as far as practicable;
- plan stocking of the construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste; and
- carry out sorting of the demolition debris and excavated materials to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.).

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

C&D Waste and Excavated Inert Material

- any stockpiling area should be provided with covers and water spraying system to prevent materials being washed away or blown by wind; and
- suitable locations should be identified and designated for stockpiling the materials to enhance reuse.

Chemical Waste

- chemical waste such as oil should be handled and stored in accordance with the “*Code of Practice on Packaging, Labelling and Storage of Chemical Wastes*”.

5.2.9

Collection and transportation of waste from works area to respective disposal sites may also induce adverse environmental impacts if not properly managed. The following recommendation should be implemented to minimise the impacts:

General

- remove waste in timely manner; and
- dispose wastes at licensed waste disposal facilities.

C&D Waste and Excavated Inert Material

- employ the trucks with cover or enclosed containers for waste transportation;
- obtain relevant waste disposal permits from the appropriate authorities;
- implement a trip-ticket system for the works contract to ensure that the delivery of C&D materials are properly documented and verified;
- equip waste collection trucks with Global Positioning System (GPS) or equivalent system for real-time tracking the off-site delivery of inert and non-inert C&D materials;
- non-inert C&D waste to be disposed off-site at landfill (SENT landfill); and
- excavated inert material to be disposed off-site at Public Fill Reception Facility (Tseung Kwan O Area 137 Fill Bank).

Chemical Waste

- collection, transportation and disposal of chemical waste should be in compliance with the Waste Disposal (Chemical Waste) (General) Regulation.

5.2.10

With the implementation of good site practice above, no adverse waste management implications are expected during construction phase of the Project.

5.3**Operational Phase****5.3.1**

The operational phase of the proposed development would generate municipal solid waste. With reference to the latest data from “Monitoring of Solid Waste in Hong Kong 2024” by EPD, the MSW disposal rate was 1.40 kg/person/day in Year 2024, and the recovery rate for recycling was 34% of the MSW generation. By calculation, the MSW generation rate, disposal rate and recycled rate were 2.12 kg/person/day, 1.40 kg/person/day and 0.72 kg/person/day in 2024 respectively. The estimated MSW based

on planned residential and employment populations respectively is summarized in **Table 5.3**.

Table 5.3 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]
1,800	3.8	2.5	1.3

Note:

[1] tpd: tonne per day

[2] MSW disposal rate was 1.40kg/person/day according to "Monitoring of Solid Waste in Hong Kong 2024" by EPD. By calculation, the MSW generation rate was 2.12kg/person/day. MSW recovery rate for recycling was 34% of the MSW generation. By calculation, the MSW recycling rate was 0.72kg/person/day.

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

5.3.3 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.

5.3.4 The following good practices are recommended:

Waste Collection and Disposal

5.3.5 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.

5.3.6 A refuse collection point 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.

Waste Recycling

5.3.7 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. Food waste recycling bins should be set up at a designated location to collect food waste during operational phase. The collected food waste should be delivered to the EPD's food waste recycling facilities (i.e. Organic Resources Recovery Centre (ORRC)) for turning into energy or resources.

6 OTHER ENVIRONMENTAL ISSUE

6.1 Land Contamination

6.1.1 The potential contaminated sites and land contamination impacts of current footprint of the proposed development are identified and addressed under the land contamination impact assessment in the approved HSK EIA report.

6.1.2 According to the approved HSK EIA report, two potentially contaminated sites have been identified within the Application Site, which were inaccessible during the EIA stage to assess the site conditions/ hotspots, formulate the detailed sampling and testing plan or conduct the actual site inspection works. Prior to the commencement of construction, a site re-appraisal has been conducted by the Contractor in the Supplementary Contamination Assessment Plan under CEDD's contract No. YL/2023/05 HSK/HT NDA Second Phase Development Contract 5 – Site Formation and Engineering Infrastructure Works, and no land contamination issue is anticipated.

7 CONCLUSION

7.1 Air Quality

- 7.1.1** Only one existing representative ASR is identified within 500m from the Application Site with a short overlapping period with the construction of the proposed development. With the implementation of good site practices and mitigation measures as recommended in the approved HSK EIA report, no adverse construction air quality impact is anticipated from the proposed development.
- 7.1.2** The current design scheme has allowed sufficient setback from the surrounding roads to ensure no air sensitive uses, including fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones, in order to meet the minimum requirement as stipulated in the HKPSG. Hence potential vehicular emission impact to the proposed development is not anticipated, subject to further review to be undertaken in detailed design stage where necessary.
- 7.1.3** No existing and planned industrial emission was identified within 200 m from the proposed development. Hence, adverse air quality impact due to chimney emission is not anticipated.
- 7.1.4** With proper implementation of odour mitigation measures and good site practices, adverse odour emission impacts arising from planned RCP, and planned SPS at the nearby sites are not anticipated.

7.2 Noise

- 7.2.1** Given that no existing representative NSR is identified within 300m from the Application Site and with the implementation of good site practices and mitigation measures as recommended in the approved HSK EIA report, no adverse construction noise impact is anticipated from the proposed development.
- 7.2.2** With reference to the proposed temporary centralised quarter at Tam Mi, considering all proposed noise sensitive uses will be served by A/C units and not rely on openable windows for ventilation, no road traffic noise and fixed noise impact is anticipated on the proposed development. Nevertheless, it is recommended that the windows pane should be with 6mm in thickness to offer the future occupants an option for a quieter indoor noise environment. In addition, the future occupants should be informed of the potential noise impact and shall keep window closed during normal occupancy to achieve a suitable living environment.

7.3 Water Quality

- 7.3.1** With the implementation of good site practices and mitigation measures as recommended in the approved HSK EIA report, no adverse construction water quality impact is anticipated from the proposed development.
- 7.3.2** Operational impacts associated with runoff and sewage from the proposed development would be insignificant with proper management practices in place. All sewage generated from the proposed development would be discharged to sewage holding tanks, with

regular removal by tanker to the nearby sewage pumping station or sewage treatment works for disposal. Adverse water quality impact on surrounding WSRs due to the sewage from the proposed development during operational phase is therefore not anticipated.

7.4 Waste Management

7.4.1 With the implementation of good site practices and the recommended mitigation measures, adverse waste management implications are not anticipated during both construction and operational phases.

7.5 Land Contamination

7.5.1 Prior to the commencement of construction, a site re-appraisal has been conducted by the Contractor, and no land contamination issue is anticipated.

Figures of Environmental Review Report

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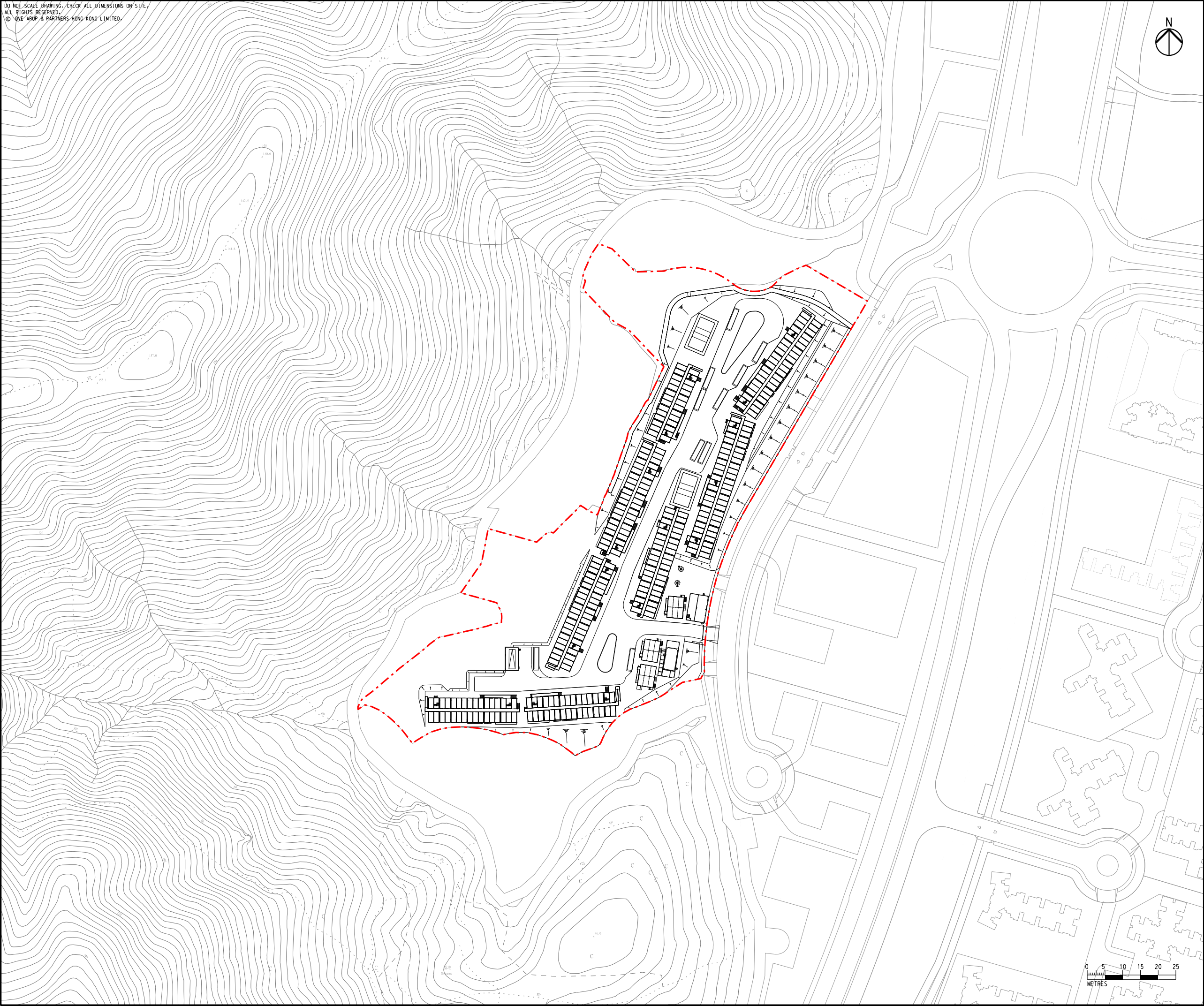


LEGEND



APPLICATION SITE

Printed by : 4/8/2026
Filename : \\global-eastasia\HKG Group\CIE\env\Project\278463\13 Drawing Deliverables\Report\21 S16 for Construction Staff Quarter\Figure 1.1 - Location of Application Site.dgn



A	FIRST ISSUE	GL	07/26
Rev	Description	By	Date
Consultant			
ARUP			
Project Title			
Agreement No. CE 1/2020 (CE) Hung Shui Kiu / Ha Tsuen New Development Area Package A Works for Second Phase Development – Design and Construction			
Drawing title			
LOCATION OF APPLICATION SITE			
Drawing no.			Rev.
FIGURE 1.1			A
Drawn	Date	Checked	Approved
GL	07/26	JS	FC
Scale	Status		
1:2000 @ A3	PRELIMINARY		

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LEGEND

-  APPLICATION SITE
-  200m BUFFER DISTANCE
-  RELOCATED CHIMNEY

RELOCATED CHIMNEYS

SAN-SANG SAN TSUEN

KONG SHAM WESTERN HIGHWAY

A	FIRST ISSUE	GL	07/26
Rev	Description	By	Date
Consultant			
ARUP			
Project Title			
Agreement No. CE 1/2020 (CE)			
Hung Shui Kiu / Ha Tsuen			
New Development Area Package A			
Works for Second Phase Development			
– Design and Construction			
Drawing title			
LOCATION OF			
INDUSTRIAL EMISSION			
Drawing no.			
FIGURE 2.1			
Rev.			A
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GL	07/26	JS	FC
Scale	Status		
1:4000 @ A3	PRELIMINARY		

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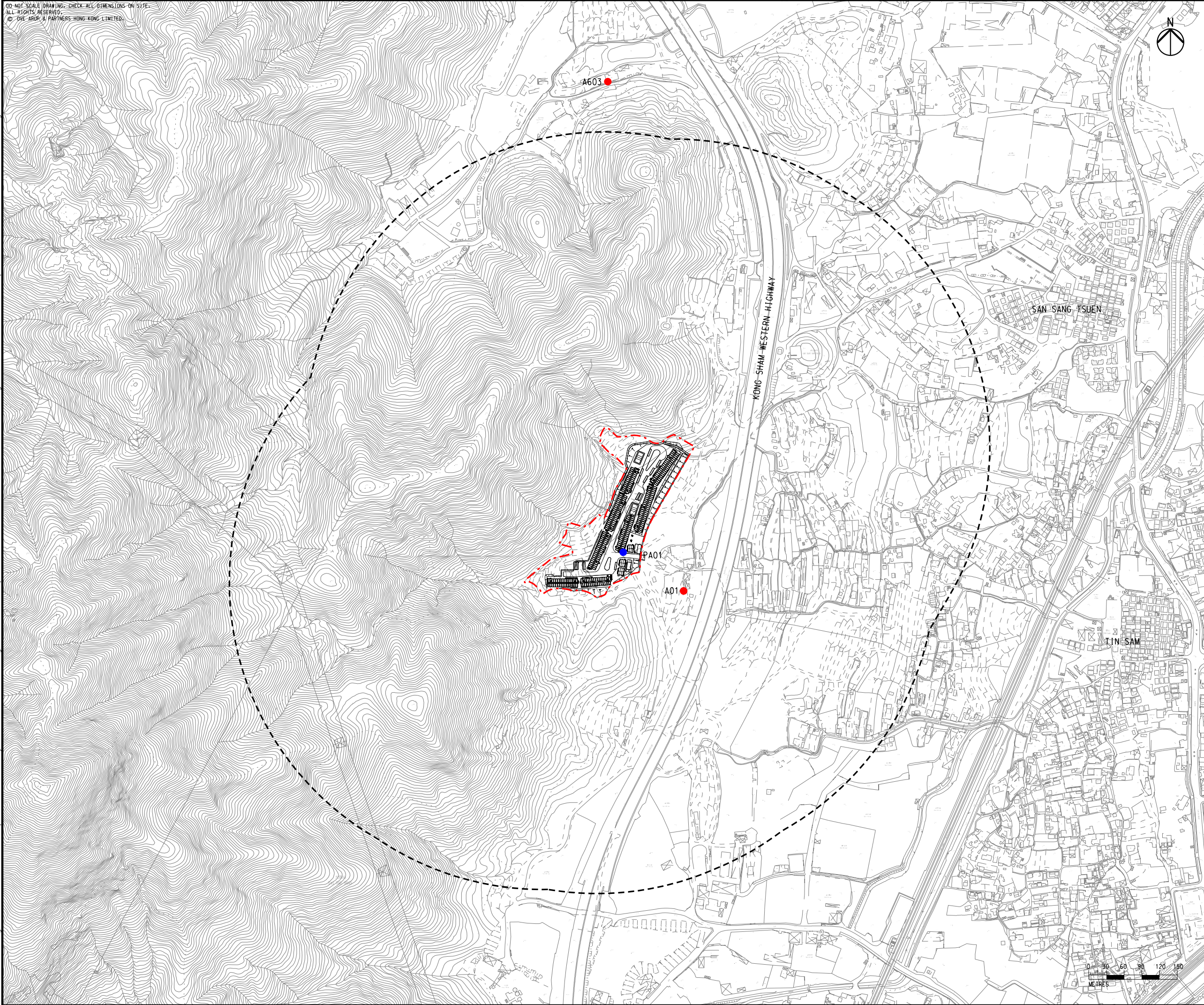


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Printed by : 3/8/2026
Filename : \\global\\EastAsia\\HKG\\Group\\C\\ENV\\env\\Project\\278463\\13 Drawing Deliverables\\report\\21 S16 for Construction Staff Quarter\\Figure 2.2 - Locations of Representative Air Sensitive Receivers.dgn

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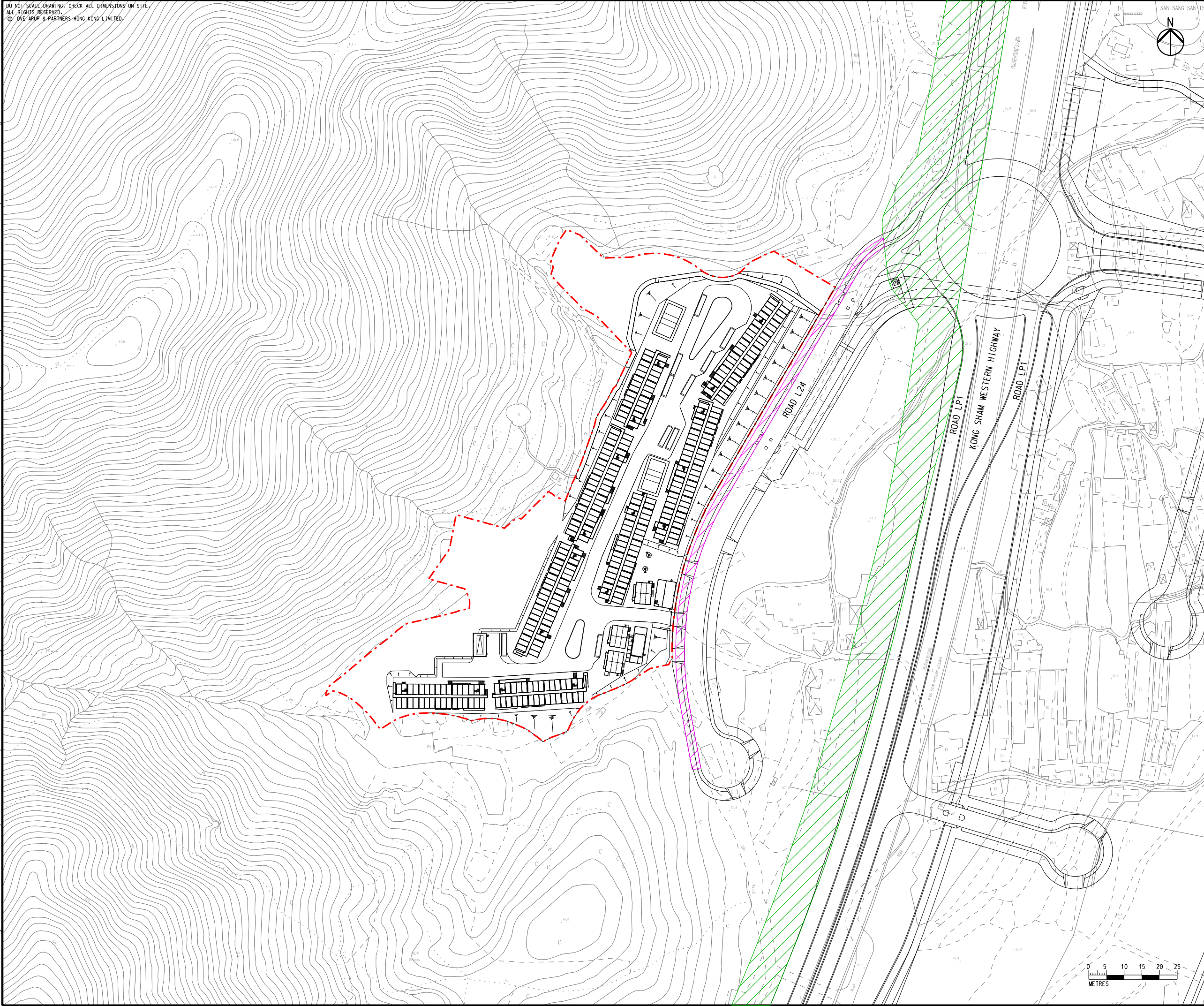


- LEGEND
- APPLICATION SITE
 - 500m ASSESSMENT AREA
 - EXISTING AIR SENSITIVE RECEIVERS
 - PLANNED AIR SENSITIVE RECEIVERS

A		FIRST ISSUE		GL	07/26
Rev	Description	By	Date		
Consultant		ARUP			
Project Title					
Agreement No. CE 1/2020 (CE)					
Hung Shui Kiu / Ha Tsuen					
New Development Area Package A					
Works for Second Phase Development – Design and Construction					
Drawing title					
LOCATIONS OF REPRESENTATIVE AIR SENSITIVE RECEIVERS					
Drawing no.				Rev.	
FIGURE 2.2				A	
Drawn	Date	Checked	Approved		
GL	07/26	JS	FC		
Scale	1:4000 @ A3		Status	PRELIMINARY	
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Filename : \\global\\EastAsia\\HK\\Group\\CIENV\\env\\Project\\278463\\13 Drawing Deliverables\\report\\21 S16 for Construction Staff Quarter\\Figure 2.3 - Separation Distance from Nearby Road Networks.dgn

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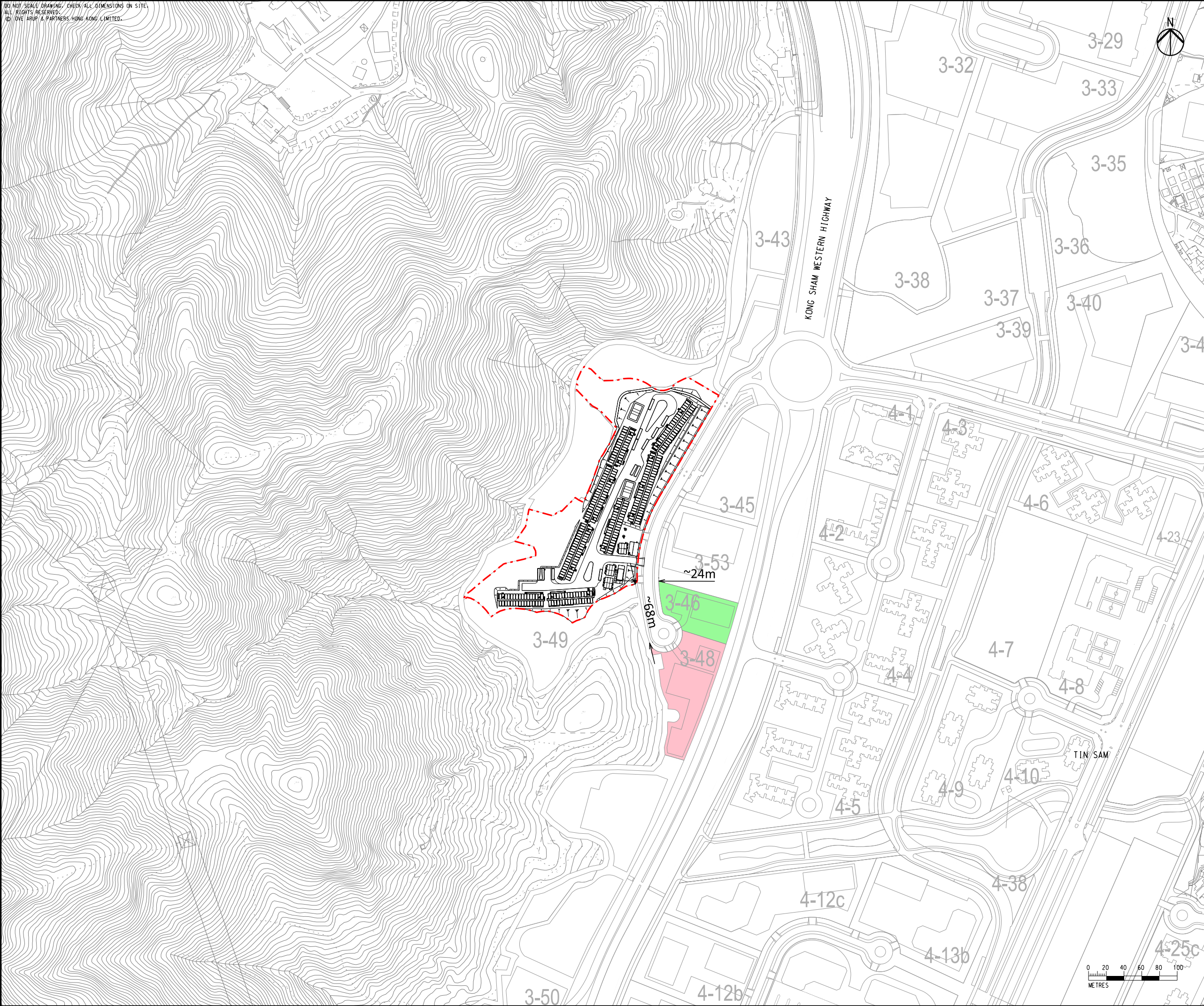
LEGEND

- APPLICATION SITE
- 20m SETBACK DISTANCE
- 5m SETBACK DISTANCE

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FROM NEARBY ROAD NETWORKS			
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FIGURE 2.3		A	
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Filename : \\global-eastasia\HKG Group\CEN\env\Project\278463\13 Drawing Deliverables\Report\21 S16 for Construction Staff Quarter\Figure 2.4 - Locations of Planned Odour Sources.dgn



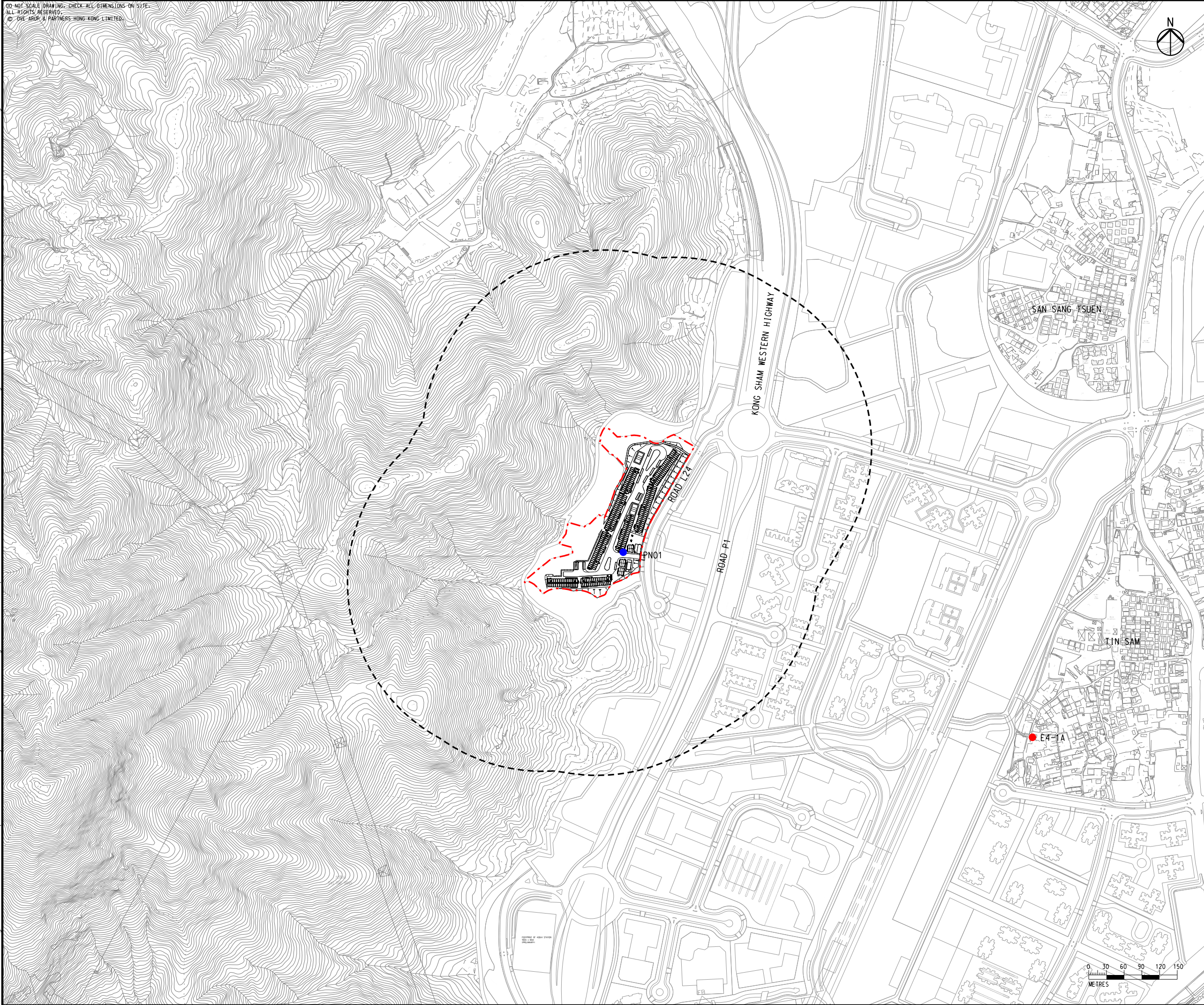
LEGEND

- APPLICATION SITE
- PLANNED REFUSE COLLECTION POINT (RCP)
- PLANNED SEWAGE PUMPING STATION (SPS)

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Drawing title					
LOCATIONS OF PLANNED ODOUR SOURCES					
Drawing no.				Rev.	
FIGURE 2.4				A	
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Filename : \\global-eastasia\HK Group\CEN\env\Project\278463\13 Drawing Deliverables\report\21 S16 for Construction Staff Quarter\Figure 3.1 - Locations of Representative Noise Sensitive Receivers.dgn

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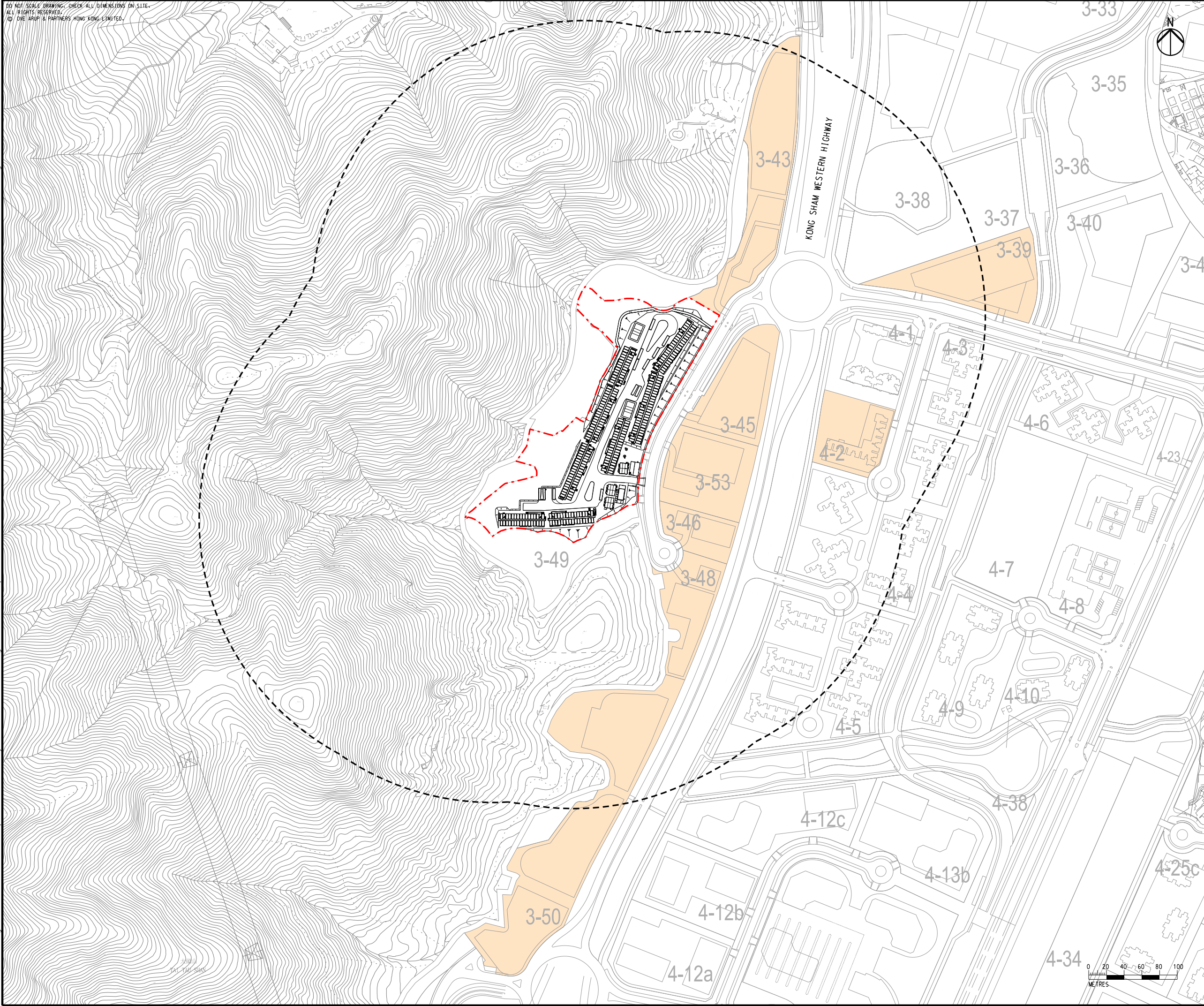
LEGEND

- APPLICATION SITE
- 300m ASSESSMENT AREA
- EXISTING NOISE SENSITIVE RECEIVERS
- PLANNED NOISE SENSITIVE RECEIVERS

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LOCATIONS OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS			
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FIGURE 3.1		A	
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LEGEND

- APPLICATION SITE
- 300m ASSESSMENT AREA
- PLANNED FIXED PLANT NOISE SOURCES

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Works for Second Phase Development					
– Design and Construction					
Drawing title					
LOCATIONS OF FIXED PLANT NOISE SOURCES					
Drawing no.				Rev.	
FIGURE 3.2				A	
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