Appendix D

Revised Environmental Assessment

Prepared for

Gotland Enterprises Limited

Prepared by

Ramboll Hong Kong Limited

S16 PLANNING APPLICATION (FROM 'VILLAGE TYPE DEVELOPMENT' TO 'RESIDENTIAL INSTITUTION (ELDERLY HOME)) FOR PROPOSED DEVELOPMENT AT LOT DD101 76 S.G & 76 S.H., SAN TIN

ENVIRONMENTAL ASSESSMENT

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Project Reference	GLLMAIPOEI00
Document No.	R9369_EA_v4.1.docx

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1. INTRODUCTION

1.1 Background

1.1.1 Ramboll Hong Kong Ltd. (the Consultant) has been commissioned by the Applicant to conduct this Environmental Assessment (EA) in support of the S16 Planning Application for Proposed Development of a residential care home for the elderly (RCHE) at Lot DD101 76 S.G & 76 S.H., San Tin.

1.1.2 The application is to seek permission from the Town Planning Board in support of rezoning the Application Site from "Village Type Development" ("V") to "Residential Institution (Elderly Home)" to facilitate the Proposed Development of the RCHE at the Application Site.

1.1.3 The proposed RCHE development is not a designated project under Item P of Part 1, Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) as the Proposed Development is not a residential development but a RCHE. It is also not a recreational development or other than New Territories exempted houses. The concerned development is not a designated project under Item F.2, Schedule 2 of the EIAO given that the capacity of the proposed on-site sewage treatment plant (STP) has a capacity of not more than 5,000 m^3/day.

1.2 The Project Location

1.2.1 The Application Site is located at the Junction of Castle Peak Road – San Tin and Tam Kon Chau Road. To the northeast and south of the Application Site, are the village houses of Hop Shing Wai and Mai Po Lo Wai respectively. Beyond the village houses of Hop Shing Wai, there are existing car parking and storage activities situated at the further northeast and northwest of the site. There are also water ponds situated at the immediate north and west of the Application Site. The east side of the Application Site mainly consists of vegetation and village houses. Figure 1.1 shows the location and the environ of the Application Site.

1.2.2 The area of the Application Site is about 0.84 ha. The Application Site is currently fenced off and with no particular activity on-site.

1.3 The Project Description

1.3.1 The Proposed Development consists of two towers for RCHE use, which are 9 storeys above ground level, excluding level B1, upper roof and top roof. The total GFA of the Proposed Development is about 16,506 m^2, with the maximum height of the main roof as 39.4 mPD, and the plot ratio of around 1.9. There is no swimming pool or other alike for the Proposed Development.

1.3.2 The Master Layout Plan (MLP) and section of the Proposed Development is presented in Appendix 1.1. The details of the Proposed Development schedule are summarized in Section 1.3.3 below.

1.3.3 This report has been prepared to support the planning application. Possible environmental mitigation measures have been also explored and proposed where necessary.

Major Development Parameters	Proposed Scheme
Application Site Area (m^2) (about)	8,429 (1)
GFA (m^2) (approximate) (2)	16,506

Plot Ratio (approximate)	1.9
Maximum Building Height (at main roof level)	Not more than 34.55mPD
No. of Storeys	9 (3) (about 34.55mPD at main roof level)
No. of Blocks	3
Site Coverage (approximate)	32.2%
No. of Beds (population from SIA study)	716 (859)
Installed capacity of onsite STP (ADWF) (Estimated sewage flow form the Proposed Development)	<300 m^3/day (~238 m^3/day)
Notes: 1. Subject to detailed land survey at subsequent detailed design. 2. Including ancillary uses, such as dormitory / quarters for watchmen and caretakers, ancillary store / mini-cafe, and health / wellness centre, kitchen, laundry, general office, nurse station, multi-purpose area serving the RCHE. 3. Excluding 1 storey of basement carpark and E&M facilities.	

1.4 Scope

1.4.1 The scope of this EA study includes the assessment of the following key potential environmental impacts of the Proposed Development.

- Air quality impact;
- Road traffic noise impact;
- Industrial noise impact;
- Water quality impact;
- Waste management; and
- Land Contamination

2. AIR QUALITY

2.1 Introduction

2.1.1 This Chapter assesses and addresses the potential air quality impacts upon and arising from the proposed RCHE development at the Application Site. The Assessment Area for air quality impact assessment is defined by a distance of 500m from the boundary of the Application Site.

2.2 Legislation, Standards, Guidelines and Criteria

2.2.1 The principal legislation regulating air quality in Hong Kong is the Air Pollution Control Ordinance (APCO) (Cap. 311). Air Quality Objectives (AQOs) are set for the whole of Hong Kong, which specify the statutory limits for various criteria pollutants and the maximum number of exceedance allowed over a specified period of time.

2.2.2 The APCO specifies AQOs, which are statutory limits for a number of pollutants, and the maximum number of times that they may be exceeded in a year for specified averaging periods. According to the Air Pollution Control (Amendment) Bill 2024, the new set of AQOs are adopted in the assessment which are shown in Table 2.1.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Averaging time	Concentration limit [1] (μg/m³)	Number of exceedances allowed per year
Sulphur dioxide, SO_2	10-minute	500	3
	24-hour	40	3
Respirable suspended particulates, RSP (PM_{10}) [2]	24-hour	75	9
	Annual	30	Not applicable
Fine suspended Particulates, FSP ($PM_{2.5}$) [3]	24-hour	37.5	18
	Annual	15	Not applicable
Nitrogen dioxide, NO_2	1-hour	200	18
	24-hour	120	9
	Annual	40	Not applicable
Ozone, O_3	8-hour	160	9
	Peak season	100	Not applicable
Carbon monoxide, CO	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4000	0
Lead	Annual	0.5	Not applicable

Notes:
[1] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293Kelvin and a reference pressure of 101.325 kilopascal.
[2] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.
[3] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.

Air Pollution Control (Construction Dust) Regulation

2.2.3 Made under Section 43 of the APCO, this Regulation defines notifiable and regulatory works for achieving the purpose of air quality control for a number of activities. The Regulation requires that any notifiable work shall give advance notice to EPD, and the Contractors shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Air quality control measures are also provided in the Schedule.

2.2.4 The proposed construction works for the Proposed Development are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as potential sources of air emissions as detailed under Parts I to IV of the Schedule on Dust Control Requirements.

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

2.2.5 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

2.2.6 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, started from 1 September 2015. It restricts specified activities and locations including construction sites, designated waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Hong Kong Planning Standards and Guidelines (HKPSG)

2.2.7 Table 3.1 of the HKPSG provides the broad guidelines for locating open spaces close to potentially polluting uses, viz. road traffic. The recommended buffer distances are reproduced in Table 2.2.

Table 2.2 Recommended Minimum Buffer Distance from Roads

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

Air Pollution Control (Fuel Restriction) Regulation

2.2.8 The Air Pollution Control (Fuel Restriction) Regulation was enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide (SO_2) emissions. In June 2008, the Regulation was amended to tighten the control requirements of liquid fuels. From April 2025, the sulphur content of liquid fuel will tighten to 0.001% by weight according to the Air Pollution Control (Fuel Restriction) (Amendment) Regulation 2024.

2.3 Baseline Conditions

2.3.1 The recorded air pollutant concentration between 2019 and 2023 at EPD's Yuen Long Air Quality Monitoring Station were referenced to provide an indication of ambient air quality at the Proposed Development. Its latest 5 years of air quality data, i.e. 2019 to 2023, are summarised in Table 2.3. For the purpose of evaluating the operational phase ambient air quality levels, background concentrations are also extracted from EPD's PATH model. The Proposed Development under current Application falls within Grids (29, 52) of the PATH system, thus concentration output data in year 2028, which is the project completion year available in PATH model, is presented. The extracted information is provided in Table 2.4.

Table 2.3 EPD Air Quality Monitoring Data at Yuen Long AQMS (2019 to 2023)

Pollutant	Averaging time	AQO (μg/m³)	Parameter	Concentration (μg/m³)				
				2019	2020	2021	2022	2023
RSP (PM_{10})	24-hour	75 (9)	10th highest	83	77	73	56	59
	Annual	30	--	37	30	30	25	26
FSP ($PM_{2.5}$)	24-hour	37.5 (18)	19th highest	38	33	36	38	34
	Annual	15	--	20	16	17	16	16
NO_2	1-hour	200 (18)	19th highest	161	135	148	122	130
	Annual	40	--	44	32	40	37	37
SO_2	10-minute	500 (3)	4th highest	42	26	24	21	20
	24-hour	40 (3)	4th highest	11	10	14	7	10
O_3	8-hour	160 (9)	10th highest	200	154	178	194	155
CO	1-hour	30,000 (0)	Maximum	2150	1530	2090	1700	1580
	8-hour	10,000 (0)	Maximum	1903	1279	1591	1519	1273

Note:
Numbers in brackets is the number of exceedances allowed per year.

Table 2.4 Year 2028 PATH Background Concentrations of the Air Pollutants

Pollutant	Averaging time	AQO (μg/m³)	Parameter	Path Grid Levels
				29,52
RSP (PM_{10})	24-hour	75 (9)	10th highest	60.54
	Annual	30	--	23.07
FSP ($PM_{2.5}$)	24-hour	37.5 (18)	19th highest	37.56
	Annual	15	--	14.78
NO_2	1-hour	200 (18)	19th highest	79.52
	24-hour	120 (9)	10th highest	28.44
	Annual	40	--	16.96
SO_2	10-minute	500 (3)	4th highest	27.34
	24-hour	40 (3)	4th highest	7.87
O_3	8-hour	160 (9)	10th highest	182.34
	Peak Season	100 (0)	--	120.27
CO	1-hour	30,000 (0)	Maximum	619.81
	8-hour	10,000 (0)	Maximum	596.33
	24-hour	4,000 (0)	Maximum	537.78

Pollutant	Averaging time	AQO (μg/m³)	Parameter	Path Grid Levels
				29,52
Note: Numbers in brackets is the number of exceedances allowed per year.				

2.3.2 Based on the recorded past ambient air pollutants levels, the 8-hour O_3 level in 2019, 2021 and 2022, the 24-hour RSP level in 2019 and 2020, the annual RSP level from 2019 to 2021, the 24-hour FSP in 2019 and 2022, the annual FSP from 2019 to 2023 and the annual NO_2 level in 2019 at Yuen Long AQMS exceeded the relevant AQO. NO_2 is mainly formed from the oxidation of nitric oxide (NO) emitted from fuel combustion. The high NO_2 level in Yuen Long is likely due to the emission from road traffics. The high levels of RSP and FSP in Yuen Long are likely due to local traffic and construction activities. However, the predicted PATH future ambient air quality levels for most of the air pollutants including NO_2, RSP and FSP would be within the relevant AQO limit, except the 8-hour and peak season ozone, which is not an air pollutant of concern for the proposed development. Other than that, the 24-hour averaged FSP level would slightly exceed the AQO limit. Given the nature of current proposed use which is for a RCHE development, significant dust emission is not anticipated. It is also expected that future ambient air quality level would gradually improve over years.

2.3.3 There is a kitchen and an on-site STP in the current Proposed Development for RCHE development, the operation of the current Proposed Development under this Application will have emission sources.

2.4 Air Sensitive Receivers

2.4.1 The representative Air Sensitive Receivers (ASRs) nearest to the Application Site within the 500m Assessment Area have been identified and summarised in Table 2.5 below. The locations of the representative ASRs are shown in Figure 2.1.

Table 2.5 Representative Air Sensitive Receivers during Construction Phase

NSR ID	Description	Land Use	Existing / Planned	Nearest Distance from Application Site (m)
A01	80-81 Mai Po San Tsuen	Residential	Existing	11
A02	1C Mai Po San Tsuen	Residential	Existing	10
A03	Village House at Hop Shing Wai	Residential	Existing	5
A04	Village House at Hop Shing Wai	Residential	Existing	5
A05	Village House at Hop Shing Wai	Residential	Existing	11

2.5 Identification and Assessment of Potential Air Quality Impacts during Construction Phase

2.5.1 The primary contributors to air quality impact during the construction phase would be air emissions generated from construction works such as excavation, loading or unloading stockpile material, wind erosion of exposed areas etc. In addition to dust emissions, PM and gaseous emissions from the use of NRMM and construction vehicles may give rise to the construction air quality impact. Construction works should adhere to relevant guidelines published by EPD, including Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, Air Pollution Control (Fuel Restriction) Regulations and Air Pollution Control (construction Dust) Regulation to minimize the potential air quality impact and control the air emission arising from the construction

activities. The scale of works is not large as the size of the project site is only 0.8ha and extensive excavation or site formation works is not anticipated as the site is generally flat. The exact scale of such construction activities and number of machineries to be used can only be determined in later stages, and the potential impact will be reviewed accordingly.

2.5.2 The San Tin/ Lok Ma Chau Development Node (STLMC DN) project has been identified as a potential concurrent project within 500m of the Application Site. The locations of concurrent STLMC DN project and the Proposed Development are shown in Figure 2.7.According to the approved EIA report (AEIAR-261/2024), the construction works of STLMC DN which overlaps with the Site's 500m assessment area will be conducted by phases between 2024 – 2027 (site formation stage), and after 2032 (development). The current Proposed Development is expected to be completed on or after 2028, with details of the construction programme to be confirmed in later stages. There may be a potential overlapping period with other nearby development. However, according to the EIA of STLMC DN, its construction works will be conducted in sections and phases to minimize the air emission to nearby ASRs, which is subject to control under its Environmental Permit requirements. It is recommended that during later detailed design stage, a review on concurrent projects should be carried out and consideration of phased construction and avoidance of concurrent works should be given during establishment of construction programme for current proposed development so as to minimize cumulative impacts. Close liaison with the contractor of concurrent project to avoid overlapping of heavy or dusty construction works and the appropriate control measures will be implemented to control the cumulative construction air quality impact.

2.5.3 Since the Project is at the early stage, there are no details of construction programme, number of construction plants and vehicles, and phasing implementation plan available at this stage. It is recommended to further review it in later detailed design stage. The site topography is generally flat and Application Site is currently served by public road network, so that no extensive site formation work is required. Given the scale of proposed development for a medium rise RCHE development only, the pilling, and superstructure works should not be extensive. Based on current design, basement for car parking facilities will be provided for the Proposed Development and an excavation area is around 3,930 m^2 or so. It is estimated that about 15,700m^3 of excavated material would be generated during construction of this project and generation of about 39 truckload per day. Assuming the construction site to operate 10 hours per day, there will be around 4 construction trucks per hour on average. Thus, the number of vehicles generated per time is small. However, as mentioned above, the above is preliminary and details of construction will only be available and confirmed in later stage of development. Given the construction works are unlikely to be extensive and small amount of construction vehicles generated, adverse constructional air quality impact is not anticipated. Necessary mitigation measures/ best practices (as discussed in Section 2.7) are recommended and will be implemented in order to control the constructional air quality impact.

2.6 Identification and Assessment of Potential Air Quality Impacts during Operation Phase

2.6.1 The Proposed Development will involve a planned kitchen at the RCHE, and a proposed sewage treatment plant located at the basement of the RCHE, which may involves emissions. In addition, the traffic roads and any industrial operations surrounding the RCHE may also affect the air quality of the Proposed Development. The potential air quality impacts affecting the Proposed Development as well as its surrounding air sensitive receivers (ASRs) are identified and discussed below.

Vehicular Emissions

2.6.2 Vehicular emissions from the adjacent roads could be a potential source of air pollution affecting the Proposed Development. On the other hand, internal access roads within the Proposed Development are EVA roads only with minimal traffic flow.

2.6.3 The road network adjacent to the Application Site includes Rural Road (RR) (i.e. Castle Peak Road – San Tin), which sits at the southeast of the Application Site, and Tam Kon Chau Road which is adjacent to the western boundary of the Application Site. According to the published Annual Traffic Census 2023 report, Castle Peak Road – San Tin is a Rural Road, while Tam Kon Chau Road is unclassified. As shown in Figure 2.2, the Proposed Development has allowed a building setback of 10m from the road edge of Castel Peak Road – San Tin, which can satisfy relevant buffer distance requirement for District Distributor in accordance with Table 3.1 of HKPSG Chapter 9. Thus, no adverse vehicular emission impact from Castle Peak Road – San Tin is anticipated.

2.6.4 For Tam Kon Chau Road, from traffic engineering point of view, it currently only serves for the accessing the village and open storage sites, it is considered a single track access road with passing bay provided at certain interval to the rural area. The justification from Project traffic consultant is provided in Appendix 2.1. Based on Town Planning Board's (TPB) approved Outline Zoning Plan Nos. S/YL-MP/8 – Mai Po & Fairview Park, Tam Kon Chau Road is expected to be connected to a zone of "Other Specified Uses" annotated "Wetland Conservation Park ("OU(WCP)", which is rural environment in nature. Thus, its nature will still be a single track access road to the rural area. In addition, given the road is only a single carriageway and that its low traffic flow (<270 veh./hr during peak hour as illustrated in Appendix 3.1), which serves local villages only, it is reasonable to classify them as a Local Distributor in nature.

2.6.5 Building setback of at least 5m and 10m from the road kerb of Tam Kon Chau Road and Castle Peak Road – San Tin respectively has already been incorporated into the design of the Proposed Development (Figure 2.2 refers). No air-sensitive use, including openable window, fresh air intake and recreational use in the open space, is located within the buffer zones, as the areas that fall within the 5m and 10m buffers are used as landscape areas only, thus are not considered as air sensitive uses. As the Application Site has incorporated adequate setback distance and can satisfy the above-mentioned buffer distance requirement in HKPSG, no adverse air quality impact from vehicular emission is anticipated.

Odour

2.6.6 The Application Site is current fenced off with no particular activity on-site. The Application Site is surrounded by other existing uses such as village developments, water ponds, and open storage sites. Based on the desktop review and site surveys conducted in July 2022, November 2023, January 2024, September 2024, and February 2025, there were no odour detected around the site boundary, including areas of the water ponds and nullahs. Also, no existing or planned odour source (e.g. sewage treatment works, livestock farm, etc.) is identified within 200m assessment area in the desktop review or site surveys. Figure 2.3 refers.

2.6.7 The San Tin/ Lok Ma Chau Development Node EIA (AEIAR-261/2024) is taken into account to evaluate the odour impact in future scenarios. According to the EIA, there is no planned chimney and odour source within 200m from the Proposed Development. The only potential odour source identified is the proposed on-site sewage treatment plant (STP) located at level B1 of the proposed RCHE. The location of the proposed STP is shown in Figure 2.4.

2.6.8 Sewage generated from the proposed development will be collected by proposed sewer pipeline and treated by an on-site STP. The STP will adopt tertiary treatment standard using membrane bioreactor (MBR) treatment technique. Details of the design of the STP will be subject to the detailed design stage. The proposed STP will be underground in the basement and within an enclosed building structure. The exhaust point shall be equipped with a deodorizer with high odour removal efficiency of ≥95% for H_2S to ensure the exhaust will be deodorized before entering the atmosphere[1]. The exhaust point of the STP will be placed aboveground, designed to direct away from nearby sensitive users, and with a separation distance of about 24m (>15m) away from the nearest air sensitive receiver (See Figure 2.5). The design of the STP shall follow the "Guidelines for the Design of Small Sewage Treatment Plants" for minimization of the odour impact as set out by EPD. Figure 2.5 shows the proposed location of the exhaust point for the STP.

2.6.9 With reference to the approved EIA report of Comprehensive Development and Wetland Protection Near Yau Mei San Tsuen (EIA-227/2015), an interim STP with tertiary treatment using similar MBR treatment technique was proposed and with a designed capacity at about 148 m^3/day ADWF. The result of odour modelling in this approved EIA has revealed that a separation distance between the exhaust and ASR at about 15m was well below the odour criteria. Also, the STP in the approved EIA has a similar setting as the current proposed STP, which they are both designed to locate within a totally enclosed building with underground system. As for the current proposed STP for the RCHE development, the exhaust will be directed away from nearby ASRs and a with separate distance >15m, thus no adverse odour impact is anticipated.

2.6.10 Given that the proposed STP is of small scale (about 238 m^3/day), with careful design of this underground STP and installation of high odour removal efficiency (at least 95% for H_2S) deodorizer, sufficient separation distance at about 24m (>15m) from the nearest ASRs and the exhaust is located away for any nearby ASRs, no adverse odour impact on any nearby ASRS including the Proposed Development is anticipated from the STP.

Industrial Emissions

2.6.11 Based on our desktop review and site surveys conducted in July 2022, November 2023, and January 2024, September 2024, and February 2025, no chimneys were identified within the 500m Assessment Area. Thus, air quality impact related to chimney emissions is not anticipated and is not assessed further. The 500m assessment area is shown in Figure 2.6.

Emissions from the Kitchen of the Proposed Development

2.6.12 There will be a kitchen on the G/F and 8/F of the Proposed Development. Details of design of the kitchen will only be available in later detailed design stage. However, it is recommended that the exhaust outlet of the kitchen should be located away from the nearby ASRs as far as practicable. Control measures as recommended in EPD's Guideline "Control of Oily Fume and Cooking Odour from Restaurants and Food Business" should be adopted to minimize the emissions from kitchen operation.

Basement Carpark Emissions

2.6.13 The basement carparks in the Proposed Development would satisfy the requirements, including design, maintenance and operation of the ventilation systems, as stipulated in the ProPECC PN 2/96 - Control of Air Pollution in Car Park. There will be a total 76 of car parking spaces in the basement carpark. All parking spaces are designated for

[1] According to Section 3.6.3.3, Yuen Long South Effluent Polishing Plant EIA (AEIAR-237/2022), odour removal efficiency of 95% by filter media is achievable for STP.

private vehicles only, with no allocation for heavy vehicles in the proposed car park. The exhaust (if any) of the proposed car park shall be located as far as possible from nearby air sensitive uses to avoid causing any potential air pollutant nuisance.

2.7 Mitigation Measures during Construction Phase

2.7.1 Under the Air Pollution Control (Construction Dust) Regulation, the Contractor is required to ensure that air quality control measures stipulated in the Regulation are implemented to control air emissions. Air quality control measures shall be incorporated into the Works Contract Specification where practicable as an integral part of good construction practice, including:

- Exempted NRMM shall be avoided as far as practicable;
- The working area of any excavation or earth moving operation shall be sprayed with water or a dust suppression chemical immediately before, during and immediately after the operation so as to maintain the entire surface wet;
- Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;
- Use of frequent watering for particularly dusty construction areas and areas close to ASRs;
- Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines;
- Open stockpiles (if any) shall be avoided or covered. Prevent placing dusty material storage piles near ASRs;
- Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;
- Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;
- Imposition of speed controls for vehicles on unpaved site roads, 8 km per hour is the recommended limit;
- Routing of vehicles and position of construction plant should be at the maximum possible distance from ASRs;
- Every stock of more than 20 bags of cement or dry pulverized fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;
- Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high-level alarm which is interlocked with the material filling line and no overfilling is allowed;
- Cement, PFA or any other dusty materials collected by fabric filters or other air pollution control system or equipment shall be disposed of in totally enclosed containers;
- Silos used for the storage of cement or dry pulverized fuel ash shall not be overfilled;
- Hoardings of not less than 2.4m high from ground level along site boundary which is next to a road or other public area shall be provided;
- Locate all the dusty activities away from any nearby ASRs as far as practicable;
- Erection of higher hoarding of height e.g. ≥ 3.5m at the locations with ASRs in immediate proximity to the project site boundary;

- Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and
- Electric power supply shall be provided for on-site machinery during the construction stage as far as possible to minimise any gaseous and particulate emissions.

2.7.2 With the implementation of the above measures, it is anticipated that no adverse air quality impact will be caused during the construction phase.

2.8 Mitigation Measures during Operation Phase

2.8.1 Provided that all air sensitive uses, including fresh air intake of ventilation system, openable windows of the buildings and recreational uses in open space within the application site, are designed to satisfy HKPSG's recommended minimum buffer distance from the nearby road networks, adverse air quality impact associated with the Proposed Development is not anticipated during operation phase.

2.8.2 With the enclosed design and the current odour removal system of at least 95% efficiency in place, no adverse odour impact from the proposed STP is expected. Therefore, no mitigation measures during the operational phase will be required.

2.9 Conclusion

Adequate building setback from the road kerb of Castle Peak Road – San Tin and Tam Kon Chau Road in accordance with the buffer distance requirements stated in the HKPSG has been incorporated into the design of the Proposed Development. No adverse air quality impact due to vehicular emission is expected. Besides, the proposed STP will be designed to incorporate mitigation measures such as deodorizers and will be positioned in the basement of the building, with the exhaust point placed >15m away from any sensitive receivers. With the appropriate mitigation measures applied, no adverse odour impact on the Proposed Development and nearby existing sensitive uses is anticipated.

3. TRAFFIC NOISE IMPACT ASSESSMENT

3.1 Introduction

3.1.1 The section assesses and addresses the potential impact of traffic noise on the proposed residential development at the Application Site.

3.2 Assessment Criteria

3.2.1 Noise standards are recommended in Chapter 9 of the HKPSG for planning against possible road traffic noise impacts. For new dwellings, as in the case of the Proposed Development within the Application Site, the maximum allowable road traffic noise level expressed in terms of L_{10}(1 hr) at the typical façades of the Proposed Development is recommended to be 70 dB(A) and 55 dB(A) for clinic rooms/ diagnostic rooms, wards, sick rooms, or the like.

3.3 Identification of Potential Noise Impacts

3.3.1 In this assessment, the operational phase road traffic noise impact from roads within 300m radius from the Proposed Development has been assessed (Assessment Area) (shown in Figure 3.1). Practicable environmental mitigation measures have been recommended as appropriate.

3.3.2 The local road network (e.g. Castle Peak Road – San Tin and Tam Kon Chau Road) are considered as the major noise sources potentially affecting the Proposed Development (Figure 1.1 refers). Castle Peak Road – San Tin is adjacent to the southeast of the Proposed Development, while Tam Kon Chau Road adjacent to the southern boundary of the Application site. There are a few other existing local roads within the 300m assessment. These roads have limited traffic flow as they are rural access roads that provide access to surrounding village houses, and water ponds areas. The following paragraphs have assessed road traffic noise impact upon the Proposed Development site. The planned San Tin/ Lok Ma Chau Development Node EIA (AEIAR-261/2024) has been taken into account. It is noted that the proposed new roads within the San Tin/ Lok Ma Chau Development Node development fall outside the Assessment Area of the current proposed development.

3.4 Determination of Traffic Noise Sensitive Receivers

3.4.1 The planned RCHE development within the Application Site are noise sensitive receivers (NSRs) of road traffic noise impact. The locations and details of the representative NSRs are provided in Figure 3.2 to Figure 3.8 and Table 3.1 below. Typical internal layout plans of proposed RCHE towers are provided in Appendix 1.1, and the mPD levels of each floor can be found in Appendix 3.2.

Table 3.1 Representative NSRs for Operational Phase Road Traffic Noise Assessment

NSR	Description	Noise Criteria dB(A)	Assessment Level, mPD (Ground level +1.2m)	
T1_01 to T1_23*	Tower 1 RCH room	70	1/F to 7/F	9.7 to 28.6
T1_24 to T1_36	Clinic / Nurse Room	55	8/F	31.8
T2_01 to T2_26	Tower 2 RCH room	70	1/F to 2/F	9.7 to 12.9
T2_27 to T2_28	Nurse Station	55	1/F to 2/F	9.7 to 12.9
T3_01 to T3_04	General Office	70	G/F to 2/F	5.9 & 12.9

Remark: T1_11 does not have room on 2/F, and there are no assessment points located there. As a precautionary measure, the nurse station next to T1_06 from 1/F to 7/F has adopted a fixed glazing as design provision in the study. Thus, no noise testing point has been added at that location.

3.5 Assessment Methodology

3.5.1 As discussed in Section 3.2, according to HKPSG, the maximum allowable road traffic noise level expressed in terms of L_{10}(1 hr) at the typical façades of the Proposed Development is recommended to be 70 dB(A) and 55 dB(A) for any rooms that serves as clinics or wards. According to current design, the proposed health/ wellness centre in T3 is not intended for any diagnostic, clinics, or wards uses, thus it is subject to 70 dB(A) noise criteria. In this regard, the traffic noise impact assessment below involves the prediction of the maximum hourly L_{10} level at the noise sensitive receivers (NSRs) of the Proposed Development due to the projected traffic flow from the major roads within 300m from the Proposed Development (e.g. Castle Peak Road, Tam Kon Chau Road, other local access roads, etc.).

3.5.2 The projected peak hour traffic flow data for Year 2043 has been adopted for the noise assessment, which is considered to be the worst-case scenario within 15 years upon completion of the current Proposed Development in 2028. The traffic flow data was predicted by the Project traffic consultant. Details of information on peak hour traffic volume and percentage of heavy vehicle of the road network within the 300m assessment area provided by the Project traffic consultant is presented in Appendix 3.1, which represents the worst-case scenario of the projected traffic flows.

3.5.3 The UK Department of Transport's procedures - "Calculation of Road Traffic Noise" (CRTN) has been used in the prediction of the road traffic noise at the representative NSRs of the Proposed Development within the Application Site. The existing topographic details, such as the existing village houses near the Application Site, have been considered in the assessment.

3.5.4 The noise prediction has been carried out using the *Road Noise Module 2.7.2 of Noise Map Enterprise Edition* software, which is a computerised model developed on the basis of the U.K. Department of Transport's CRTN procedures, and is acceptable to the EPD.

3.6 Environmental Precautionary Measures Adopted

3.6.1 Details of information on peak hour traffic volume and percentage of heavy vehicle of the road network within the 300m assessment area provided by the Project traffic consultant is presented in Appendix 3.1, which represents the worst-case scenario of the projected traffic flows.

3.6.2 An assessment on the road traffic noise level at the NSRs based on the above traffic flow data has been conducted. Precautionary noise mitigation measures which have already been incorporated in the design of the layout, and considered in the unmitigated scenario include the followings:

- Setback of RCHE blocks from the site boundary;
- Orientation of building – Buildings are positioned in a way such that the openable windows will not directly face Castle Peak Road as far as possible;
- Noise tolerant uses such as staircases, toilets, multi-purpose areas are used to abut public road;

3.6.3 Incorporation of the above-mentioned measures in the design of the proposed scheme have been accepted by the Applicant and the Project Architect, which will be further reviewed and adjusted in the detailed design stage.

3.7 Prediction and Evaluation of Noise Impacts

Unmitigated Scenario

3.7.1 The above-mentioned precautionary measures have been incorporated into the noise assessment as unmitigated scenario. Based on the predicted noise levels, results of

AM peak hour are generally higher which are then summarised in Table 3.2. The detailed of all unmitigated results during AM peaks are presented in Appendix 3.2. As summarised in Table 3.2, in the unmitigated scenario, traffic noise levels are anticipated to exceed acceptable limits in certain RCH units facing Tam Kon Chau Road and Castle Peak Road, as well as in the nurse station and medical consultation room. The maximum exceedance for the RCH units is approximately 3 dB(A). The nurse station and medical consultation room, which must adhere to a stricter threshold of 55 dB(A), also faces noise exceedance as shown in below summary table.

Table 3.2 Summary of Predicted Unmitigated Road Traffic Noise Levels at Representative NSRs

Tower/ Facility	NSR	Criteria	Predicted Road Traffic Noise Level, $L_{10\ (1\text{-hour})}$, dB(A) [1][2]
Planned NSRs at RCH room	T1_01	70	67 - 71
Planned NSRs at RCH room	T1_02	70	67 - 71
Planned NSRs at RCH room	T1_03	70	66 - 70
Planned NSRs at RCH room	T1_04	70	66 - 70
Planned NSRs at RCH room	T1_05	70	66 - 70
Planned NSRs at RCH room	T1_06	70	66 - 70
Planned NSRs at RCH room	T1_07	70	68 - 69
Planned NSRs at RCH room	T1_08	70	66 - 67
Planned NSRs at RCH room	T1_09	70	65 - 67
Planned NSRs at RCH room	T1_10	70	64 - 66
Planned NSRs at RCH room	T1_11	70	63 - 66
Planned NSRs at RCH room	T1_12	70	61 - 65
Planned NSRs at RCH room	T1_13	70	59 - 64
Planned NSRs at RCH room	T1_14	70	58 - 64
Planned NSRs at RCH room	T1_15	70	54 - 64
Planned NSRs at RCH room	T1_16	70	43 - 65
Planned NSRs at RCH room	T1_17	70	43 - 65
Planned NSRs at RCH room	T1_18	70	58 - 59
Planned NSRs at RCH room	T1_19	70	59 - 60
Planned NSRs at RCH room	T1_20	70	59 - 60
Planned NSRs at RCH room	T1_21	70	59 - 61
Planned NSRs at RCH room	T1_22	70	60 - 62
Planned NSRs at RCH room	T1_23	70	70 - 71
Planned RCHE General Office	T1_24	70	67 - 68
Planned RCHE General Office	T1_25	70	67
Planned RCHE General Office	T1_26	70	66
Planned General Office for Clinic	T1_27	70	65 - 66
Planned Nurse Station	T1_28	55	65 - 66
Planned Nurse Station	T1_29	55	62 - 63
Planned Rehab Room	T1_30	55	59 - 60
Planned PT/ OT room	T1_31	55	58 - 59
Planned PT/ OT room	T1_32	55	52
Planned CT room	T1_33	55	65
Planned Medical Consultation Room	T1_34	55	65
Planned Medical Consultation Room	T1_35	55	64 - 65
Planned Medical Consultation Room	T1_36	55	64
Planned NSRs at RCH room	T2_01	70	53 - 54
Planned NSRs at RCH room	T2_02	70	61 - 62
Planned NSRs at RCH room	T2_03	70	63
Planned NSRs at RCH room	T2_04	70	65
Planned NSRs at RCH room	T2_05	70	66
Planned NSRs at RCH room	T2_06	70	67
Planned NSRs at RCH room	T2_07	70	67 - 68
Planned NSRs at RCH room	T2_08	70	67 - 68
Planned NSRs at RCH room	T2_09	70	68
Planned NSRs at RCH room	T2_10	70	69

Tower/ Facility	NSR	Criteria	Predicted Road Traffic Noise Level, $L_{10\ (1\text{-hour})}$, dB(A) [1][2]
Planned NSRs at RCH room	T2_11	70	70 - 71
Planned NSRs at RCH room	T2_12	70	73
Planned NSRs at RCH room	T2_13	70	71 - 72
Planned NSRs at RCH room	T2_14	70	68 - 69
Planned NSRs at RCH room	T2_15	70	67 - 69
Planned NSRs at RCH room	T2_16	70	66 - 68
Planned NSRs at RCH room	T2_17	70	66 - 68
Planned NSRs at RCH room	T2_18	70	65 - 67
Planned NSRs at RCH room	T2_19	70	65 - 67
Planned NSRs at RCH room	T2_20	70	64 - 66
Planned NSRs at RCH room	T2_21	70	64 - 66
Planned NSRs at RCH room	T2_22	70	63 - 65
Planned NSRs at RCH room	T2_23	70	63 - 65
Planned NSRs at RCH room	T2_24	70	63 - 65
Planned NSRs at RCH room	T2_25	70	63 - 65
Planned NSRs at RCH room	T2_26	70	62 - 64
Planned NSRs at Nurse Station	T2_27	55	63 - 64
Planned NSRs at Nurse Station	T2_28	55	63 - 64
Planned RCHE General Office	T3_01	70	67
Planned RCHE General Office	T3_02	70	60
Planned RCHE General Office	T3_03	70	39 - 44
Planned RCHE General Office	T3_04	70	61 - 62

Notes:
[1] Please refer to Appendix 3.2 for details of predicted noise levels and Figure 3.2 to Figure 3.8 for locations of NSRs.
[2] Noise levels that exceeds the noise criteria are bolded.

Mitigated Scenario

3.7.2 The following mitigation measures/ design provision are proposed in order to alleviate the noise levels to comply with the noise criteria. With careful design, some of the precautionary measures have already been incorporated into current design, which are then included in mitigated noise assessment:

- Baffle type acoustic window at the RCH room facing Tam Kon Chau Road (NSR points T1_01, T1_02 and T2_11);
- Wall/Fixed glazing at the RCH room nearest to Castle Peak Road (NSR points T1_23 and T2_12);
- Fixed glazing at the nurse stations have been incorporated by design which do not rely on openable window for air ventilation (NSR points T1_28 to T1_31, T1_33 to T1_36 on 8/F , T2_27 and T2_28 on 1/F and 2/F); and
- Fixed glazing has also been allowed at the nurse station next to T1_06 from 1/F to 7/F as described in Section 3.4.1.

3.7.3 Please refer to Figure 3.9 to Figure 3.14 for the locations of precautionary design measures and proposed noise mitigation measures.

3.7.4 According to EPD's ProPECC PN 5/23 regarding innovative noise mitigation designs against road traffic noise impact, special design window system is available which have been implemented in other projects such as baffle type acoustic window to alleviate road traffic noise impact. By adopting relevant baffle type window design and dimensions as shown in EPD's above-mentioned practice note, it is understood that up to 6 dB(A) noise reduction can be achieved by baffle type acoustic window based on a room size of 8m^2 (Table 1, Annex B of EPD's ProPECC PN 5/23, refers). Given that the current noise exceedance recorded at affected RCH rooms are around 3 dB(A) only, it

is considered that provision of such baffle type acoustic window is feasible and implementable, and the mitigated noise level would comply with relevant noise criteria.

3.7.5 Under the mitigated scenario, there is no exceedance of the noise criteria at the representative NSRs. The summary of the road traffic noise impact assessment results is presented in Table 3.3, with mitigation measures remarked in the notes. The detailed result is presented in Appendix 3.3.

Table 3.3 Summary of Predicted Mitigated Road Traffic Noise Levels at Representative NSRs

Tower/ Facility	NSR	Criteria	Predicted Road Traffic Noise Level, $L_{10\ (1\text{-hour})}$, dB(A) [3]
Planned NSRs at RCH room	T1_01	70	< 70 [2]
Planned NSRs at RCH room	T1_02	70	< 70 [2]
Planned NSRs at RCH room	T1_03	70	67 - 70
Planned NSRs at RCH room	T1_04	70	67 - 70
Planned NSRs at RCH room	T1_05	70	67 - 70
Planned NSRs at RCH room	T1_06	70	66 - 70
Planned NSRs at RCH room	T1_07	70	68 - 69
Planned NSRs at RCH room	T1_08	70	66 - 67
Planned NSRs at RCH room	T1_09	70	65 - 67
Planned NSRs at RCH room	T1_10	70	64 - 66
Planned NSRs at RCH room	T1_11	70	63 - 66
Planned NSRs at RCH room	T1_12	70	61 - 65
Planned NSRs at RCH room	T1_13	70	59 - 64
Planned NSRs at RCH room	T1_14	70	58 - 64
Planned NSRs at RCH room	T1_15	70	54 - 64
Planned NSRs at RCH room	T1_16	70	43 - 65
Planned NSRs at RCH room	T1_17	70	43 - 65
Planned NSRs at RCH room	T1_18	70	59
Planned NSRs at RCH room	T1_19	70	59 - 60
Planned NSRs at RCH room	T1_20	70	60
Planned NSRs at RCH room	T1_21	70	60 - 61
Planned NSRs at RCH room	T1_22	70	61 - 62
Planned NSRs at RCH room	T1_23	70	N/A [1]
Planned RCHE General Office	T1_24	70	68
Planned RCHE General Office	T1_25	70	67
Planned RCHE General Office	T1_26	70	66
Planned General Office for Clinic	T1_27	70	66
Planned Nurse Station	T1_28	55	N/A [1]
Planned Nurse Station	T1_29	55	N/A [1]
Planned Rehab Room	T1_30	55	N/A [1]
Planned PT/ OT room	T1_31	55	N/A [1]
Planned PT/ OT room	T1_32	55	52
Planned CT room	T1_33	55	N/A [1]
Planned Medical Consultation Room	T1_34	55	N/A [1]
Planned Medical Consultation Room	T1_35	55	N/A [1]
Planned Medical Consultation Room	T1_36	55	N/A [1]
Planned NSRs at RCH room	T2_01	70	54
Planned NSRs at RCH room	T2_02	70	61 - 62
Planned NSRs at RCH room	T2_03	70	63
Planned NSRs at RCH room	T2_04	70	65
Planned NSRs at RCH room	T2_05	70	66
Planned NSRs at RCH room	T2_06	70	67
Planned NSRs at RCH room	T2_07	70	67 - 68
Planned NSRs at RCH room	T2_08	70	68
Planned NSRs at RCH room	T2_09	70	68
Planned NSRs at RCH room	T2_10	70	69
Planned NSRs at RCH room	T2_11	70	< 70 [2]
Planned NSRs at RCH room	T2_12	70	N/A [1]

Tower/ Facility	NSR	Criteria	Predicted Road Traffic Noise Level, $L_{10\ (1\text{-hour})}$, dB(A) [3]
Planned NSRs at RCH room	T2_13	70	68 - 69
Planned NSRs at RCH room	T2_14	70	67 - 68
Planned NSRs at RCH room	T2_15	70	67 - 68
Planned NSRs at RCH room	T2_16	70	66 - 68
Planned NSRs at RCH room	T2_17	70	66 - 67
Planned NSRs at RCH room	T2_18	70	65 - 67
Planned NSRs at RCH room	T2_19	70	65 - 66
Planned NSRs at RCH room	T2_20	70	64 - 66
Planned NSRs at RCH room	T2_21	70	64 - 66
Planned NSRs at RCH room	T2_22	70	64 - 65
Planned NSRs at RCH room	T2_23	70	63 - 65
Planned NSRs at RCH room	T2_24	70	63 - 65
Planned NSRs at RCH room	T2_25	70	63 - 65
Planned NSRs at RCH room	T2_26	70	63 - 64
Planned NSRs at Nurse Station	T2_27	55	N/A [1]
Planned NSRs at Nurse Station	T2_28	55	N/A [1]
Planned RCHE General Office	T3_01	70	67
Planned RCHE General Office	T3_02	70	60
Planned RCHE General Office	T3_03	70	40 - 44
Planned RCHE General Office	T3_04	70	61 - 62

Notes:
[1] Fixed glazing has been incorporated in the design such that the nurse station does not rely on open window for air ventilation.
[2] Baffle type acoustic window with self-closing door is adopted to mitigate the traffic noise impact. Mitigated noise level would comply, please refer to Appendix 3.3.
[3] Please refer to Appendix 3.3 for details of predicted noise levels and Figure 3.2 to Figure 3.8 for locations of NSRs.

3.7.6 With these precautionary design measures in place, the concerned windows are no longer considered to exceed relevant noise criteria, thus no other noise measures are proposed at these locations.

4. INDUSTRIAL NOISE IMPACT ASSESSMENT

4.1 Introduction

4.1.1 In this assessment, potential noise impacts arising from the nearby fixed noise sources within 300m radius on the Proposed Development has been assessed by general acoustic principle and Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM). Practicable environmental mitigation measures would be recommended, where necessary.

4.2 Government Legislation and Standards

Noise Control Ordinance (NCO)

4.2.1 The Noise Control Ordinance (NCO) provides the statutory framework for the control of fixed plant. It defines statutory limits applicable to the fixed plants used during the operational phase of the Project. The Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM) sets the criteria - Acceptable Noise Level (ANL) for governing noise from existing fixed plant / industrial noise sources.

Hong Kong Planning Standards and Guidelines (HKPSG)

4.2.2 The NCO requires that noise impacts from existing fixed noise sources shall comply with the Acceptable Noise Levels (ANL) laid down in Table 2 of IND-TM. NSRs are classified according to the Area Sensitivity Rating (ASeR). For planned fixed noise source, it shall comply with 5 dB(A) below the ANL, or the prevailing background noise levels, whichever lower.

4.2.3 It is noted that the Application Site is located in adjacent to the planned San Tin Technopole. According to the gazetted OZP, there will be buildings development over 100mPD level within San Tin Technopole. As such, according to IND-TM table 1, the Application Site should be subject to an area sensitivity rating of "B" based on "Area other than those above". Thus, ANL of 65 dB(A) will be the noise criteria for day, evening time, and 55 dB(A) for nighttime. The ANL for ASeRs "B" is depicted in Table 4.1.

Table 4.1 Relevant Noise Standard for Fixed Noise Sources

Standards	Criteria in Relevant Time Periods	Acceptable Noise Level (ANL)
NCO	Day and Evening (07:00 – 23:00)	65 dB(A)
NCO	Night (23:00 – 07:00)	55 dB(A)

4.2.4 Measured background noise level of LA_{90} (façade level) near site boundary line was around 63 dB(A) during daytime and around 49 dB(A) during nighttime. Thus, background noise level is adopted. Measurement of background noise level was conducted by internal staff on 3rd September, 2024, during both day-time and night-time. The measurement was using the Norsonic Sound Level Meter Nor139, which complies with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). The weather condition was good with calm wind condition (<5m/s) during measurement. The equipment was properly calibrated immediately prior to and following each measurement by a Norsonic Nor 1256 Class 1 calibrator. Measurement was taken at a location with a stable environment and minimal abrupt noise nuisance. During the noise measurement, there was no observed noise activity at Application Site and the dominant noise sources were road traffic noise due to public road network and crowd noise due to nearby village developments. The noise levels

before and after measurement agreed to within 1.0dB. The microphone was placed at 1.2m above ground level to obtain a representative baseline condition of the Application Site. A +3 dB(A) correction factor has been applied to the measured noise levels in order to represent the façade noise reflections.

4.3 Identification of Potential Noise Impacts

Industrial Noise Sources

4.3.1 Currently, the Application Site is fenced off with no particular activities on-site. To the northeast and south of the Application Site, there are the existing village developments such as Hop Shing Wai and Mai Po Lo Wai, respectively. Beyond the village houses of Hop Shing Wai, there are existing car parking and storage activities situated at the further northeast and northwest of the Application Site. According to the approved Outline Zoning Plan Nos. S/YL-MP/8 – Mai Po & Fairview Park and the approved OZP S/STT/2 San Tin Technopole, it is noted that surrounding area is zoned as "Other Specified Uses" annotated "Wetland Conservation Park ("OU(WCP)" and the "Other Specified Uses "annotated "Innovation and Technology", respectively by the government. Please refer to.

4.3.2 With the implementation of the above-mentioned Outline Zoning Plan, it is expected that the vast area to the northeast and northwest of the Application Site and existing activities will be phased out for the said planned development. According to the approved EIA report for San Tin/ Lok Ma Chau Development Node (STLMC DN) (AEIAR-261/2024), the construction of site formation works of the STLMC DN would be conducted by phases between 2024 – 2027 such that nearby existing activities would cease to operate in near future. While the current proposed development would be completed by 2028 after that. Based on current information, no particular interim stage impact is anticipated. During later detailed design stage, the construction programme of the STLMC DN should be reviewed again and update as necessary.

4.3.3 As for fixed noise sources within the current Proposed Development, the only potential fixed noise source within the Application Site is the exhaust point of the proposed on-site STP, as indicated in Figure 4.1.

4.4 Determination of Noise Sensitive Receivers and Assessment Points

4.4.1 The planned blocks within the Application Site are noise sensitive receivers (NSRs) of potential industrial noise impact. The proposed RCHE units located closest to and facing the identified fixed noise sources would be worst affected. Therefore, they are selected as Assessment Points (APs) for this industrial noise impact assessment as a worst-case scenario. The locations and details of the APs are provided in Figure 4.1 and Table 4.2 below, respectively.

Table 4.2 Assessment Points for Operational Fixed Noise Impact Assessment

APs ID	Description	No. of Storeys	Floor[1]	Assessment Level (Ground level + 1.2m) p
FR01	RCH Room at Tower 1	9	1/F	9.7
FR02	RCH Room at Tower 2	2	1/F	9.7

Notes:
[1] The lowest residential floor is chosen as it has the closest separation distance from the noise source and is expected to be the worst affected.

4.5 Assessment Methodology

4.5.1 Details of the design of the STP will be subject to the detailed design stage. The proposed STP will be underground in the basement and within an enclosed building structure. To ensure that there is no noise exceedance caused by the operation of the STP exhaust, the maximum allowable sound power level (SWL) is back calculated according to general acoustic principles.

4.5.2 The following correction factors have been accounted for when back calculating the predicted noise level at the future noise sensitive uses:

- Distance correction: based on the shortest horizontal distance between the identified noise sources and the AP, the distance correction is projected based on standard acoustical principle for point source;
- Noise sources are assumed to operate continuously and are regarded as point sources;
- Façade correction: A +3dB(A) correction is applied to account for noise reflection from façade.

4.5.3 The maximum allowable sound power level of the proposed STP is back calculated according to the following formula, which takes into account the corrections mentioned above:

$$ANL - 5 = SWL + C_{dist} + C_{fac}$$

Where,

ANL is the Acceptable Noise Level as listed in Table 4.1

SWL_{max} is the maximum allowable sound power level of the fixed noise source in dB(A)

C_{dist} is the distance correction in dB(A) in accordance with the Technical Memorandum on Noise from Construction Works Other than Percussive Piling.

C_{fac} is façade correction, +3 dB(A).

4.6 Prediction and Evaluation of Noise Impacts

Proposed Private Sewage Treatment Plant (STP)

4.6.1 The private STP proposed within the Application Site will be located underground in a basement and inside an enclosed building structure. The exhaust point of the proposed STP will be directed away from the nearby sensitive uses to face northwest. The proposed location of the exhaust point is indicated in Figure 2.5.

4.6.2 The details of the representative NSRs are listed in Appendix 4.1, and the calculation of maximum allowable noise level for the proposed fixed noise source is presented in Appendix 4.2.

4.6.3 According to the approved "EIA and TIA Studies for the Stage 2 of PWP Item No. 215DS-Yuen Long and Kam Tin Sewerage and Sewage Disposal (AEIAR- 078/2004)" (Sections 9.6 and 9.7 refer), the sound power level (SWL) at the louvre of the Ha Tsuen Sewage Pumping Station is reported to be 94 dB(A). It was recommended in that EIA that STP noise mitigation measures such as acoustic silencer and enclosure can achieve a noise reduction of about 20-30 dB(A).

4.6.4 According to the calculations, the maximum allowable SWL for the current proposed STP is then adopted as 74 dB(A). To ensure there is no noise exceedance during

operation phase, it is recommended to install a silencer/ acoustic louvre at the STP exhaust fans. Considering that the STP itself is located underground, and the exhaust point to be connected above ground will be the only fixed noise source, it is anticipated that with the implementation of the recommended noise mitigation measures, there will not be any adverse noise impact for nearby noise sensitive receivers.

4.6.5 Calculation results are summarized in Table 4.3 with the details presented in Appendix 4.2.

Table 4.3 Predicted Maximum Allowable Noise Level for Proposed STP

Assessment Point ID	Nighttime Noise Criteria (dB(A))	Maximum allowable SWL	Distance From Fixed Noise Source (m)	Noise Impact at NSR (dB(A))
FR01	49	74	28	40
FR02			29	40

4.7 Conclusion

4.7.1 Potential Noise impacts due to identified fixed noise sources within 300m radius of the Application Site have been examined. Precautionary measures such as installing acoustic louvres and silencers at the STP exhaust are recommended. With the implementation of recommended mitigation measures, no adverse industrial noise impact upon the Proposed Development is anticipated.

5. WATER QUALITY IMPACT

5.1 Introduction

5.1.1 This assessment is to identify the potential water quality impact during construction and the operational phase of the Proposed Development in the Application Site. The extent of water quality impact assessment was based on an area within 500m radius from the boundary of the Application Site. The assessment area is indicated in Figure 5.1.

5.1.2 During operation stage, sewage will be generated from the Proposed Development. Relevant proposed sewerage system, treatment method, and water quality issue of effluent discharge are addressed in a separate Sewerage Impact Assessment (SIA) report prepared by others. Please refer to the SIA report.

5.2 Assessment Criteria

Water Pollution Control Ordinance

5.2.1 The Water Pollution Control Ordinance (WPCO) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs). Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in the WCZ based on their beneficial uses. The Proposed Development is located within Deep Bay WCZ.

Technical Memorandum

5.2.2 Discharge of effluents are subject to control under the WPCO. The "Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters" (TM-DSS) gives guidance on the permissible effluent discharges based on the type of receiving waters (foul sewers, stormwater drains, inland and coastal waters). The limits control the physical, chemical and microbial quality of effluents. Any sewage from the proposed construction and operation activities must comply with the standards for effluents discharged into the foul sewers, inland waters and coastal waters of Deep Bay WCZ, as given in the TM-DSS. Group C and Group D discharge standards are considered relevant to the Proposed Development.

TPB PG No. 12C "Town Planning Board Guidelines for Application for Developments Within Deep Bay Area under Section 16 of Town Planning Ordinance"

5.2.3 As Deep Bay is an ecological sensitive area, a special discharge policy has been implemented in Deep Bay catchment. Effluents discharged into Deep Bay are required to be properly treated prior to final disposal so as not to cause net increase in pollution load to Deep Bay.

Practice Note

5.2.4 Various Professional Persons Environmental Consultative Committee Practice Note (ProPECC PN) were issued by the EPD to provide guidelines for handling and disposal of relevant discharges. The ProPECC PN 2/24 "Construction Site Drainage" provides good practice guidelines for dealing with discharge from construction sites. These include surface run-off, groundwater, boring and drilling water, bentonite slurry, water for testing and sterilisation of water retaining structures and water pipes, wastewater from building constructions, acid cleaning, etching and pickling wastewater, and wastewater from site facilities. Practices given in the ProPECC PN 2/24 should be

followed as far as possible during construction to minimise the water quality impact due to construction site drainage.

5.2.5 The ProPECC PN 1/23 "Drainage Plans subject to Comments by Environmental Protection Department" 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 various site effluents generated within the new development area should follow the relevant guidelines and practices as given in the ProPECC PN 1/23.

5.3 Water Sensitive Receivers

5.3.1 Water Sensitive Receivers during construction and operation phase of the Proposed Development are identified within the 500m assessment area. Based on Town Planning Board's (TPB) approved Outline Zoning Plan Nos. S/YL-MP/8 – Mai Po & Fairview Park, there is a planned "Other Specified Uses" annotated "Wetland Conservation Park ("OU(WCP)" zone surrounding the northwest of the Application Site. The majority of this OU(WCP) is currently occupied by ponds and abandoned ponds. The Application site Boundary is outside the boundary of the planned OU(WCP) as well as the existing Wetland Conservation Area, but falls within the boundary of the Wetland Buffer Area. As a conservative measure, the Proposed Development is already provided a building setback from the OU(WCP) and the Wetland Conservation Area (WCA) boundary by 10m. There is an existing Site of Special Scientific Interest (SSSI) to the southeast of the Proposed Development, which is understood to be a reported egretry. As it is land based, it is not considered as a WSR. The locations of the WSRs are indicated in Figure 5.1.

5.3.2 Key WSRs within 500m assessment area were identified. These key WSRs are presented in Table 5.1 and shown in Figure 5.1.

Table 5.1 Key Water Sensitive Receivers

WSR ID	Description	Status	Estimated distance from Project Site (m)
P01 – P04, P08 – P09, P11 – P18, P20 -P22, P24 – P32, P34 – P35	Artificial Ponds near Mai Po San Tsuen, Mai Po Lo Wai and Lin Barn Tsuen	Existing ponds	Closest: P23, Immediate adjacent
P05 – P07, P10, P19, P23, P33	Abandoned artificial ponds near Mai Po Lo Wai, Hop Shing Wai and Lin Barn Tsuen	Abandoned ponds	Closest: P19, ~6m
M01, M02	Marsh	Existing marsh	Closest: M02, Over 300m
W01 – W07	Man-made watercourses/ drainage ditches	Channelised, man-made	Closest: W07, ~6m

WSR ID	Description	Status	Estimated distance from Project Site (m)
WCP	Planned Sam Po Shue Wetland Conservation Park	Under planning	Immediate adjacent

5.4 Construction Phase Water Quality Impact

Source of Wastewater

5.4.1 Construction activities would inevitably have the potential to generate wastewater. Works should be carried out in such a manner as to minimise adverse impacts on local water bodies. General speaking, activities that are likely to cause water pollution include:

- Construction surface runoff;
- Sewage generated from construction workforce; and
- Accidental spillage of chemicals, e.g. oil, diesel, solvents etc.

Construction surface runoff

5.4.2 One of the potential water quality impact during construction stage of the Proposed Development will be the potential discharge of construction site runoff and wastewater. Construction works such as site formation works will likely generate exposed soil. During rainstorms, site run-off could wash away soil particles on unpaved lands and areas where topsoil is exposed. Without proper control, these could lead to increase in suspended solids level as a result of sediment-laden surface runoff, as well as increase in turbidity level and blockage of drainage channels.

Sewage generated from construction workforce

5.4.3 Sewage will be generated from construction workforce, and is generally characterised by high levels of BOD_5, ammonia and *E.coli* counts. Discharging of such wastewater without proper treatment will likely deteriorate the water quality of local drainage and freshwater systems.

Accidental spillage of chemicals

5.4.4 Liquid spillage of fuel, oil and lubricants may also occur from construction vehicles and maintenance of equipment. Leakage of such chemicals may infiltrate into the surface soil layer, or runoff into the WSR nearby, increasing hydrocarbon levels. Improper storage or handling of such chemicals may subsequently lead to groundwater pollution, where the spilled chemical enters the groundwater through faults or fissures in the ground.

Proposed Mitigation Measures

5.4.5 Currently, the Application Site is paved and fenced off with no particular activities or existing WSRs on-site. Outside Application Site, there are however existing artificial ponds near Mai Po San Tsuen, Mai Po Lo Wai and Lin Barn Tsuen, existing marsh, channelised man-made drainage ditches for irrigation uses in surrounding areas. There is also an adjacent planned Wetland Conservation Park by others (see section 5.3 for details). During construction, no direct discharge without treatment of construction site runoff from the construction site will be allowed. The good practice given in the Practice Notes for Professional Persons on "Construction Site Drainage" (ProPECC PN 2/24) in controlling water pollution at construction site shall be

implemented during the construction phase of the Proposed Development. Soil erosion from the construction site can be minimised through good on-site management practices by implementing viable erosion control measures which should be incorporated in contract clauses. Construction site runoff shall be collected and treated through screening facilities before discharge into the nearby storm drains, and the discharge shall comply with the terms and conditions of the discharge licence to be issued under the WPCO.

5.4.6 The main practices provided in the above-mentioned document (i.e. ProPECC PN 2/24) are also summarized in the following paragraphs which should be enforced to prevent unacceptable construction stage impacts and for compliance with the statutory criteria:

(i) Construction surface runoff

- Exposed soil surfaces should be protected from rainfall through, for example, by covering temporarily exposed slope surfaces or stockpiles with tarpaulin and protect temporary access roads by crushed stone or gravel;
- Exposed soil areas should be minimised to reduce the potential for increased siltation and contamination of runoff;
- Minimise the time that soil surfaces are exposed;
- Slow down water run-off flowing across exposed soil surfaces;
- Channels, earth bunds or sandbag barriers should be provided on site to properly direct surface runoff through drainage systems;
- Oil interceptors are also recommended to be provided for stormwater drains near plant maintenance/ repair areas, where necessary.
- Manholes (including newly constructed ones) should be adequately covered or temporarily sealed so as to prevent slit, construction materials or debris from getting into the drainage system;
- Construction works should be programmed to minimise soil excavation works where practicable during rainy conditions;
- Drainage facilities must be adequate for the controlled release of storm flows;
- Sedimentation basins and sand traps designed in accordance with the requirements of ProPECC Note PN 2/23 should be installed at the construction site for collecting surface runoff. Perimeter channels at site boundaries should be provided where necessary to intercept surface runoff from outside the site. Silt removal facilities, channels and manholes should be maintained and deposited silt and grit should be removed regularly;
- There should be no direct discharge without treatment of construction site runoff into the nearby streams, water ponds, and public drains;
- The Contractor shall prepare a construction site drainage management plan with details of the construction phase drainage system proposed to be constructed; discharge location(s); and screening facilities;
- The Contractor(s) shall apply for a discharge licence under the WPCO and the discharge shall comply with the terms and conditions of the licence throughout the construction phase.

(ii) Sewage generated from construction workforce

- Sewage generated from the construction workforce should be contained by chemical toilets before connection to public foul sewer can be provided. The number of chemical toilets required would be subject to the capacity of the chemical toilets, and contractor's practices/ work programme. The Contractor(s) will be required to

provide an estimation on the amount of sewage to be generated and to provide sufficient number of chemical toilets for construction workers. The chemical toilets should be serviced and cleaned by a specialist contractor at regular intervals. No discharge of sewage into nearby environment will be allowed during construction stage. Such requirements will be incorporated into relevant contractual clauses of this Proposed Amendment Scheme for proper implementation;

- Canteen facilities are not expected. However, in case canteen is required, foul water from canteens on-site, if any, should also be contained by sewage holding tanks before connection to public foul sewers can be provided. Wastewater collected from canteen kitchens, should be treated via grease traps and contained by sewage holding tanks, and collected by a licensed contractor regularly;
- Vehicle wheel washing facilities should be provided at site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before leaving the site area;
- Section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains; and
- If bentonite is used, bentonite slurry should be reconditioned and reused as far as practicable. Spent bentonite should be kept in a separate slurry collection system for disposal at a marine spoil grounds subject to obtaining a marine dumping licence from EPD. If used bentonite slurry is to be disposed of through public drainage system, it should be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards in accordance with ProPECC PN 2/24.

(iii) Accidental spillage of chemicals

- Spillage of fuel oils or other polluting fluids should be prevented at source. It is recommended that all stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by berms;
- Site inspections will be conducted where necessary to ensure that the above measures are properly implemented; and
- For the disposal of chemical wastes, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and Cap.354 C Waste Disposal (Chemical Waste) (General) Regulation. Chemical waste should be collected by a licensed collector and to be disposed of at a licensed chemical waste treatment and disposal facility.

5.4.7 Given there are existing water ponds, marsh and drainage ditches in surrounding area and a planned Wetland Conservation Park (WCP) by the government outside Application Site in future, there should be peripheral drains during construction stage to intercept construction site surface runoff away from the nearby ponds and WCP area. Details of the peripheral drains should be included in the construction site drainage management plan to be prepared by the contractor as per recommendation in Section 5.4.6 (i) above.

5.4.8 With the above proposed construction phase drainage system and recommended pollution control measures in place, no adverse water quality impact during construction phase will be expected.

5.5 Operation Phase Water Quality Impact

Source of Wastewater

5.5.1 The operation of the Proposed Development may give rise to potential water quality impact from the following sources:

- surface runoff of stormwater (non-point source of pollution);
- water contamination by agrochemicals at landscaping area;
- leakage of oil and grease from vehicles; and
- sewage effluent.

Surface runoff (Non-point Source Pollution)

5.5.2 The existing surface characteristic of the Application Site is paved. As described in Section 5.4.6, currently surface runoff from the area may carry the sediment and flow into nearby water sensitive receivers directly without being treated. Upon completion of the Proposed Development, there would be a change in the total paved area, thus reducing the infiltration rate in the catchment, consequently resulting in more surface run-off, especially during rainy seasons.

5.5.3 There would be pollution loading in association with the surface runoff, which is known as non-point source pollutions. Substances such as vehicle dust, scraps and oil may be deposited on paved road surface. Fallen leaves, particles, litter from open areas/ landscape areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled.

5.5.4 A detailed assessment of the potential impact of the surface runoff is presented in a separate Drainage Impact Assessment (DIA) by others, with estimation of the runoff volume and drainage capacity of the Application Site. According to the DIA, internal peripheral drains will be provided for the Application Site for discharge into public drain at Castle Peak Road and Tam Kon Chau Road. The existing drainage pipeline has enough capacity to cater for the additional surface runoff generated from the Application Site.

Water Contamination by Agrochemicals

5.5.5 The Proposed Development in the Application Site would consist of some green area. Agrochemicals such as pesticides, herbicides and fertilizers would be required to maintain the landscaping features. Overuse of agrochemical could cause contamination of nearby WSRs, especially during the wet season, when chemical residues on ground surface can be washed into nearby WSRs easily.

Leakage of Oil from Car Parking Area

5.5.6 There would be potential pollution in association with car parking area if not properly controlled. Proper drainage system will be provided at the covered car parking area to follow the requirements of ProPECC PN 1/23 and discharge will be via petrol interceptors.

Sewage Effluent

5.5.7 Domestic sewage from the Proposed Development would be a major source of water quality impact during operational phase. Without proper collection system, sewage may enter the nearby stormwater system or nearby water bodies, resulting in an increase in levels of pollutants such as *E. coli*, suspended solids (SS), and ammonia nitrogen (NH_3-N), etc.

5.5.8 As mentioned in Section 5.1.2, a detailed discussion of the potential impact of the sewage effluent, proposed sewerage system, water quality issue of discharge, and relevant mitigation measures, are presented in a separate SIA report by others. Details

of the effluent reuse facility, and standards are covered in the separate SIA. Similarly, details of the proposed sewerage system, potential impact of the sewage effluent, relevant mitigation measures, as well as relevant water quality issue of discharge, are covered and presented in a separate SIA report prepared by others and are outside the scope of this EA. According to the SIA study, sewage generated by the proposed development will be conveyed to an on-site sewage treatment plant (STP) with a total average daily water flow (ADWF) of the Proposed Development at about 238 m^3/day, and with proposed MBR (membrane bioreactor) treatment process for tertiary treatment, and treated effluent will be used for toilet flushing and irrigation use at landscape area within the Application Site and the quality of treated effluent shall meet tertiary treatment standard as well as the water quality requirements specified in the "Water Supplies Department (WSD) Inter-departmental Working Group on the Implementation of Reclaimed Water Supply in Sheung Shui and Fanling" for non-portable uses. Equalization tank will also be proposed to temporarily store collected sewage. Treated reclaimed effluent from the STP will be stored in a reclaimed water storage tank for storage and on-site reuse as described above, and any surplus amount of about 135 m^3/day will be to existing public stormwater drains (see extracted drawing in Appendix 5.1), or tanked away to public sewage treatment works at Yuen Long Sewage Treatment Works.

Proposed Mitigation Measures

5.5.9 As discussed earlier in Section 5.5.2, the existing Application Site is paved. Currently, surface runoff within the area is discharged by means of overland flow into nearby area and drainage ditches without and any treatment. With the Proposed Development, the source of water pollutants would involve non-point source of pollution as described in above paragraph due to soil erosion, surface runoff with sediment laden, fallen leaves and use of fertilizer at landscape area, etc. However, with the Proposed Development, development area will be paved and with proper drainage systems and proposed control measures in place to properly collect and treat the surface runoff before any discharge following the existing flow regime. There will be no direct discharge without treatment of surface runoff into nearby areas. Thus, the risk of water pollution would be in a controlled manner when compared with existing condition and the uncontrolled discharge without any treatment. Best Management Practices (BMPs) for stormwater discharge are recommended to reduce stormwater pollution arising from the Project. Examples are listed out in below paragraphs.

5.5.10 Exposed surface shall be avoided within the proposed development to minimise soil erosion, thus reduce SS in runoff. The proposed development area should be either paved or covered by plantation.

5.5.11 Good management measures such as regular road sweeping, and regular inspection, cleansing and maintenance of the screening facilities of the drainage system should be implemented to ensure normal operation of the drainage system and avoid overflow. Additional inspection and cleansing should be carried out before forecasted heavy rainfall.

5.5.12 Proper stormwater drainage system such as standard gully grating and trash grille, with spacing which is capable of screening large substances such as fallen leaves and rubbish will be provided along the site boundary of the Proposed Development to properly collect stormwater runoff, and discharge through screening facilities. The drainage system should be designed to follow EPD's Practice Note PN 1/23. As discharge will be through degritting / screening facilities, there will be no direct discharge of untreated stormwater runoff into nearby WSRs. Road gullies with standard design and manhole device and should be incorporated to remove particles present in stormwater run-off. Drainage in covered carparks should be connected to foul sewer via petrol interceptors while drainage serving open space should be connected to

stormwater drain via screening facilities in accordance with EPD's Practice Note PN 1/23.

5.5.13 The Proposed Development area should be designed to meet the government requirements, which is subject to detailed design stage. It is recommended that during operational phase, there will be proper peripheral drains proposed for the Proposed Development. As pollutants contributed by non-point source are often bound or adsorbed onto particles, an effective stormwater management system will be the removal of pollution sources prior to rainstorm and the provision of degritting/ screening facilities that collect debris or sediment. Surface runoff as non-point source of pollution during operation stage can be controlled by good drainage design and implementation of best management practices, which are further described in the following paragraphs.

a.) Erosion Control

5.5.14 If uncontrolled, exposed surfaces may contribute to sediment-laden surface runoff during rainstorm and cause water pollution. The Proposed Development is either hard paved or covered by landscaping area with appropriate planting species in order to eliminate any exposed surface.

b.) Prevention of Pollution at Source

5.5.15 There will be also planned landscaping/ planting area within the proposed Application Site, which helps to reduce the rate of soil erosion. With this planting area, it can help minimize the amount of direct flushing of substances such as fallen leaves, soil particles, and rubbish into the drainage system.

5.5.16 It is recommended that regular cleaning and sweeping of road surface/ open areas as well as prior to occurrence of rainstorm should be carried out to minimize exposure of pollutants to stormwater.

5.5.17 Since pollutants contributed by non-point source are often bound or adsorbed onto particles, removal of pollution sources prior to rainstorm will be an effective control measure. With the above measures, the amount of pollutants at source has been largely reduced/ avoided as far as possible.

c.) Use of Agrochemicals

5.5.18 Where possible, pest control will be achieved through the careful design of the landscape including the use of a more naturalistic approach, the use of native species and species which provide natural pest control; and the use of cultural controls should be explored. Slow-release fertilizers should be applied only when required, during the dry season. Reference should also be made to the "Good Agricultural Practices for Crop Production" and relevant control measures are to be implemented regarding the use of fertilizers, pesticides, and agro-chemicals.

d.)Prevention of "First Flush" Pollution

5.5.19 The main concern of operational surface runoff would be the first flush flow which carries most of the pollutants. Under normal condition of operational phase, runoff will not be generated in low rainfall intensity. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

5.5.20 During operation phase, as discussed above, there will be proper peripheral drains for the Proposed Development. It is recommended that the drainage system of the development should be designed in such a way that stormwater runoff should be collected and directed towards the site drainage system as far as possible and with screening facilities for treatment before discharge. There should be no uncontrolled discharge of untreated surface runoff.

5.5.21 Details of the drainage system will only be available in detailed design stage. However, it is recommended for the drainage system to be provided along the site boundary, in order to intercept stormwater and avoid any direct discharge into the nearby water sensitive receivers without any treatment. As discharge will be made to planned drainage system through standard gully grating or trash grille, there will be no uncontrolled discharge of stormwater runoff into the nearby sensitive areas.

e.)Device for Removal of Pollutants

5.5.22 It is recommended that screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system/ discharge points. It is expected that most of the large substances in stormwater runoff would be removed with such devices so as to prevent it from entering the drainage system; road gullies with standard design and petrol interceptors should be incorporated during the detailed design to remove particles and grease present in stormwater runoff; and drainage outlet of any covered car park should be connected to foul sewers via petrol interceptors or similar facilities in accordance with the ProPECC Note PN 1/23 as described in Section 5.5.12.

f.) Administrative Management/ Control Measures

5.5.23 Asides from the above, good administrative/ management measures such as regular cleaning and sweeping of road surface/ open areas is suggested. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm. Similar to other roads in the area, standard road gullies and screen facilities will be provided as part of the road design.

5.5.24 Stormwater gullies and ditches provided among the Proposed Development should be regularly inspected and cleaned. Additional inspection and cleansing should be carried out if heavy rain is forecasted.

5.5.25 With the removal of pollutants, the pollution levels from stormwater would be much reduced, and given the stochastic nature of non-point source pollution and the proposed management measures, there will be no adverse water quality impact expected.

5.5.26 According to the SIA report, during emergency situations, such as loss of power supply at the on-site sewage treatment facility, or mechanical faults / equipment failures, untreated sewage effluent may overflow and cause potential adverse impacts. To minimize the risk of untreated sewage effluent discharge due to emergency events, a number of contingencies will be provided at the on-site sewage treatment facility, such as provision of equalization tank, dual or standby power supply, standby sewage treatment units, flow sensors and alarm systems. As a last resort and in case operation of the on-site sewage treatment facility cannot be resumed after all these contingency measures have been exhausted, any surplus raw sewage will be tanked away to the public Sewage Treatment Work, such as YLSTW. With these contingency measures in place, the risk of untreated sewage effluent discharge to Deep Bay WCZ due to emergency events is negligible.

5.6 Conclusion

5.6.1 Potential water quality impacts due to identified wastewater sources of the Application Site in both construction phase and operational phase have been examined. Precautionary measures such as installing pollutant screening facilities and implementing viable erosion control measures are recommended. With the implementation of proposed mitigation measures, no adverse water quality impact

upon the Proposed Development is anticipated during construction phase and operation phase.

6. WASTE MANAGEMENT

6.1 Introduction

6.1.1 This section reviews the potential sources of waste that may arise during the construction and operation of the Proposed Development. Potential environmental impacts associated with the handling and disposal of waste have been identified. Options for avoidance, minimization, reuse, recycling, treatment, storage, collection, transport and disposal of such wastes are examined.

6.1.2 The Application Site is current fenced off with no particular activity on-site. Operation of the development will generate domestic waste during its operation stage. Standard approach that is widely adopted in other parts of Hong Kong will be adopted for the handling and disposal of waste. Waste will be collected and disposed of properly by a licensed contractor. Evaluation on construction phase waste management and best practices are provided in below paragraphs.

6.2 Environmental Legislation, Policies, Standards and Criteria and other Relevant Guidelines

6.2.1 To prepare a comprehensive Waste Management Plan, different types of waste which may arise during construction works are identified as various types of waste may require a different approach for management according to their specific characteristics.

6.2.2 The regulations and requirements regarding waste management (collection, storage, transfer and disposal) of the various waste streams and land contamination assessment are summarised below.

6.2.3 The principal legislation controlling waste materials in Hong Kong which are relevant to this Proposed Development are:

- Waste Disposal Ordinance (WDO) (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C); and
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N).

6.2.4 Other key relevant guidelines published by various Government Departments and Bureaux include:

- Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes;
- Works Branch Technical Circular No. 2/93 "Public Dumps"; and
- ADV-19 – Construction and Demolition Waste

6.3 Identification and Evaluation of Potential Waste Impacts

Construction Phase

6.3.1 The construction activities to be carried out for the Proposed Development would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and demolition (C&D) materials (including site clearance waste);
- General refuse; and
- Chemical wastes.

6.3.2 The nature of each type of waste arising is described in the following sections, together with an evaluation of the potential environmental impacts associated with these wastes.

6.3.3 The general waste management strategy is to avoid waste generation in the first place. If that is unavoidable, source reduction and segregation should be exercised as far as practicable and at the same time, recycling and reuse should be adopted to salvage as much as possible all the recyclable and reusable materials. The following paragraphs provide a general waste management approach as well as good practices for waste management.

Construction and Demolition (C&D) Materials

6.3.4 Clearance of vegetation and temporary building structures comprising concrete, steel etc. is required. Clearance and demolition would also generate inert and non-inert C&D materials. C&D materials are also generated from site formation, filling, and excavation. Materials such as soil, rock, concrete, and debris arise from activities like land clearing, grading, and foundation digging. Furthermore, C&D materials including concrete, bricks, wood, and metal are generated from building construction, such as framing, roofing, and interior finishing, etc.

6.3.5 C&D materials are categorized to "inert C&D materials" and "non-inert C&D materials". C&D materials that are wholly inert, namely public fill, should not be disposed of to landfill, but taken to public fill reception facilities, which usually form part of reclamation schemes. The Land (Miscellaneous Provisions) Ordinance requires that dumping licences be obtained by individuals or companies who deliver public fill to public fill reception facilities. The Civil Engineering & Development Department (CEDD) issues the licences under delegated powers from the Director of Lands.

6.3.6 Under the Waste Disposal (Charges for Disposal of Construction Waste) Regulation, enacted in January 2006, construction waste delivered to a landfill for disposal must not contain more than 50% by weight of inert material. Construction waste delivered to a sorting facility for disposal must contain more than 50% by weight of inert material, and construction waste delivered to a public fill reception facility for disposal must consist entirely of inert material.

6.3.7 Inert C&D materials would be delivered off-site for reuse in other construction contractors or to designated public fill reception facilities, or it can be reused as fill materials on site. The Contractor should timely notify the estimated volumes of excavated materials to be generated and make agreement with the Public Fill Committee (PFC) on the handling of the inert C&D materials. Inert C&D materials should be segregated from other wastes to avoid contamination and to ensure acceptability at public fill reception facilities and other construction sites. All inert C&D materials will need to be carefully stockpiled if it cannot be removed directly to avoid dust and other nuisance impacts. The inert C&D materials to be delivered to public filling reception facilities shall be materials consisting of soil, concrete, etc. The materials shall be free from plastics, chemical waste and metal waste. A designated temporary storage area of inert C&D materials shall be provided on site. Surplus inert C&D materials should be sent to Public Fill Reception Facility (PFRF) operated by CEDD (e.g. Tuen Mun Area 38 Fill Bank).

6.3.8 Non-inert C&D materials comprise materials including mixture of topsoil and dead vegetative materials, timber, glass, steel and plastics, etc. arising from construction and demolition that are not suitable for backfilling. Non-inert C&D materials would be segregated on site to facilitate recycling as far as possible by designating specific areas/bins for the temporary storage of the segregated material. Disposal of non-inert C&D material at designated landfills (e.g. North East New Territories (NENT) Landfill) will be the last resort.

6.3.9 The Contractor should separate non-inert C&D materials from inert C&D materials on-site. All segregated recyclable materials (e.g. metal) should be collected by reputable licensed recyclers. The remaining non-inert C&D materials should be disposed of at

designated landfill by dump trucks. As the proposed development is still at very early planning stage, many details of construction programme and construction method are not yet available at this stage. Based on very preliminary estimation based on current proposed scheme, the total estimated quantity of C&D material is about 29,930 m^3.

Table 6.1 Estimated Quantities of C&D Materials to be Generated

Sources of Waste	Total Quantity Generated (m^3)	Disposal Method
Site Clearance	~3,287*	Non-inert C&D materials such as timber should be sent to Yard Waste Recycling Centre in Y-Park subject to availability. Other C&D materials such as debris that cannot be reused or recycled should be sent to landfill. Inert C&D material to be reused as fill materials on site or recycled where practicable. Any surplus inert C&D materials to be sent to public fill reception facility such as Tuen Mun Area 38.
Site formation, filling & excavation, etc.	Formation: ~9,272 Excavation: ~15,720	Inert C&D materials should be reused on-site where possible. Any surplus inert C&D materials to be sent to public fill reception facility in Tuen Mun Area 38 or designated location assigned by government
Building construction	~1651**	Inert C&D materials to be sent to at public fill reception facility area in Tuen Mun Area 38. Non-inert C&D materials that cannot be reused or recycled such as packaging waste, debris to be disposed of at landfill as last resort.

Remarks:

The above figures and disposal method are estimation only. The exact amount to be generated and disposal method will be subject later detailed design stage.

* Based on estimation of removal of top 300mm of the ground, e.g. soil and vegetation, in which the top 300mm of the ground such as soil, vegetation, and concrete. Exact volume is subject to detailed design stage.

** Estimated based on the generation rate of 0.1m^3 per 1m^2 of Gross Floor Area (GFA). The GFA of the Proposed Development is ~16506m^2. The waste generated due to construction of building structures is estimated based on the generation rate of 0.1m^3 per 1m^2 of GFA (similar waste generation rate was also adopted in the approved EIA Report in the "Agreement No. CE61/2007 (CE), North East New Territories New development Area Planning and Engineering Study – Investigation", Section 7.5.1.2).

General Refuse

6.3.10 Throughout the construction stage, the workforce would generate general refuse comprising food scraps, wastepaper, empty containers, etc. Release of general refuse into the nearby storm drain should not be permitted. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into the surrounding environment. Since the information on the number of workers working on-site is not yet available at this early stage, a maximum of 200 workers working simultaneously is assumed. Based on a per capita waste disposal rate at 0.89 kg/person/day in 2023, the daily amount of general refuse that would be generated is approximately 178 kg, which is subject to confirmation in later detailed design stage Adverse impact on the capacity of waste collection, transfer and disposal facilities is not anticipated.

6.3.11 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be separated for recycling, in order to reduce the amount of general refuse to be disposed of at landfill. Adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. The non-recyclable refuse will be placed in bags, stored in enclosed containers, and disposed of at designated landfill on a daily basis.

6.3.12 With the implementation of the recommended waste management practices on site, adverse environmental impacts would not arise from the storage, handling and transportation of general refuse.

Chemical Waste

6.3.13 The maintenance and servicing of construction plant and equipment may generate chemical wastes such as cleaning fluids, solvents, lubrication oil and fuel. Maintenance of vehicles may also involve the use of a variety of chemicals, oil and lubricants. It is recommended that contractor should avoid undergoing maintenance of construction plants on-site during construction phase in order to minimize the generation of chemical waste. In case chemical waste is generated, the amount generated will be very minimal, in the order of a few cubic metres per month or so. For the disposal of chemical wastes, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Chemical waste should be collected by a licensed collector and to be disposed of at a licensed chemical waste treatment and disposal facility.

6.3.14 Provided that the handling, storage and disposal of chemical wastes are in accordance with these requirements, adverse environmental impacts are not expected.

6.3.15 With the implementation of aforementioned good practices and appropriate mitigation measures, no adverse waste management impact is envisaged.

Operation phase

6.3.16 It is anticipated that general refuse will be generated during operation of the Proposed Development. General refuse, such as food waste, packaging materials, etc., will be generated by residents during the operation of the Proposed Development.

6.3.17 With the domestic nature development, general refuse will be generated during operation phase. Standard approach that is widely adopted in other parts of Hong Kong i.e. daily collection and disposal of collected domestic waste by a contracted waste collection contractor by the Food and Environmental Hygiene Department (FEHD) will be adopted for the handling and disposal of waste. General refuse will be stored in enclosed bins, preferably an enclosed and covered area.

6.3.18 The Project is still at very early planning stage, many details are subject to later detailed design stage. To reduce waste and improve recycling, it is recommended that during detailed design stage, consideration of waste sorting and recycling such as waste paper, plastics and aluminium can, etc. be segregated for off-site recycling.

Sufficient recycling containers will be provided at suitable locations to encourage recycling of waste. A reputable licensed waste collector will be employed to collect the general refuse daily for disposal at designated landfill sites or recycling facilities. With the implementation of aforementioned good practices and appropriate mitigation measures, no adverse waste management impact is envisaged during the operation phase.

6.3.19 In addition, in the later detailed design stage the Applicant will explore the feasibility of appropriate recycling means for food waste to be generated during operational phase, e.g. delivering food waste generated to Organic Resources Recovery Centre (ORRC) or installation of food waste recycling machines for composting treatment, etc.

6.3.20 During the operational phase, three main types of waste, including general refuse, clinical waste and chemical waste would be generated. A breakdown of waste arising during the operation phase are summarised in below table.

Table 6.2 Waste Types and Sources in the Operation Phase of the Project

Waste Types	Sources of waste	Examples
General Refuse	Residents of the RCHE (716-person) Staff of the RCHE (79-person) Other on-site workers (64-person)	1. General refuse 2. Recyclable waste in tri-coloured recycling bins (i.e. paper, plastic and metal) 3. Food waste
Clinical Waste	Residents of the RCHE (716-person)	e.g. syringes, needles, cartridges, ampoules and other sharp instruments
Chemical Waste	Maintenance activities in the RCHE including office and car park	1. Fluorescent light bulbs 2. waste lubricating oil and fuel, etc.

General Refuse

6.3.21 Since the Proposed Development is a Residential Care Home for the Elderly, a majority of waste shall be domestic waste generated by residents and staff. This includes general refuse such as plastic, paper, aluminium, and food packaging. Based on a per capita waste disposal rate at 0.89 kg/person/day indicated in the Monitoring of Solid Waste in Hong Kong 2023 and the estimated population (859 people in total, including 716 residents, 79 RCHE staff and 64 other on-site workers), the daily domestic waste generation is estimated at about 765 kg. The general refuse should be recycled as far as possible through the placement of recycling bins throughout the facility. The remaining refuse should be collected by waste collectors and disposed of at landfills.

Clinical Waste

6.3.22 Clinical waste may be generated during operation phase of the Proposed Development. Clinical waste to be generated may fall under Group 1 – Used or contaminated sharps, used in the daily care of the elderly. Clinical waste data in special waste statistics by EPD in 2023 is used for estimating the amount of clinical waste generated, which is per capita clinical waste disposal rate at 0.0011kg/person/day. The estimated amount of clinical waste to be generated is 0.788kg/person/day for 716 residents in the RCHE. Handling and disposal of clinical waste shall follow The Clinical Waste Control Scheme. Clinical waste shall be segregated from other sources and types of waste streams at the source, centrally collected and stored before collection by licensed clinical waste collectors for disposal at a licensed disposal facility such as the Chemical Waste Treatment Centre (CWTC).

Chemical Waste

6.3.23 Chemical waste such as fluorescent tubes and waste lubricating oil and fuel etc. may be generated during maintenance activities of the proposed developments. Chemical waste should be handled and disposal of according to the measures stipulated in the Waste Disposal (Chemical Waste) (General) Regulation and the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. It is recommended to avoid undertaking maintenance of equipment on-site as far as possible in order to avoid generation of chemical waste. In case chemical waste is generated, the quantity of chemical waste arising from the proposed Project is expected to be a few litres per month. The chemical waste should be collected by licenced chemical waste collectors and disposal of at licenced waste disposal facilities such as Chemical Waste Treatment Centre (CWTC).

6.4 Conclusion

6.4.1 Potential waste impacts from the Proposed Development have been identified for both the construction and operational phases. C&D materials, general refuse and chemical waste will be generated during construction phase while general refuse, clinical waste and chemical waste will be generated during operation phase. With a focus on segregation, recycling, proper disposal, and the implementation of recommended waste management practices and mitigation measures, no adverse waste impacts are anticipated during either phase of the development.

7. LAND CONTAMINATION

7.1 Introduction

7.1.1 This section presents a preliminary land contamination review and identifies the potential contaminated areas within the Application Site by means of desktop review.

7.2 Environmental Legislation, Policies, Standards and Criteria and other Relevant Guidelines

7.2.1 The following key guiding documents are referenced for the land contamination assessment:

- Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management (Guidance Manual), dated December 2007 (revised in April 2023);
- Guidance Note for Contaminated Land Assessment and Remediation (Guidance Note), dated 15 August 2007 (revised in April 2023); and
- Practice Guide for Investigation and Remediation of Contaminated Land (Practice Guide), dated August 2011 (revised in April 2023).

7.2.2 As the Guidance Manual and the Practice Guide were the latest guidelines promulgated for use in December 2007 and August 2011 respectively and both are revised in April 2023, the Risk-Based Remediation Goals (RBRGs) criteria and the requirements stated in the Practice Guide will be adopted in the land contamination assessment.

7.3 Findings from Desktop Review in Preliminary Land Contamination Assessment

7.3.1 A review on historical land use activities at the Application Site has been carried out. Based on the aerial photos from Lands Department, the Application Site appears to be occupied by vehicle parking area in the past.

7.3.2 The Application Site was undeveloped land on and before 1963. The land use status remained unchanged since then. Between the 1980s and early 1990s, the northwest part of the site was used as a water pond, while the remaining areas were largely vacant with a few structures near southern-western site boundary. It is understood that the historical zoning of Application Site was "unspecified" in 1990s, only "traditional uses" in the "unspecified use" areas can be permitted as of right while applications for approval were required for all other uses, including factory, workshop, and warehouse developments. As there were no planning application record of industrial uses found at the project site area, those structures found in 1985 and 1999's aerial photos are considered unlikely to involve industrial activities. Also, based on the past aerial photos the general land use of surrounding areas were rural in nature. In the mid to late 2000s, the eastern part of the Development Site was repurposed and used as a car park, while the northwest part of the site became vacant. Eventually, the entire Development Site was utilized for car parking uses. This usage continued up until the present day, as evidenced by the aerial photography from 2023 which shows the site still being used for these purposes. From these aerial photos it appear the Application Site has been used for car parking use in the past on a paved ground, and no particular land use types that are likely to generate ground pollution such as those listed out in Section 2.4.3 of the "Practice Guide for Investigation and Remediation of Contaminated Land", are observed. The relevant aerial photos are presented in Appendix 7.1.

7.3.3 The Application Site is currently fenced off by a tenant and is inaccessible. As the Application Site is currently occupied by existing operators for existing container storage activities and car parking services and has been occupied by car park in the

past, during later detailed design stage and when the Application Site is fully accessible, it is suggested that further land contamination review exercise and a site visit should be conducted to identify any trace of ground contamination. The need for a land contamination investigation should be determined by then.

7.4 Conclusion

7.4.1 A preliminary land contamination assessment was conducted to review potential land contamination from historical and existing land use activities. It was found that the Application Site was largely vacant in the past, which then gradually converted into car parking area since 2000s'. The Application Site is currently fenced off and occupied by others. Further land contamination review exercise and a site visit are recommended to be carried out in later stage to identify any trace of ground contamination when full access to the Application Site becomes available in later stage.

8. OVERALL CONCLUSION

8.1.1 The Application Site is proposed for an RCHE. To assess the environmental impact of the Proposed Development, traffic noise impact assessment, industrial noise assessment, noise impact due to planned STP, qualitative air quality impact assessment, water quality impact assessment and waste impact assessment have been conducted.

8.1.2 Appropriate precautionary measures such as setback of the proposed buildings from the site boundaries and adjusting the building disposition have been incorporated in the layout to alleviate potential noise impacts due to road traffic noise. With these measures, the Proposed Development will not be subject to unacceptable traffic noise or fixed noise impact.

8.1.3 For air quality impact, vehicular emission impact and odour impact have been reviewed. With mitigation measures, such as peripheral setback from the site boundaries and provision of adequate buffer distances, no adverse air quality impact to the Proposed Development is anticipated.

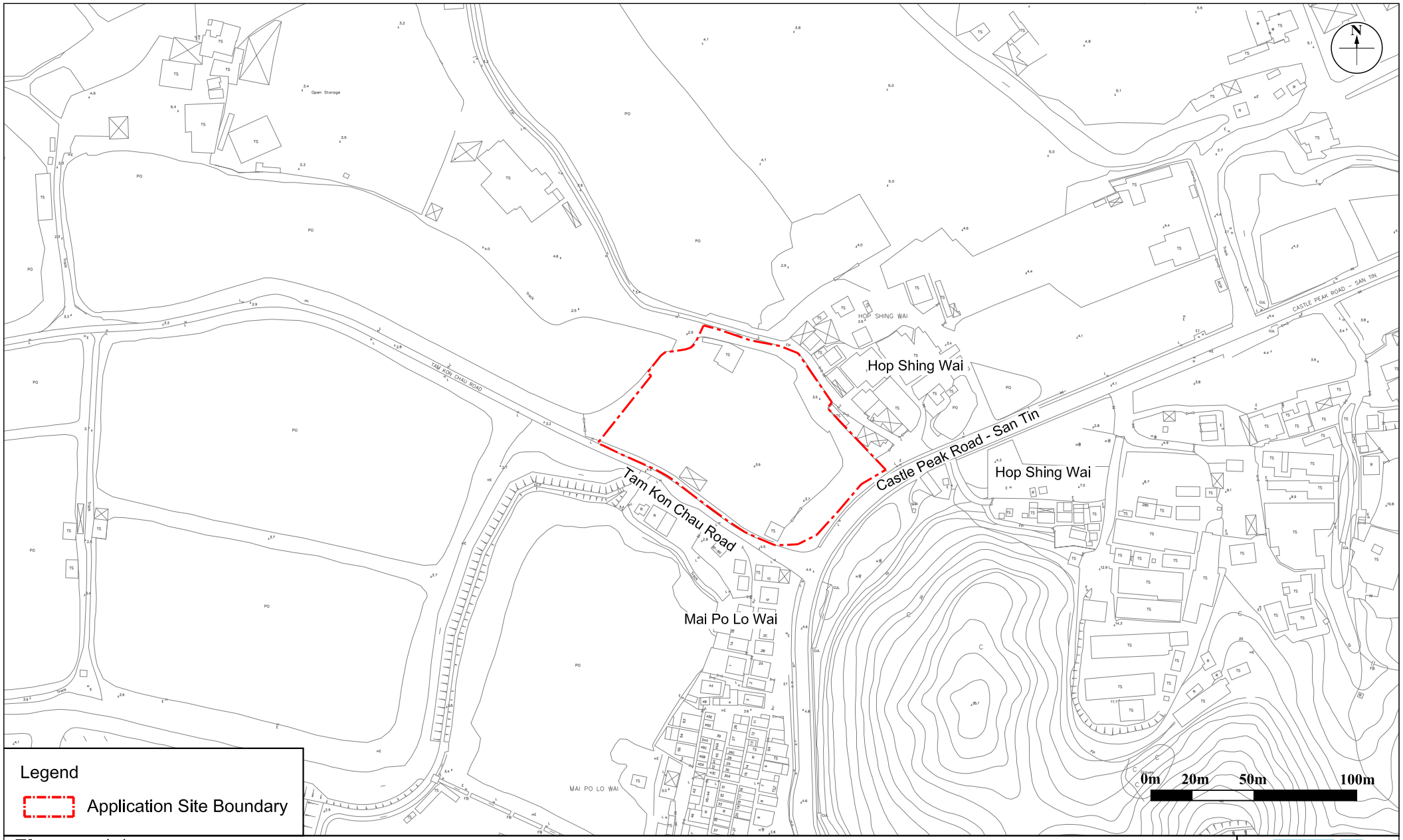
8.1.4 For water quality impact relevant to stormwater discharge, the Proposed Development is to provide with a proper stormwater drainage system and screen facilities to properly treat surface runoff. Regrading sewerage issue, an on-site STP with proposed MBR tertiary treatment process is proposed and the treated effluent is proposed to be reused on site for flushing and irrigation use. Details of the STP, relevant treatment requirement, relevant standard, water quality issues, and proposed control measures, these are covered in a separate SIA study outside the scope of this EA. For these issues relevant to the STP and its discharge, please refer to the SIA report directly for details.

8.1.5 For waste management, major waste types in construction and operation phase are identified. C&D materials, general refuse and chemical waste will be generated during construction phase while general refuse, clinical waste and chemical waste will be generated during operation phase. With the implementation of good construction site practices and appropriate mitigation measures, the generation of wastes from the Proposed Development could be minimised. Standard approach that is widely adopted in other parts of Hong Kong will be adopted for the handling and disposal of waste with proper collection point and facilities. No adverse waste management impact is envisaged during the construction and operation of the Proposed Development.

8.1.6 For land contamination, as the Application Site has been occupied by car park in the past and it is currently occupied by existing tenant, further investigation and site visit is recommended in later detailed design stage and the need for a further land contamination investigation will be subject to further review when full access to the Application Site becomes available.

8.1.7 To this end, it can be concluded that the Proposed Development is considered sustainable in environmental terms.

Figures



Legend

Application Site Boundary

Figure: 1.1

Title: Application Site and its Environs

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

Date: Sep 2024

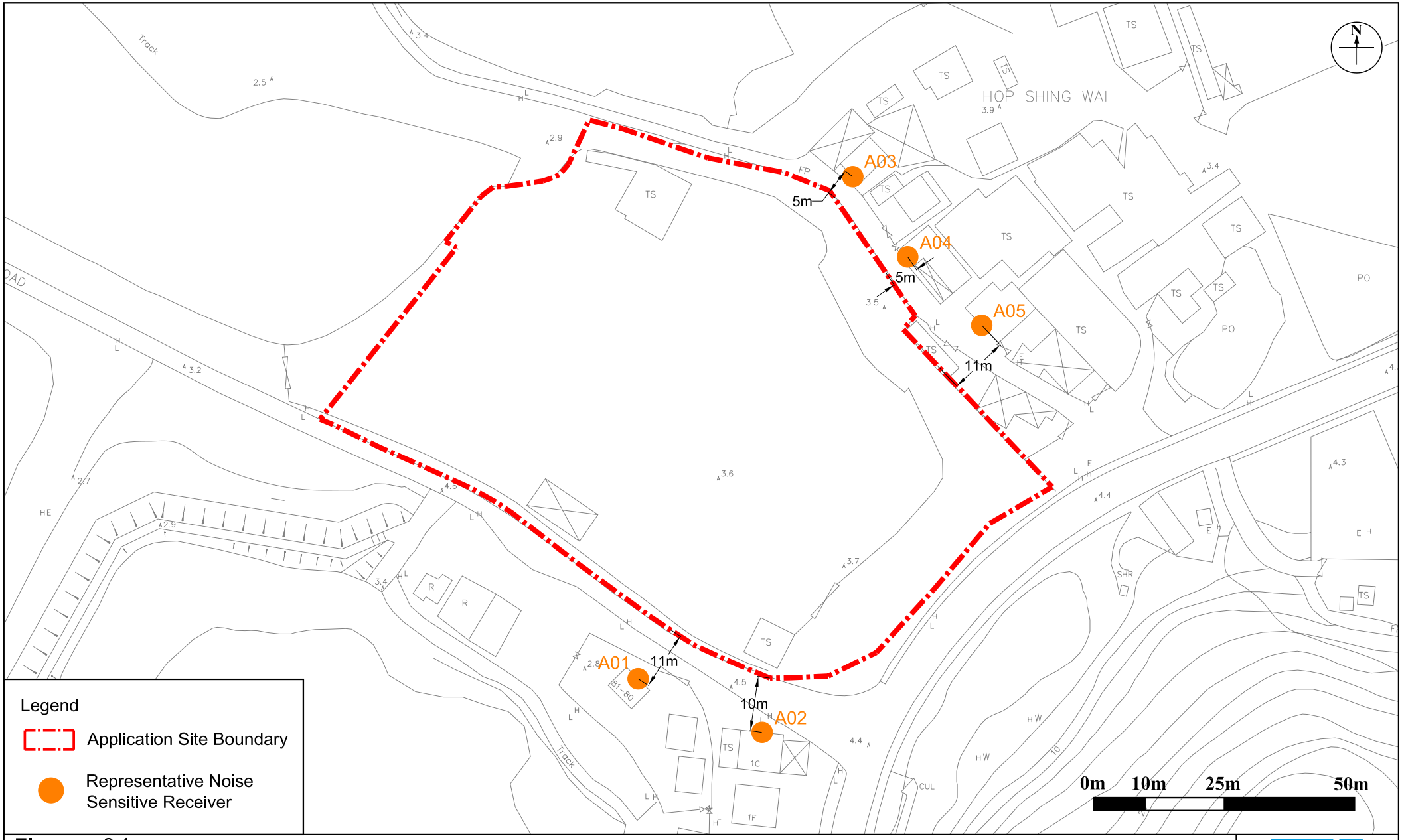


Figure: 2.1

Title: Representative Air Sensitive Receivers during Construction Phase

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: Sep 2024

Remark: No air-sensitive use including openable window, fresh air intake or recreational use in open space shall be located within the buffer zone.

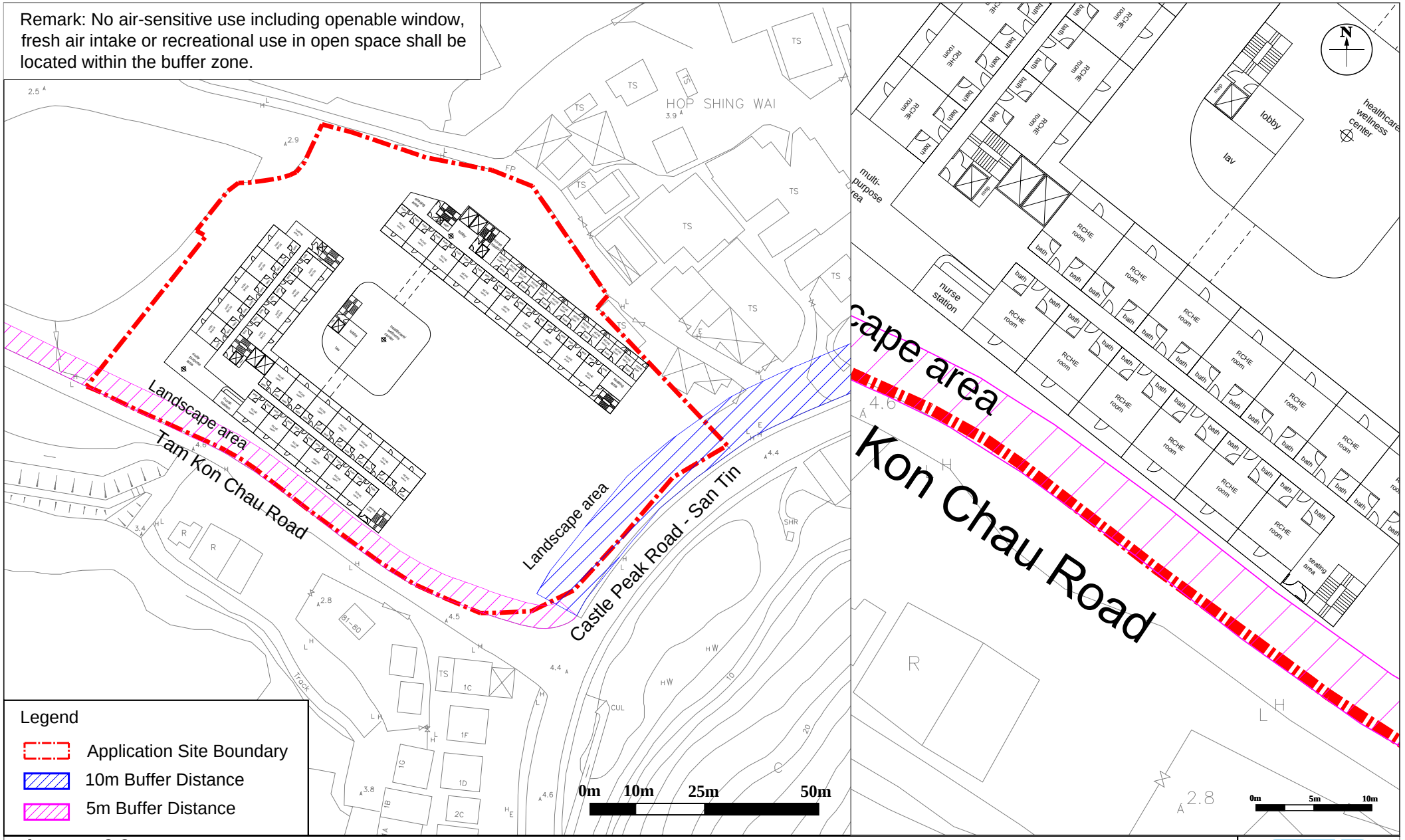

Figure: 2.2	RAMBOLL
Title: Buffer Distance between Application Site and the Nearby Road Network (1/F)	Drawn by: CL
	Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 4.0
	Date: May 2025

Remark: No air-sensitive use including openable window, fresh air intake or recreational use in open space shall be located within the buffer zone.

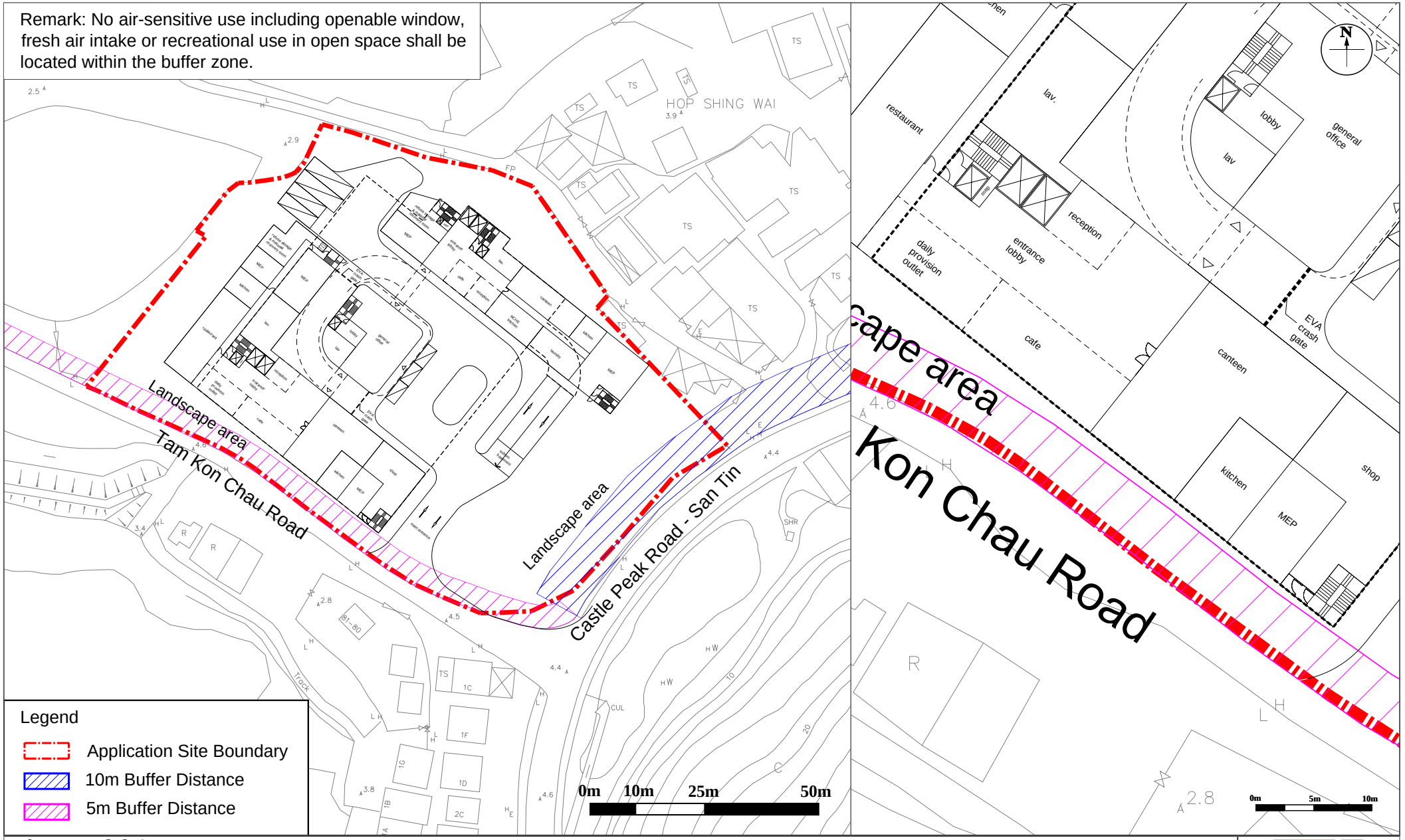

Figure: 2.2-1

Title: Buffer Distance between Application Site and the Nearby Road Network (G/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: CL
Checked by: HN
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Date: May 2025

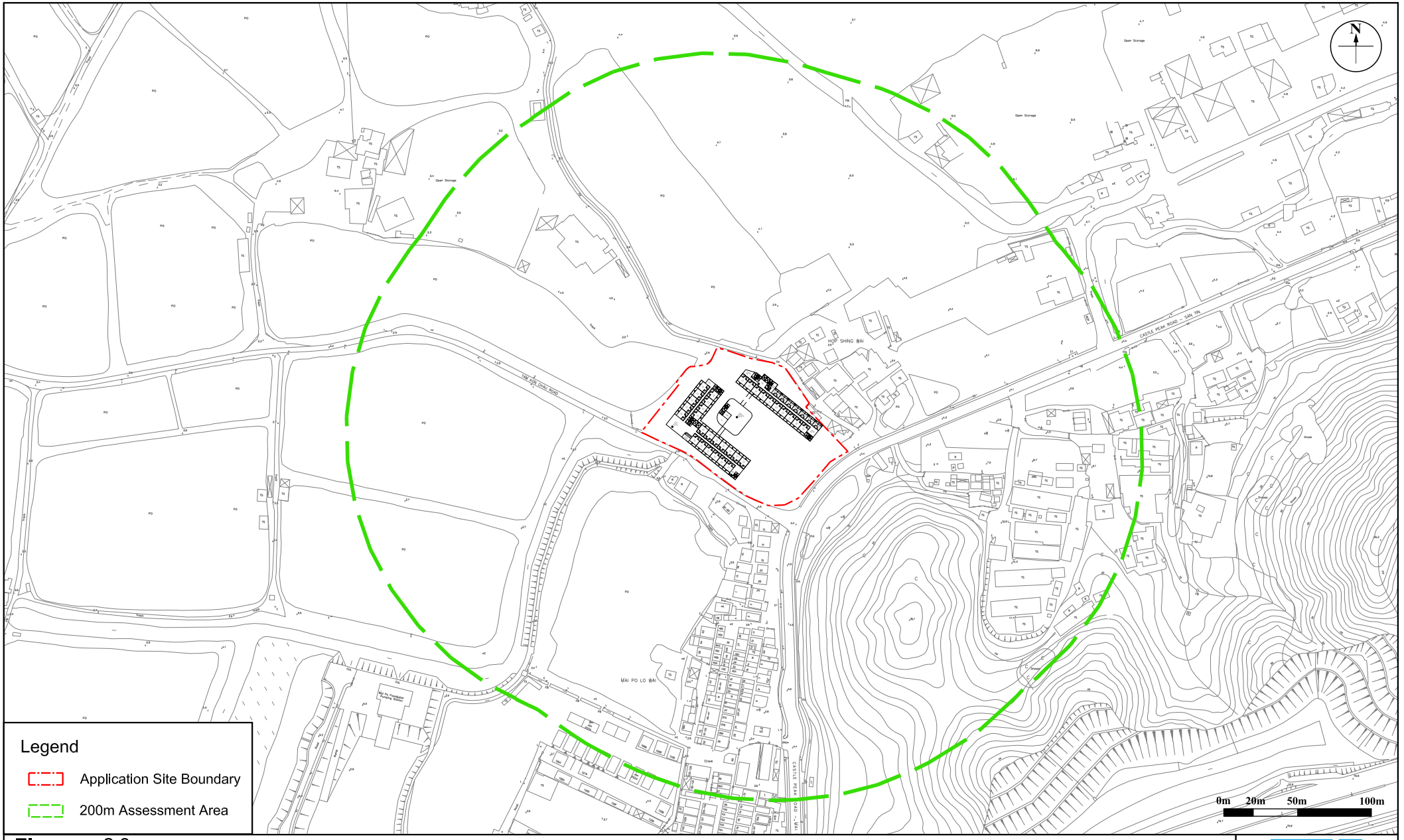

Figure: 2.3

Title: Assessment Area of Odour and Chimney Emission Source

RAMBOLL

Drawn by: EC

Checked by: HN

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

Rev.: 2.0

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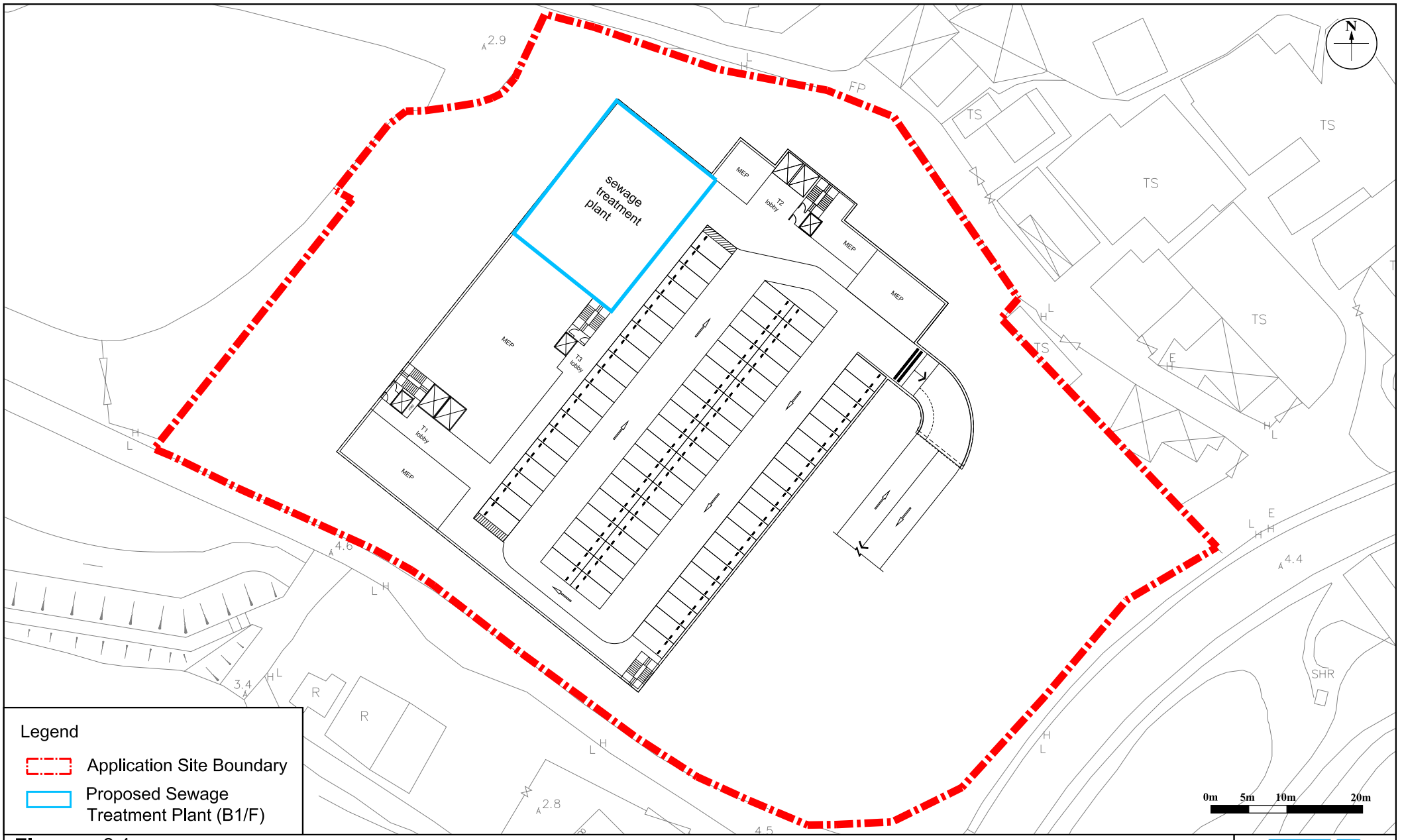

Figure: 2.4

Title: Location of Proposed Sewage Treatment Plant

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: Sep 2024

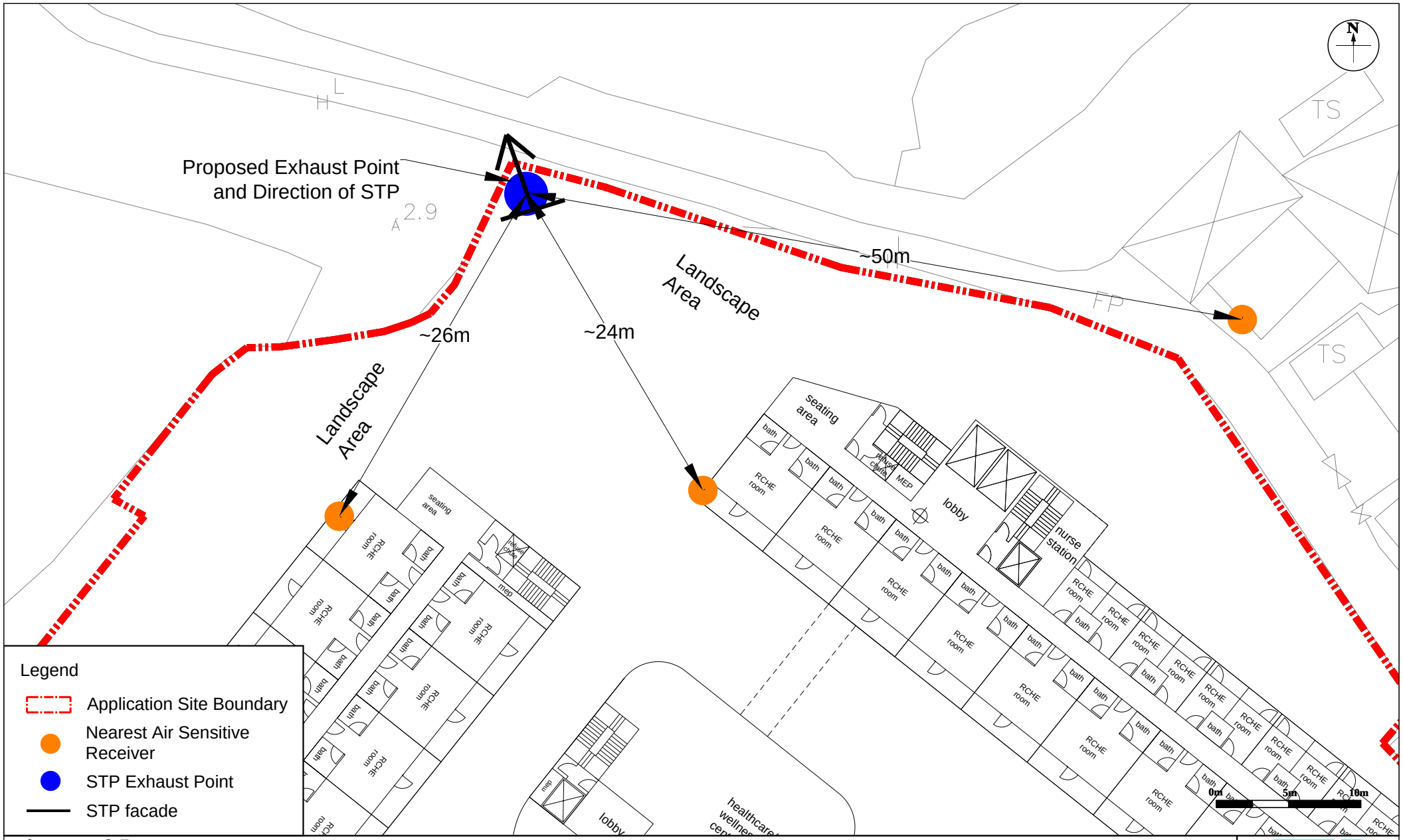

Figure: 2.5

Title: Proposed Exhaust Point Location for Sewage Treatment Plant

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: May 2025

Figure: 2.6

Title: Assessment Area for Industrial Emission

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: Sep 2024

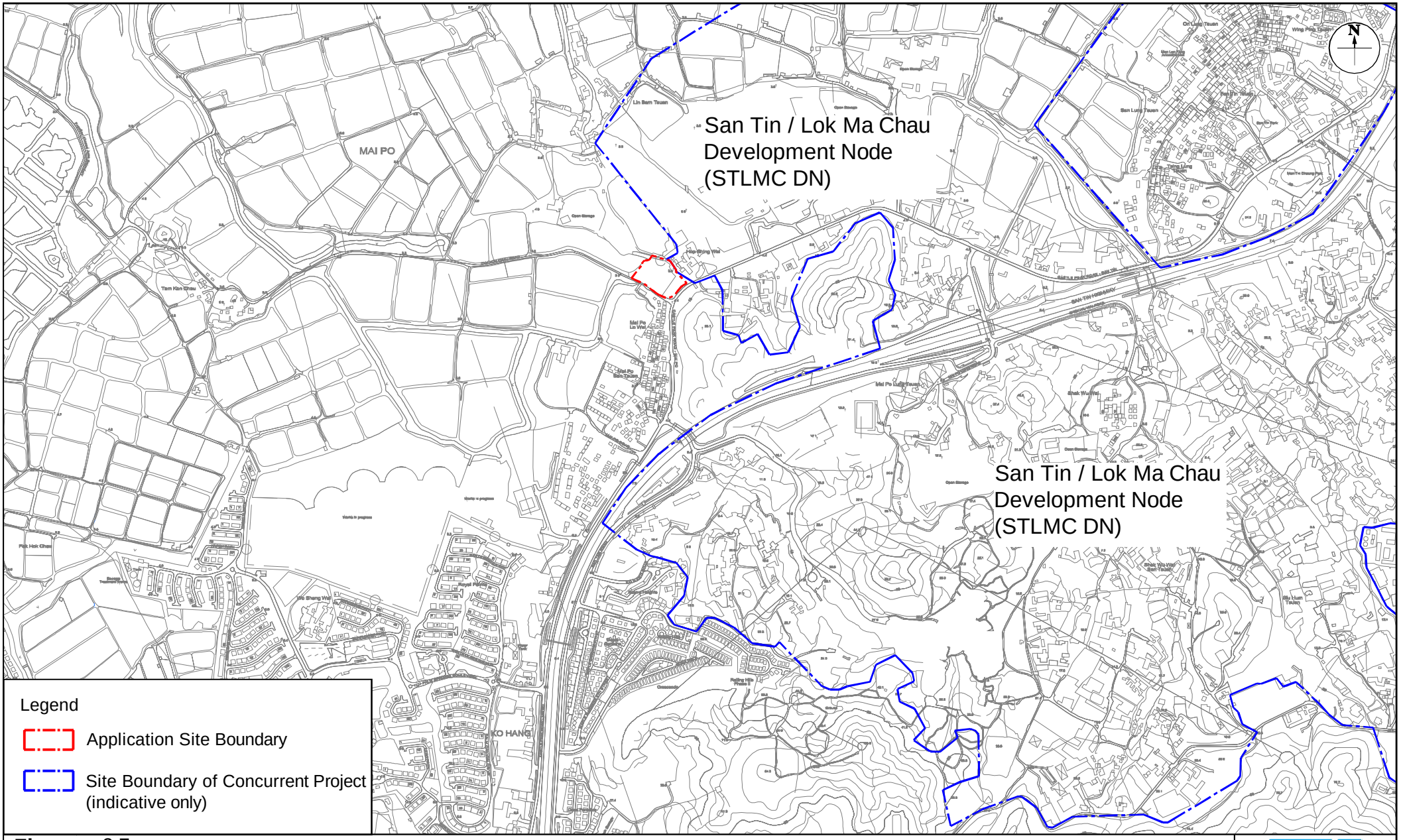

Figure: 2.7

Title: Locations of Concurrent Project and Proposed Development

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: CL

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Rev.: 3.0

Date: Apr 2025

Figure: 3.1

Title: Assessment Area for Traffic Noise Impact Assessment

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Rev.: 2.0

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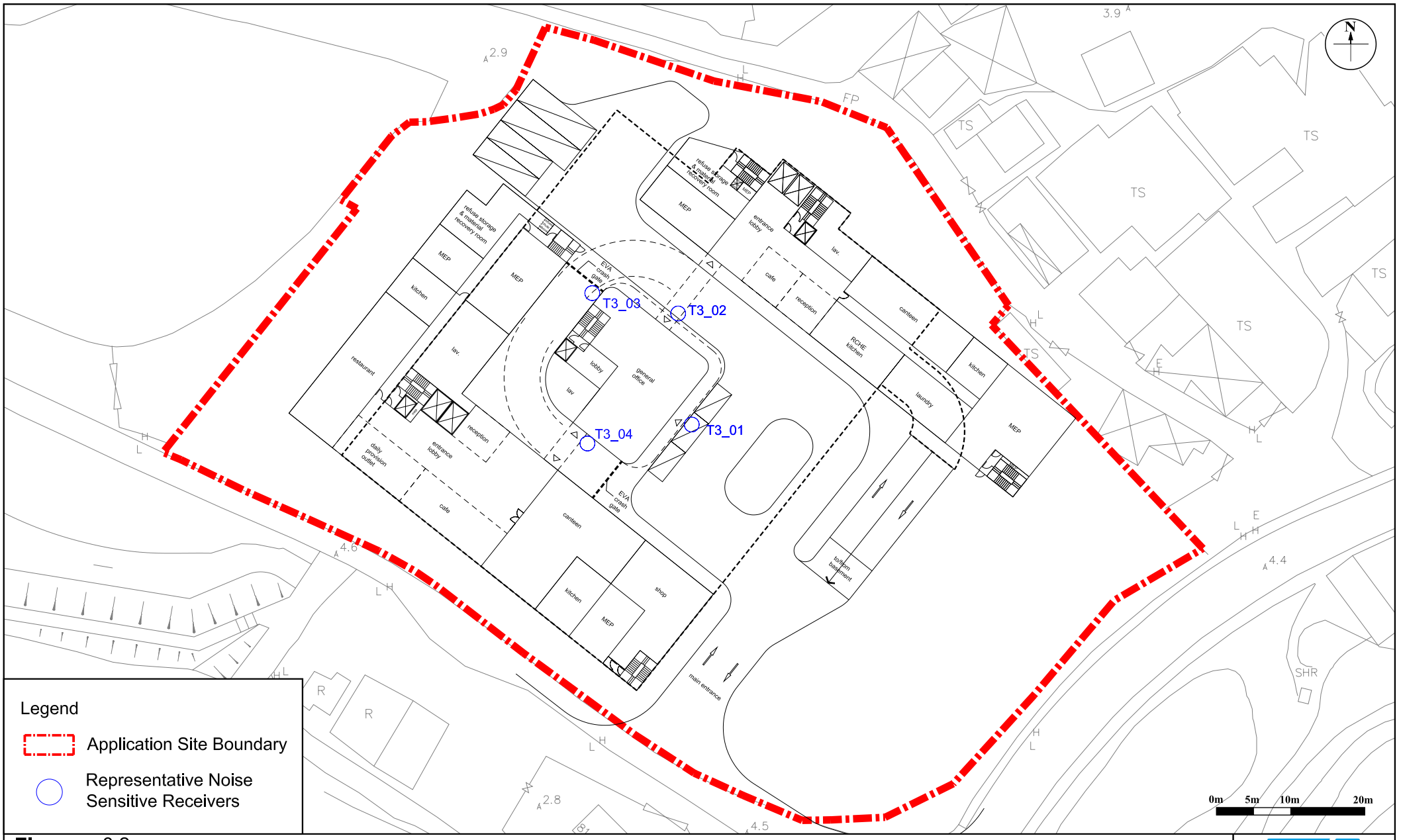

Figure: 3.2

Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (G/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

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Rev.: 2.0

Date: Sep 2024

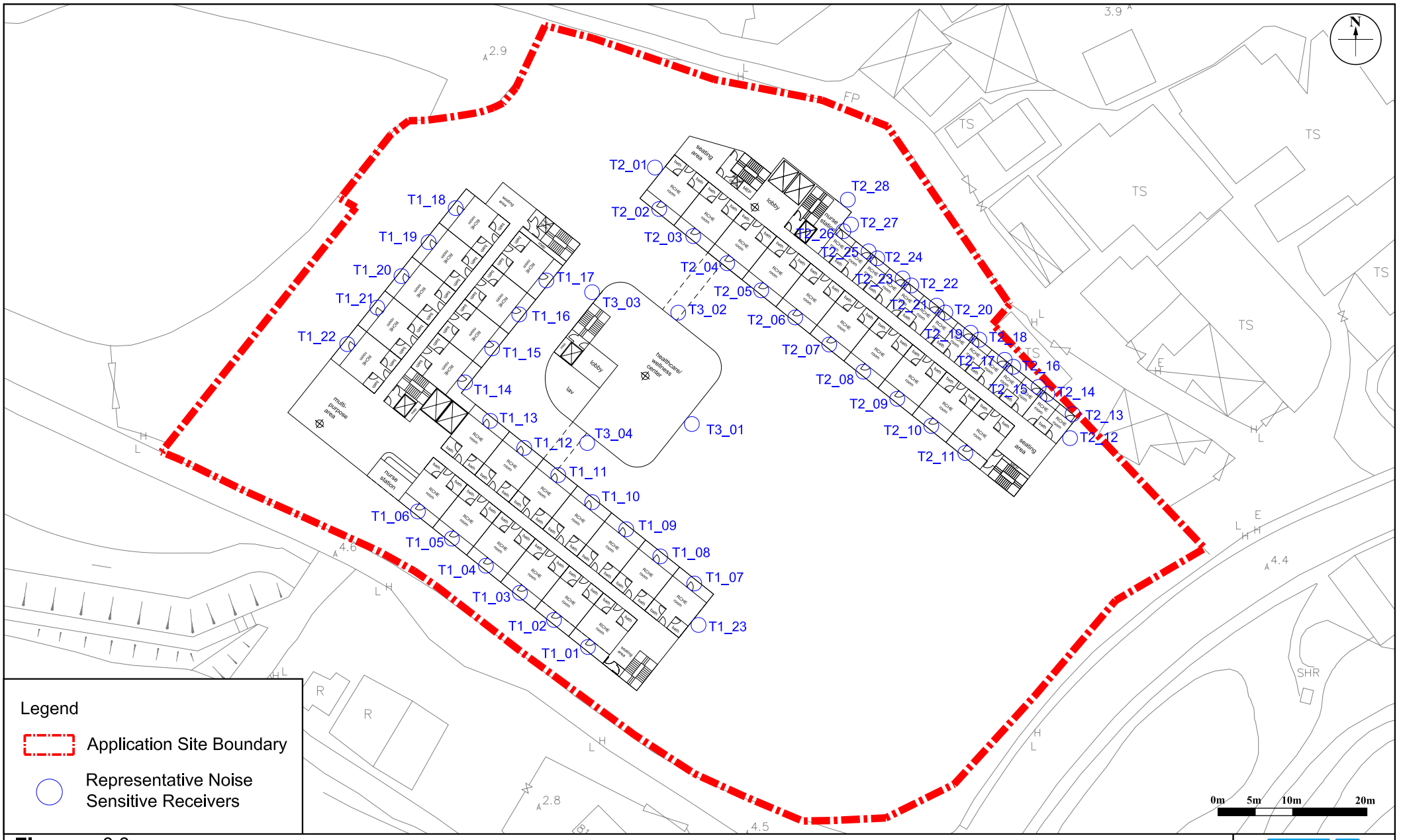

Figure: 3.3

Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (1/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: Sep 2024

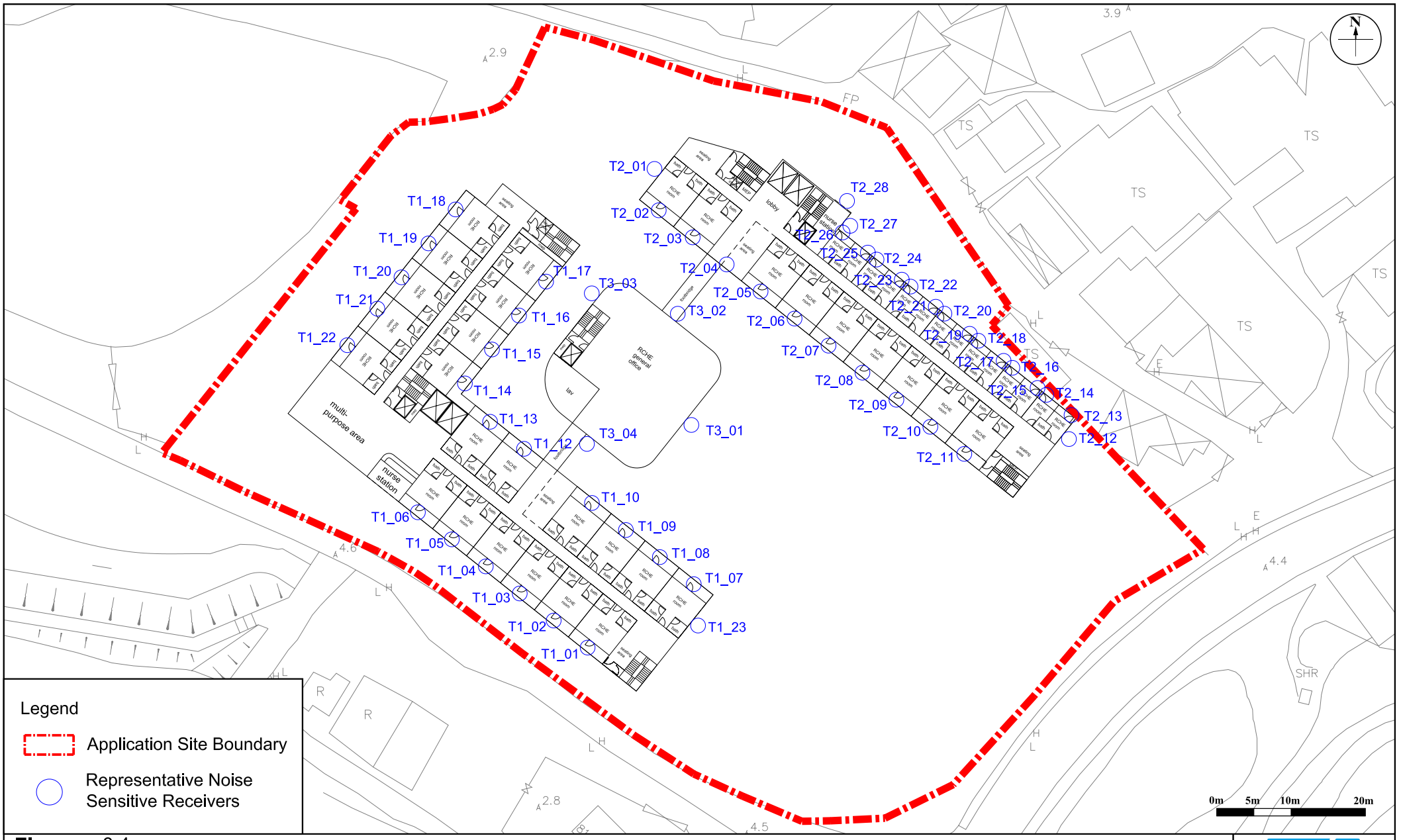

Figure: 3.4

Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (2/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: Sep 2024

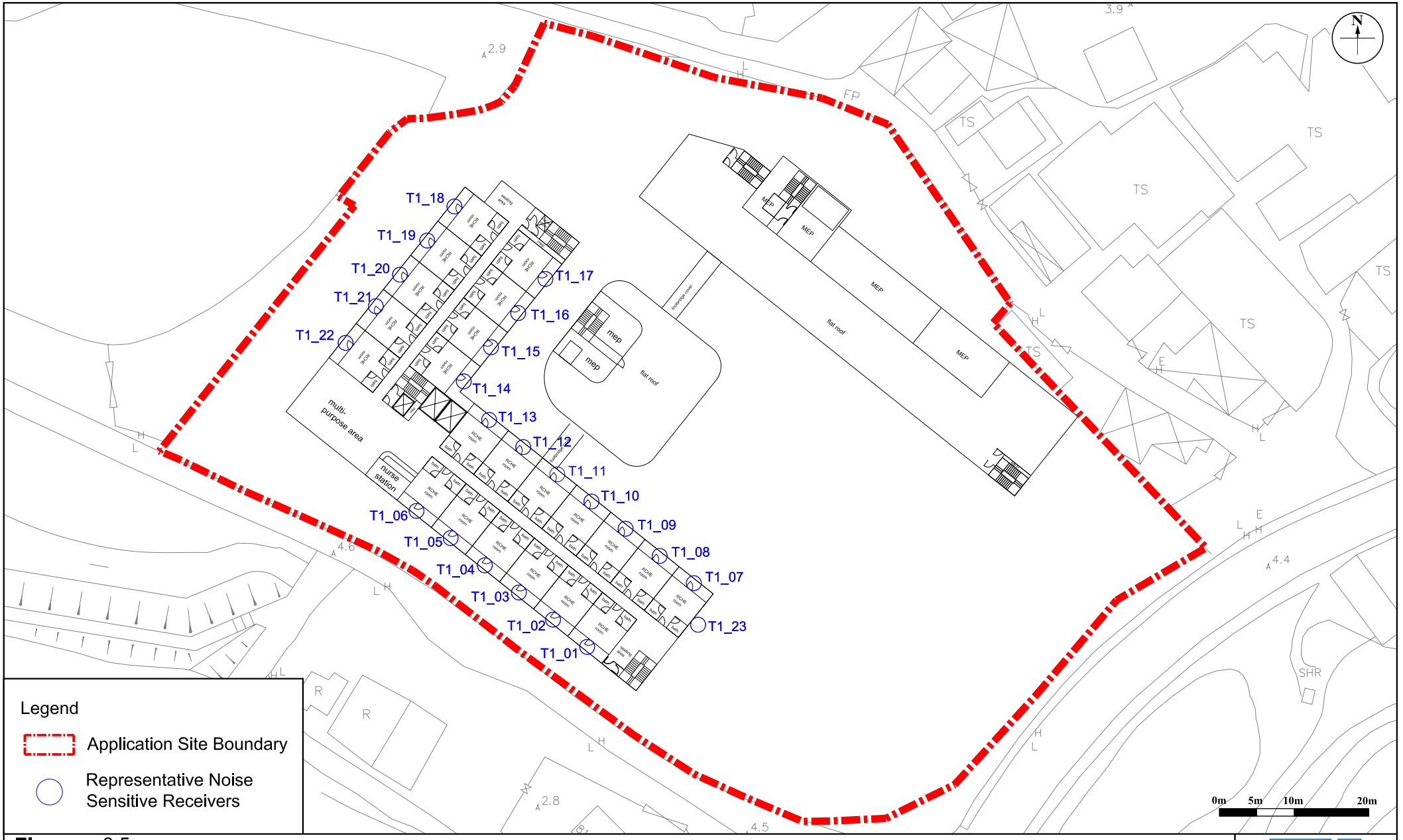

Figure: 3.5

Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (3/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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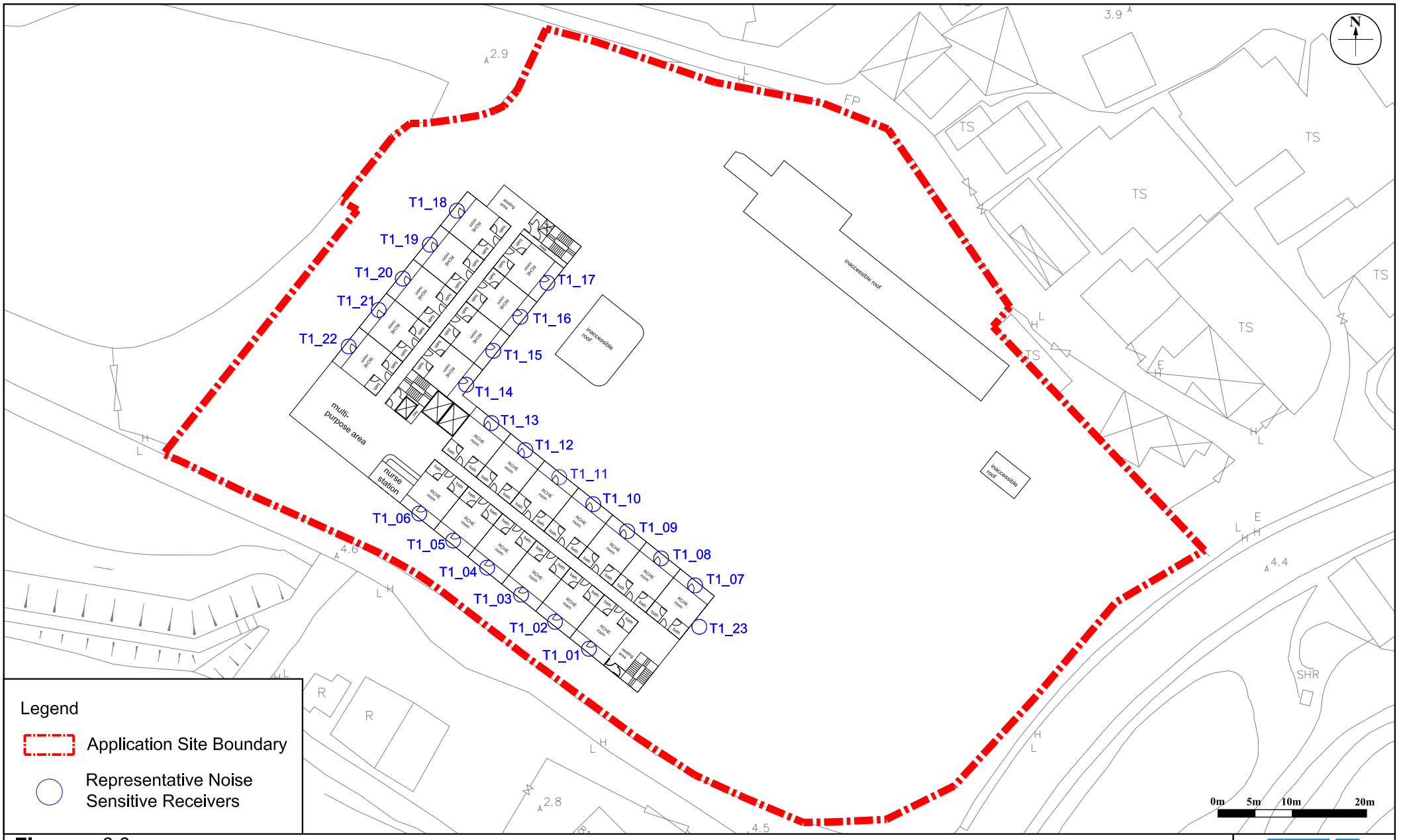

Figure: 3.6	RAMBOLL
Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (4/F)	Drawn by: EC
	Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 2.0
	Date: Sep 2024

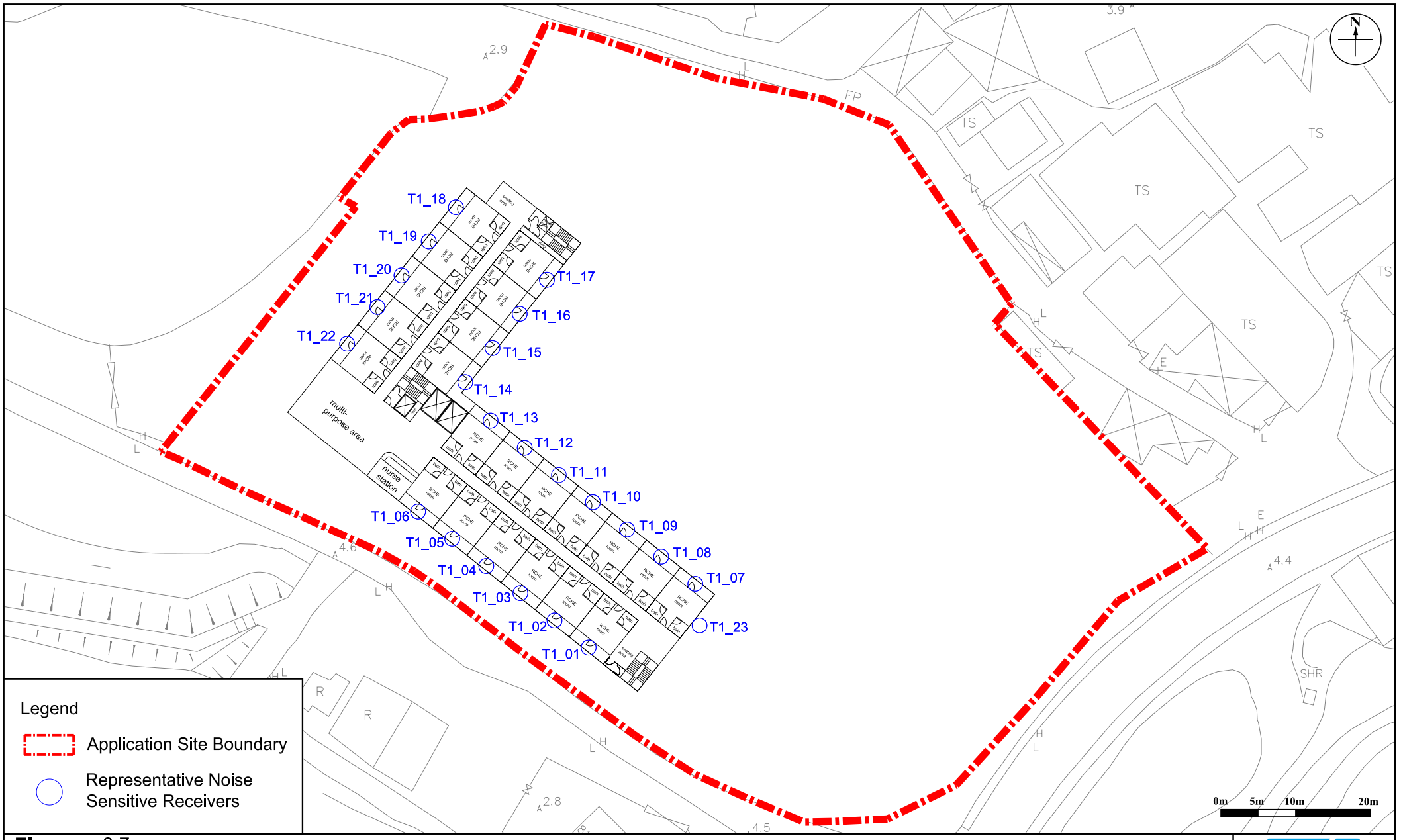

Figure: 3.7

Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (5-7/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

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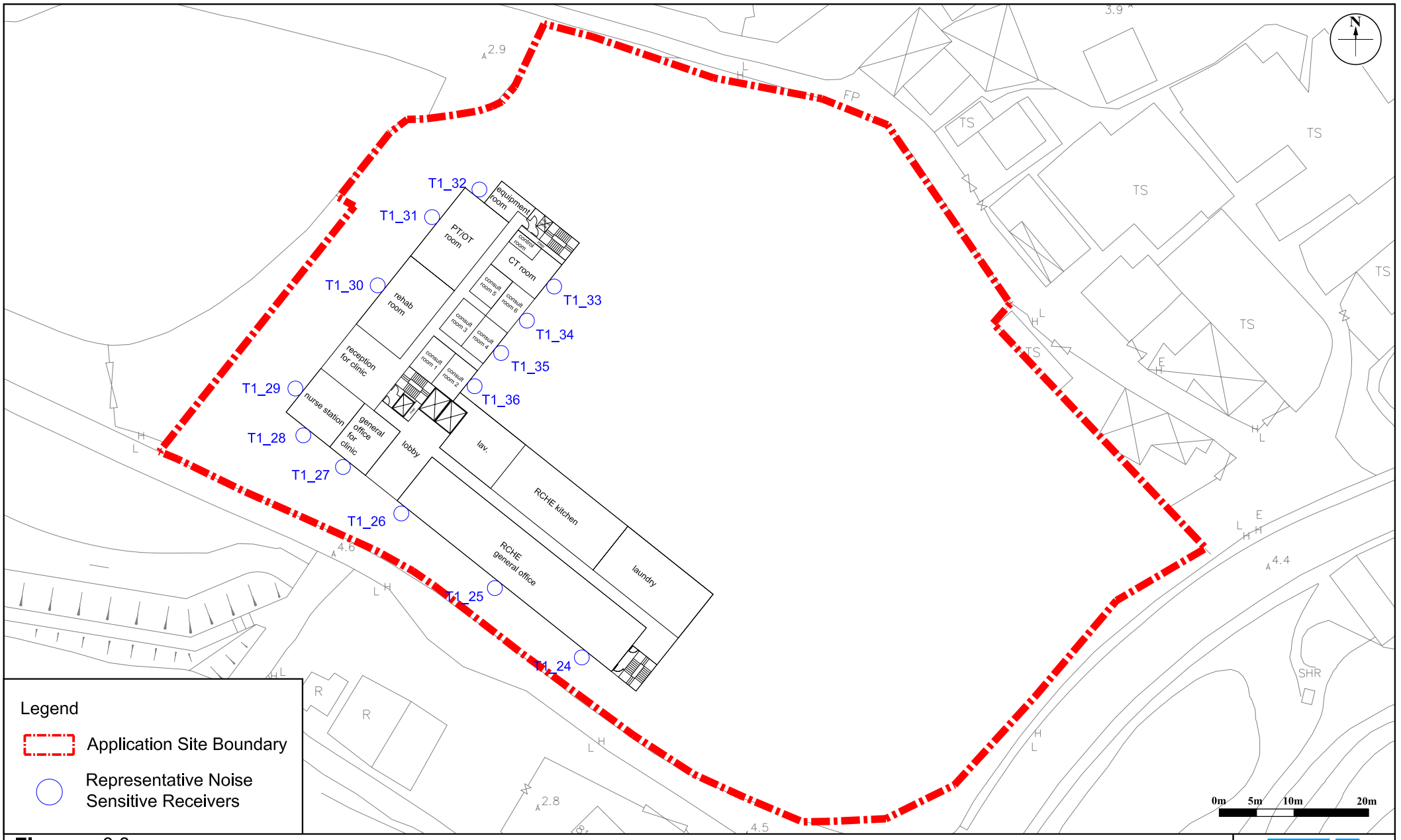

Figure: 3.8

Title: Representative Noise Sensitive Receivers for Traffic Noise Impact Assessment (8/F)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

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Date: Sep 2024

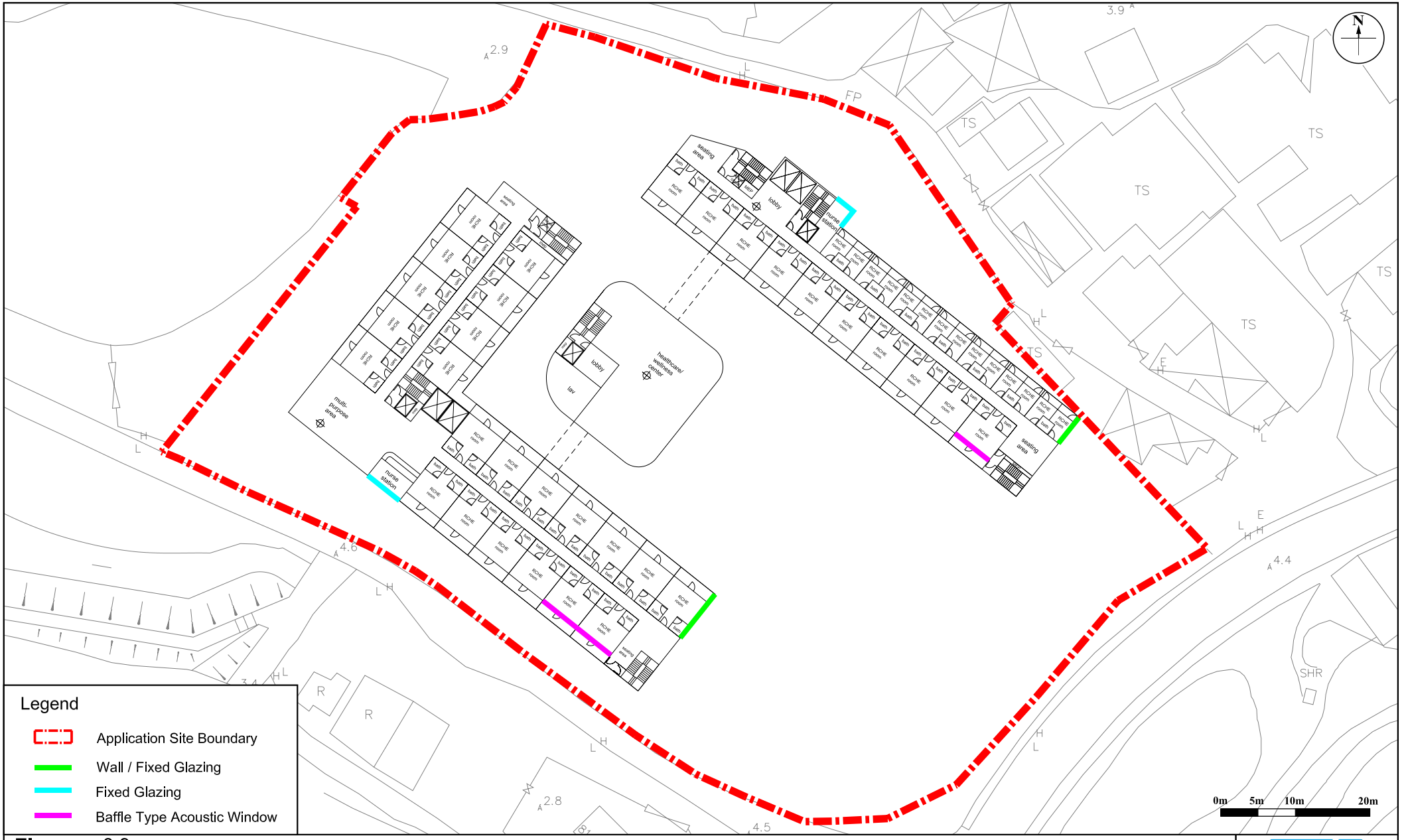

Figure: 3.9

Title: Proposed Noise Mitigation Measures for 1/F

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

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Rev.: 2.0

Date: Sep 2024

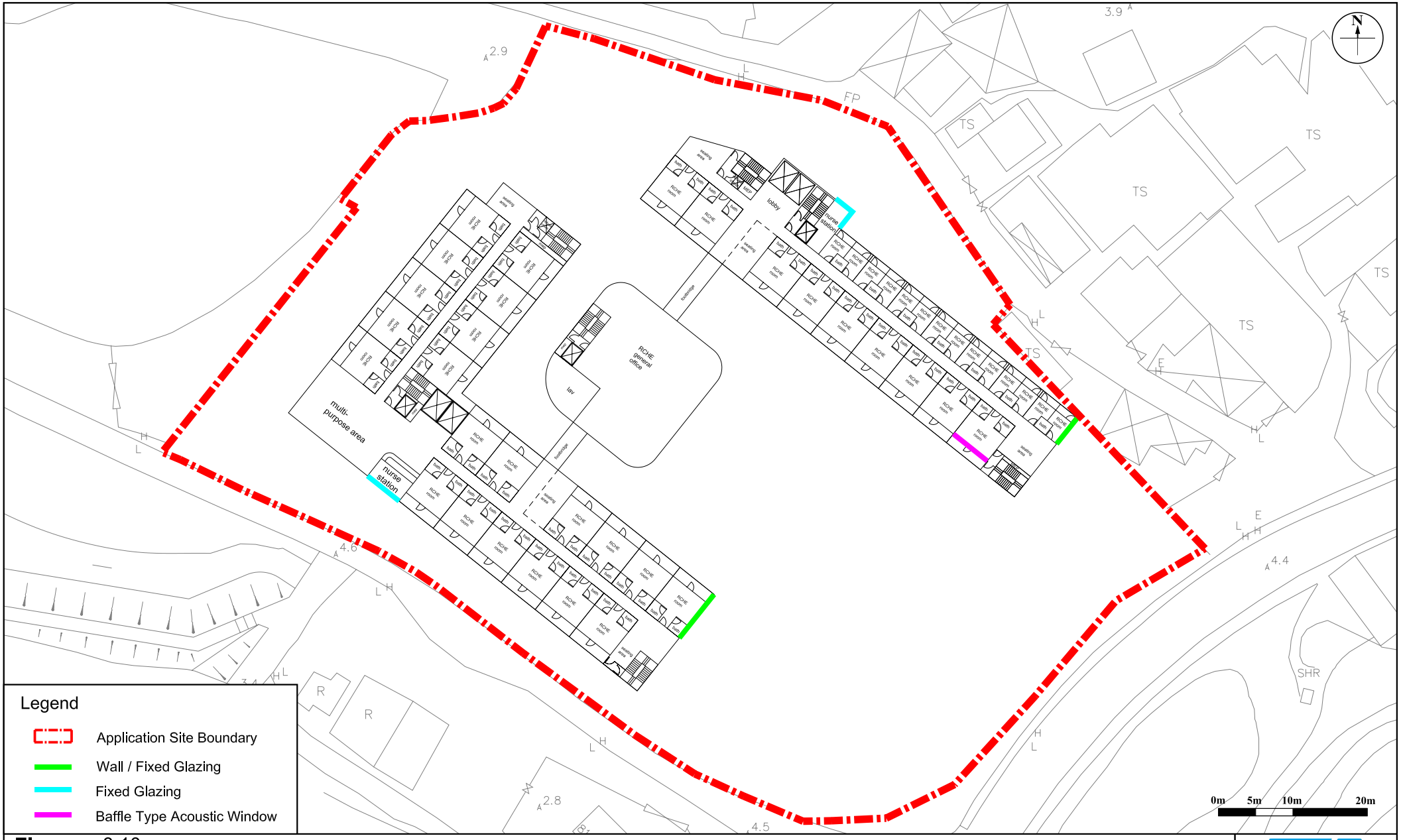

Figure: 3.10

Title: Proposed Noise Mitigation Measures for 2/F

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

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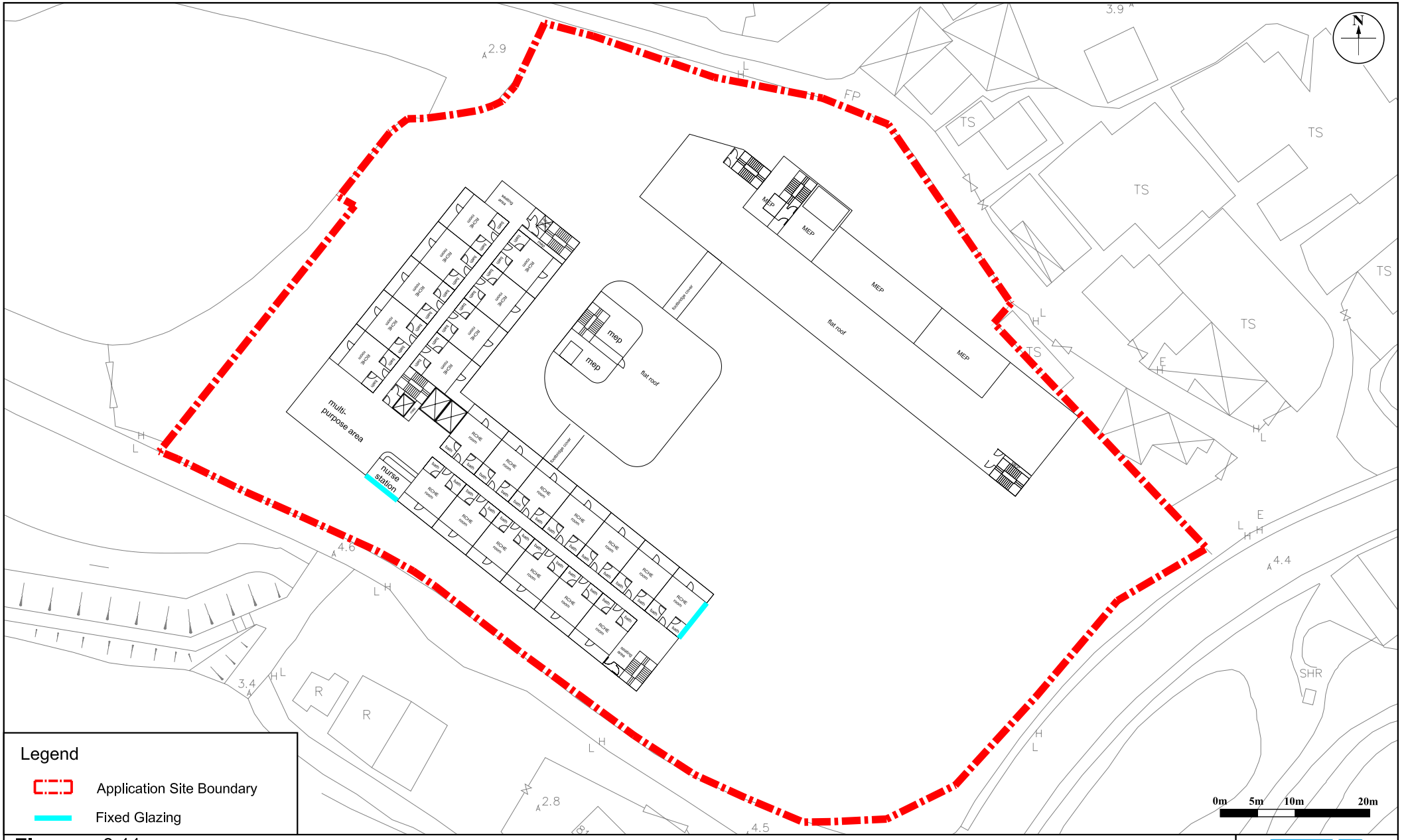

Figure: 3.11

Title: Proposed Noise Mitigation Measures for 3/F

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

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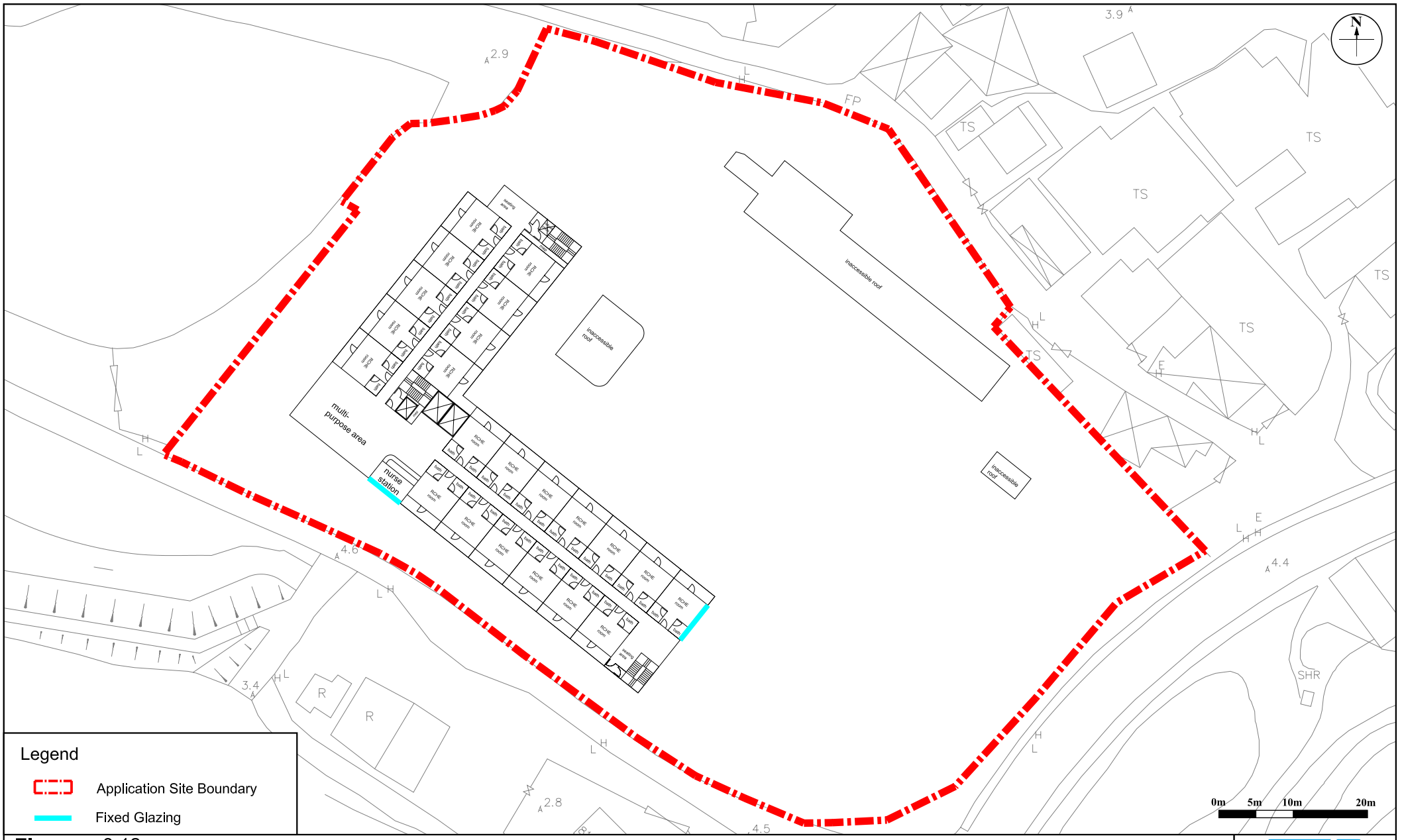

Figure: 3.12

Title: Proposed Noise Mitigation Measures for 4/F

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

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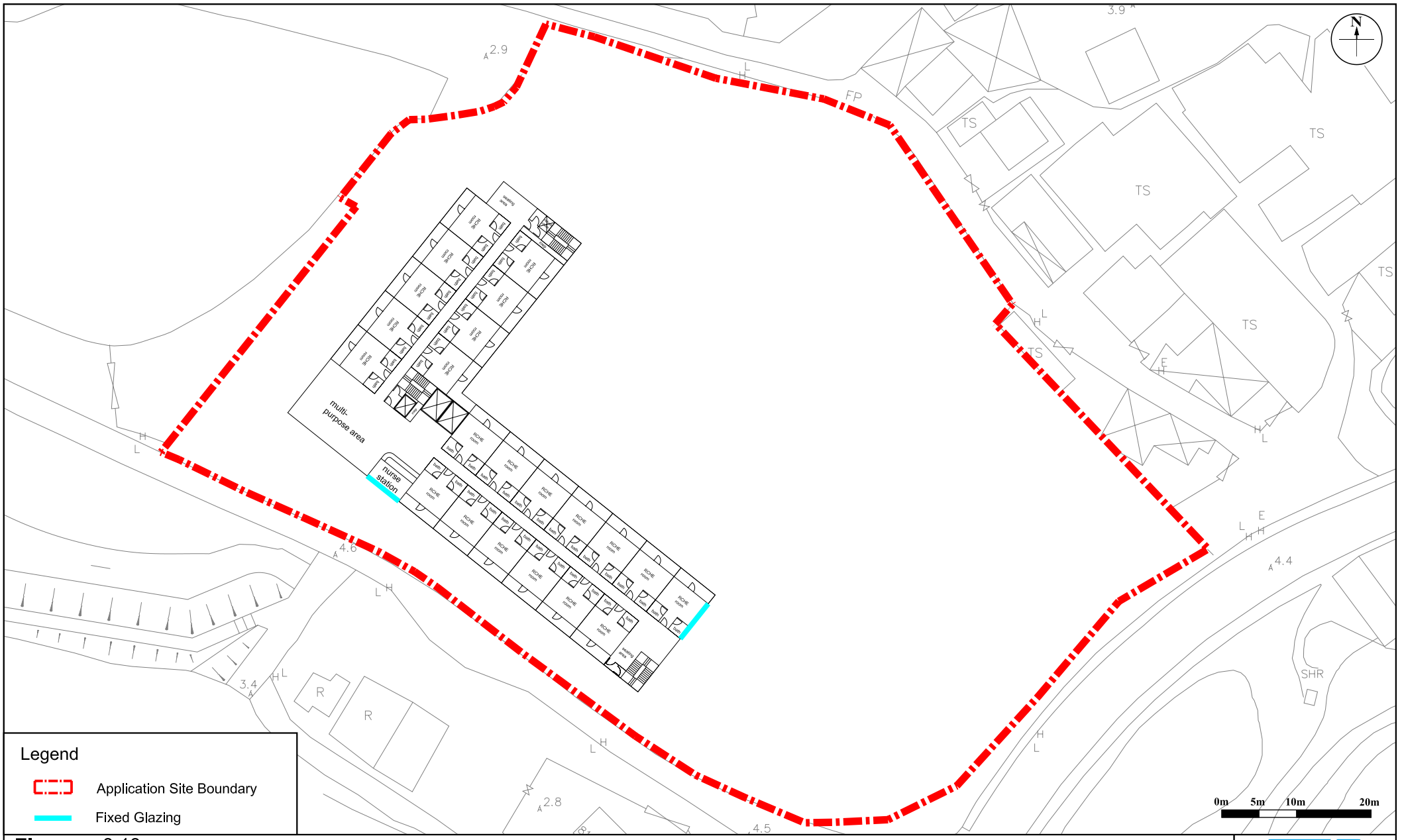


Figure: 3.13

Title: Proposed Noise Mitigation Measures for 5-7/F

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

Date: Sep 2024

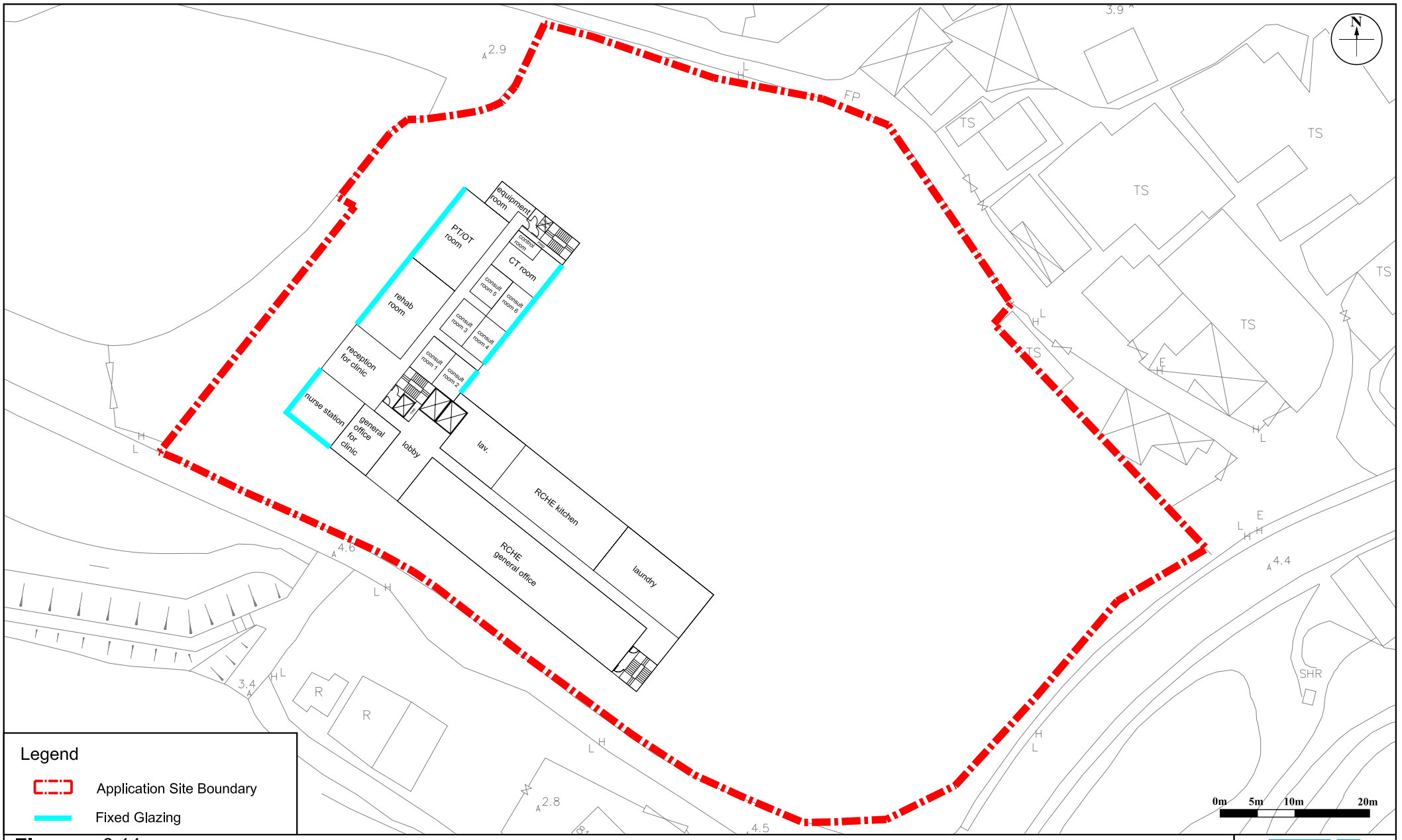


Figure: 3.14

Title: Proposed Noise Mitigation Measures for 8/F

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

Date: Sep 2024

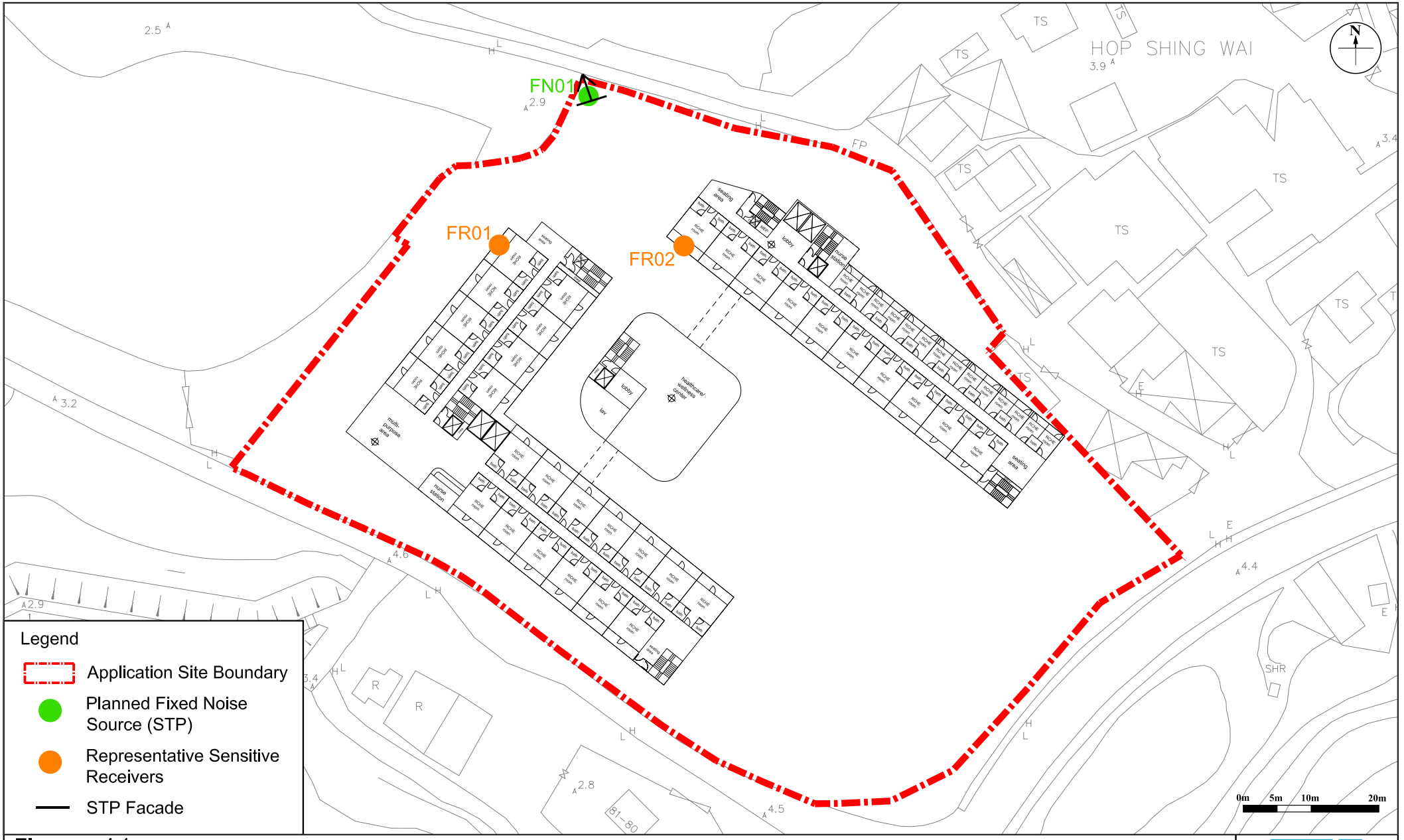


Figure: 4.1

Title: Location of Industrial Noise Source and Representative NSRs

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: EC

Checked by: HN

Rev.: 2.0

Date: Sep 2024

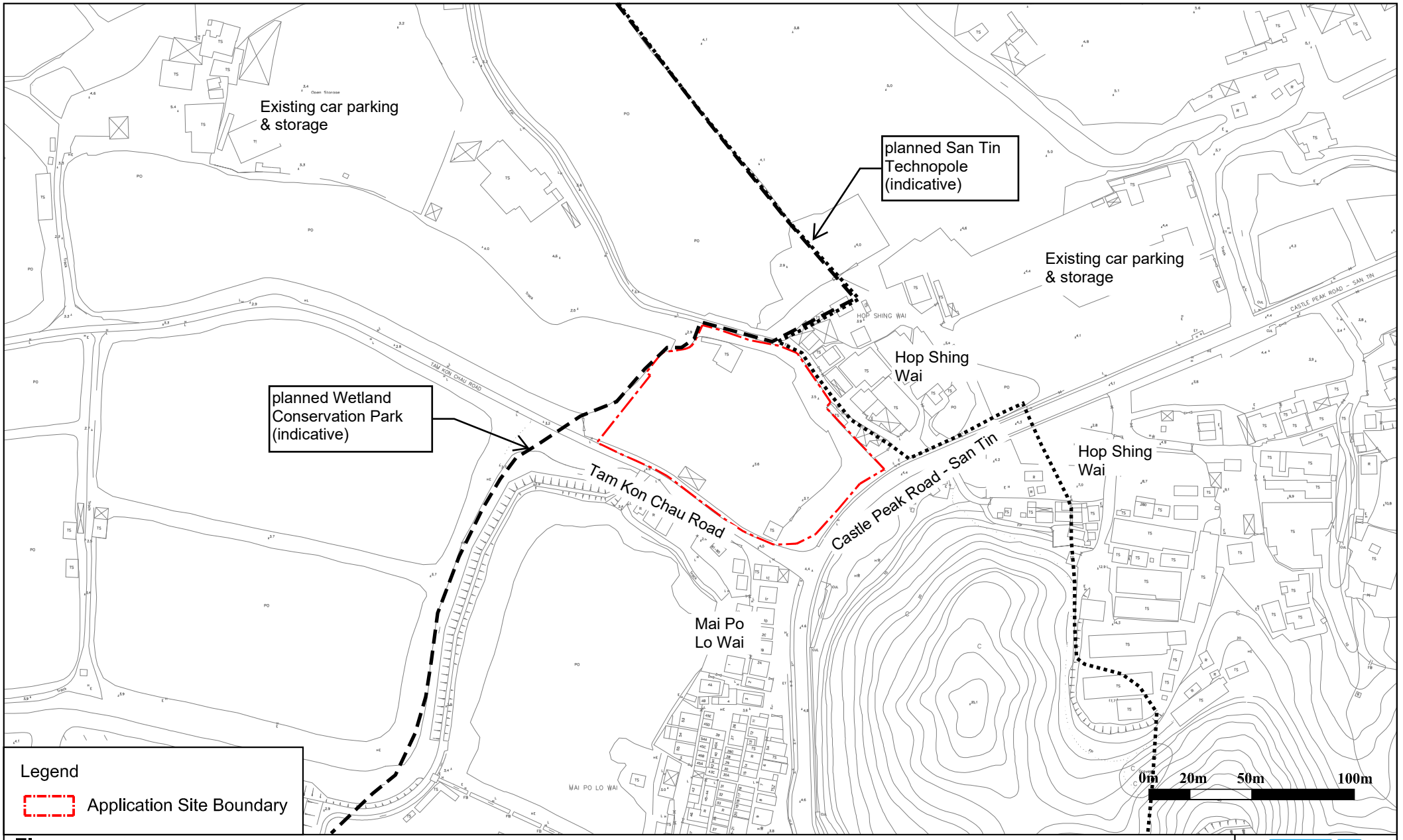


Figure: 4.2

Title: Application Site and Its Surrounding Environs

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

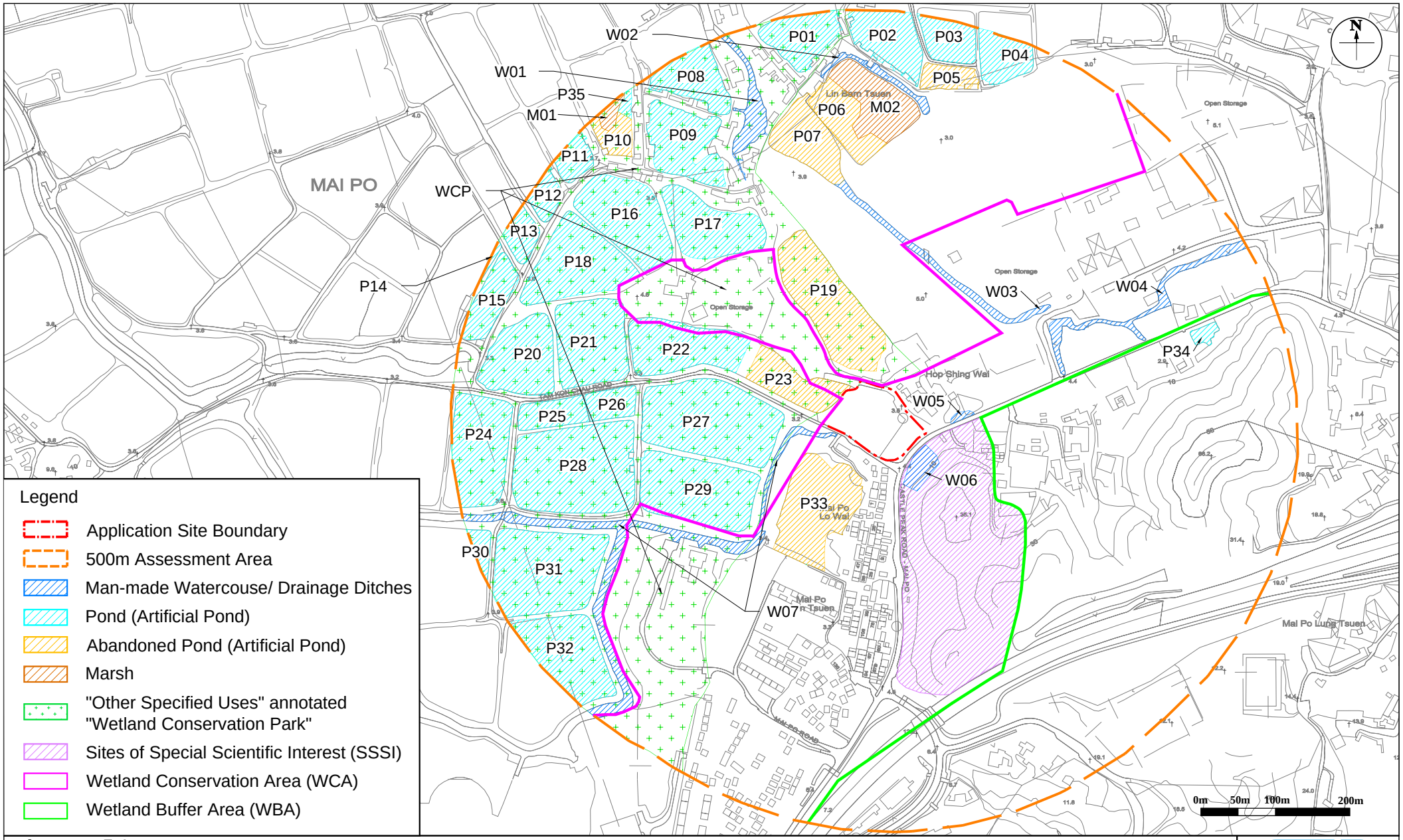
RAMBOLL

Drawn by: JW

Checked by: HN

Rev.: 1.0

Date: Mar 2024



Legend

- Application Site Boundary
- 500m Assessment Area
- Man-made Watercouse/ Drainage Ditches
- Pond (Artificial Pond)
- Abandoned Pond (Artificial Pond)
- Marsh
- "Other Specified Uses" annotated "Wetland Conservation Park"
- Sites of Special Scientific Interest (SSSI)
- Wetland Conservation Area (WCA)
- Wetland Buffer Area (WBA)

Figure: 5.1

Title: Location of Water Sensitive Receivers

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: CL

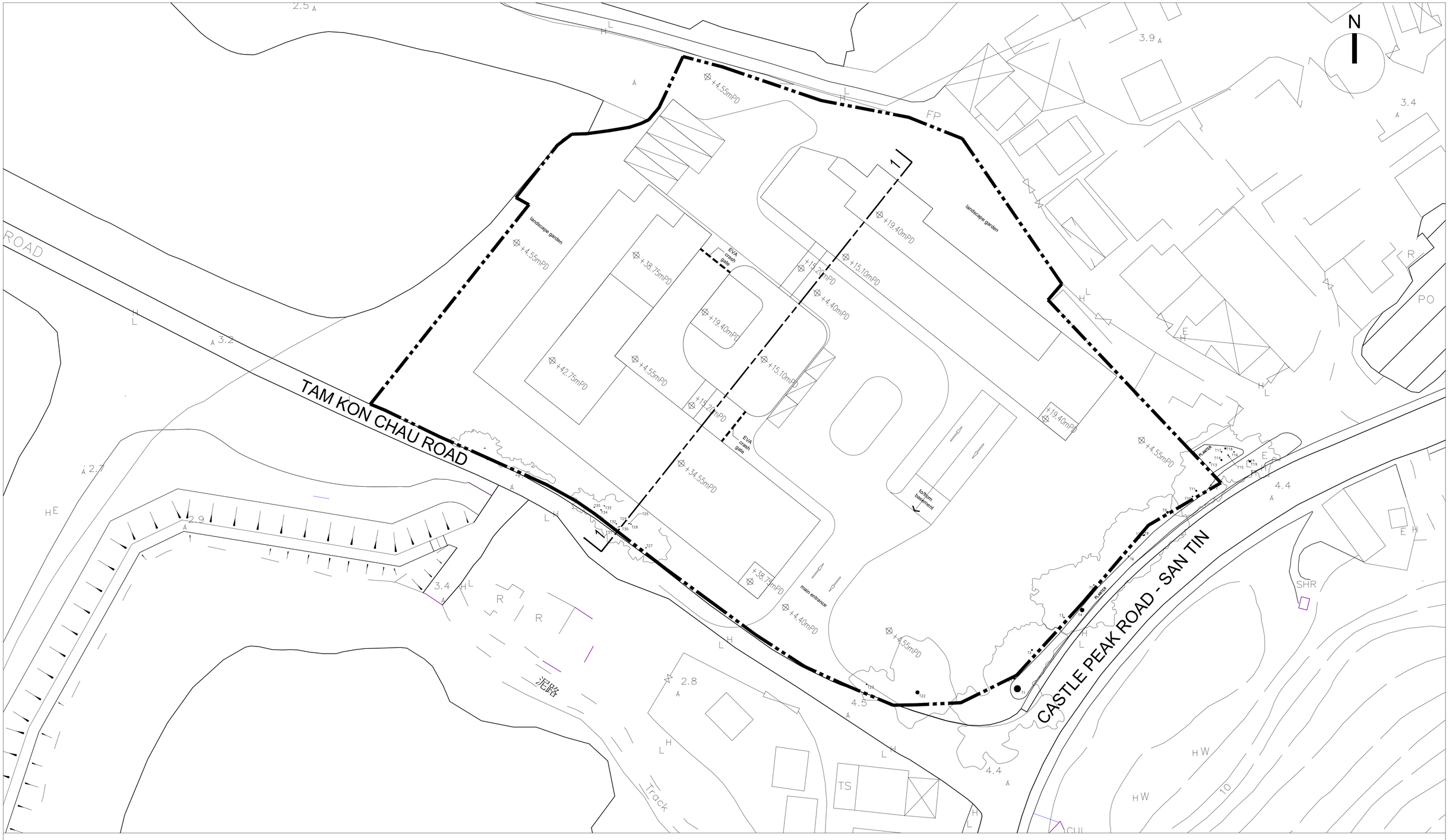
Checked by: HN

Rev.: 4.1

Date: Jun 2025

Appendix 1.1

Master Layout Plan



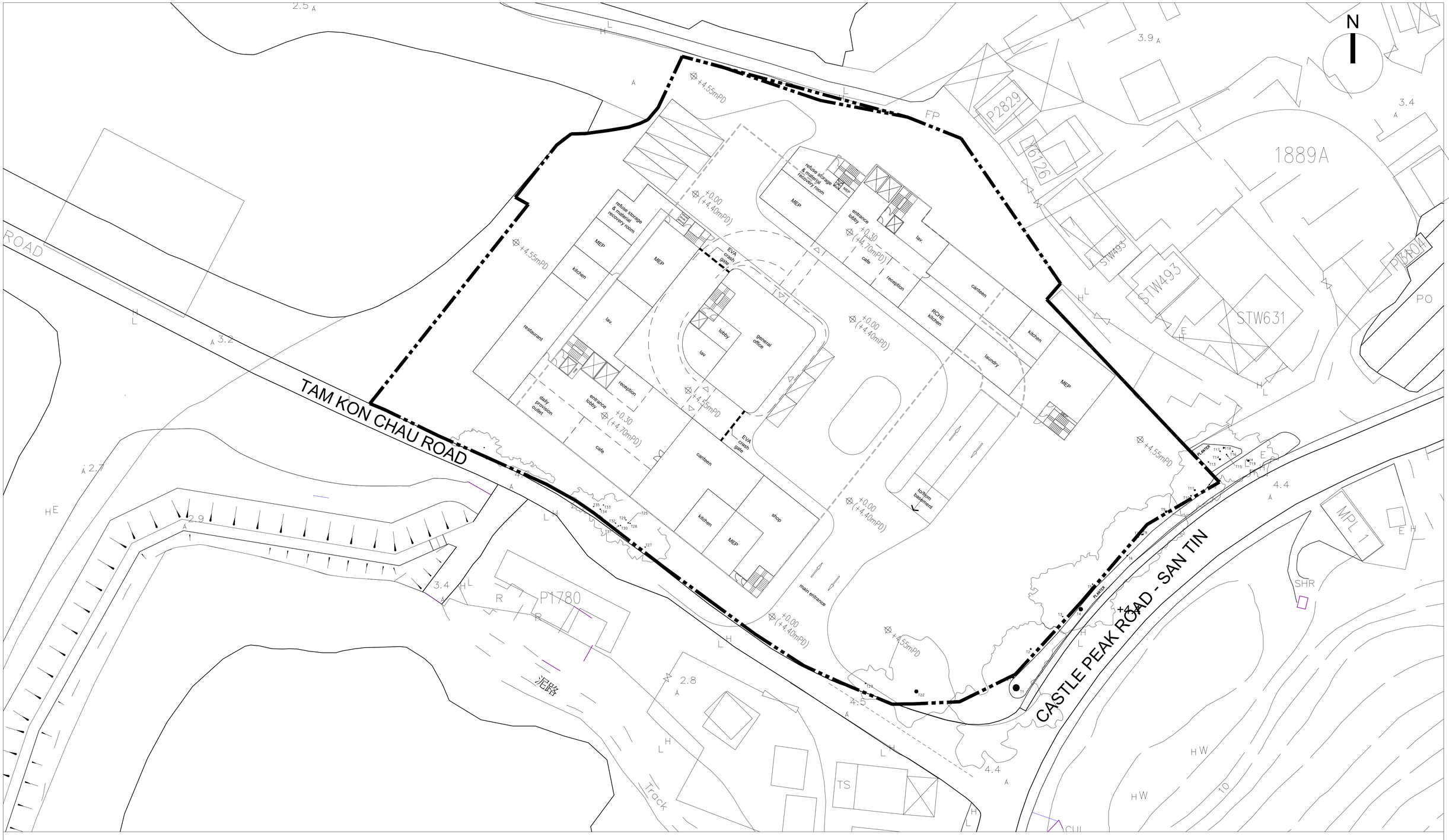
LEGEND

- APPLICATION SITE
- BASEMENT OUTLINE

MASTER LAYOUT PLAN

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-1



GROUND FLOOR PLAN

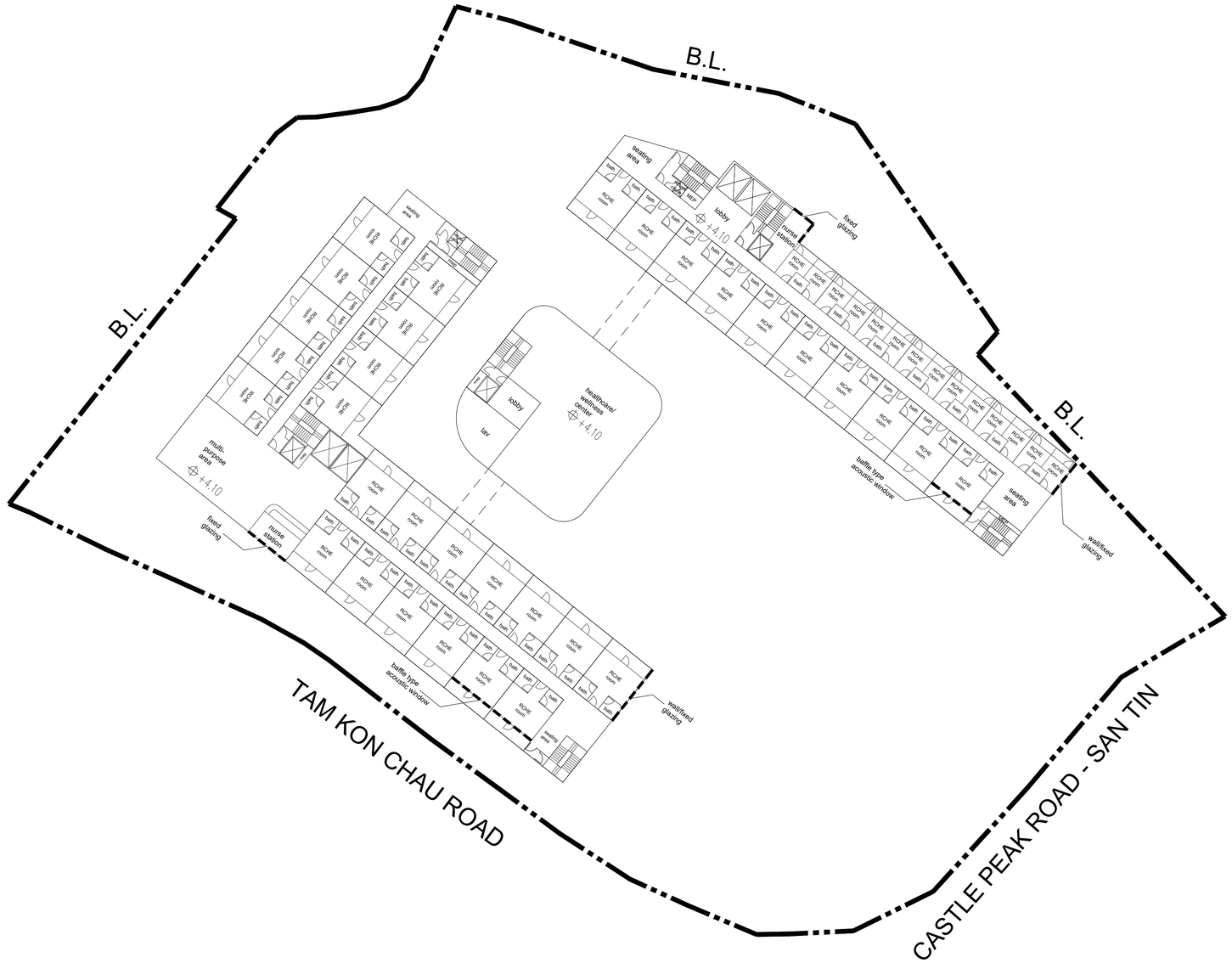
LEGEND

- APPLICATION SITE
- BASEMENT OUTLINE

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-3

N



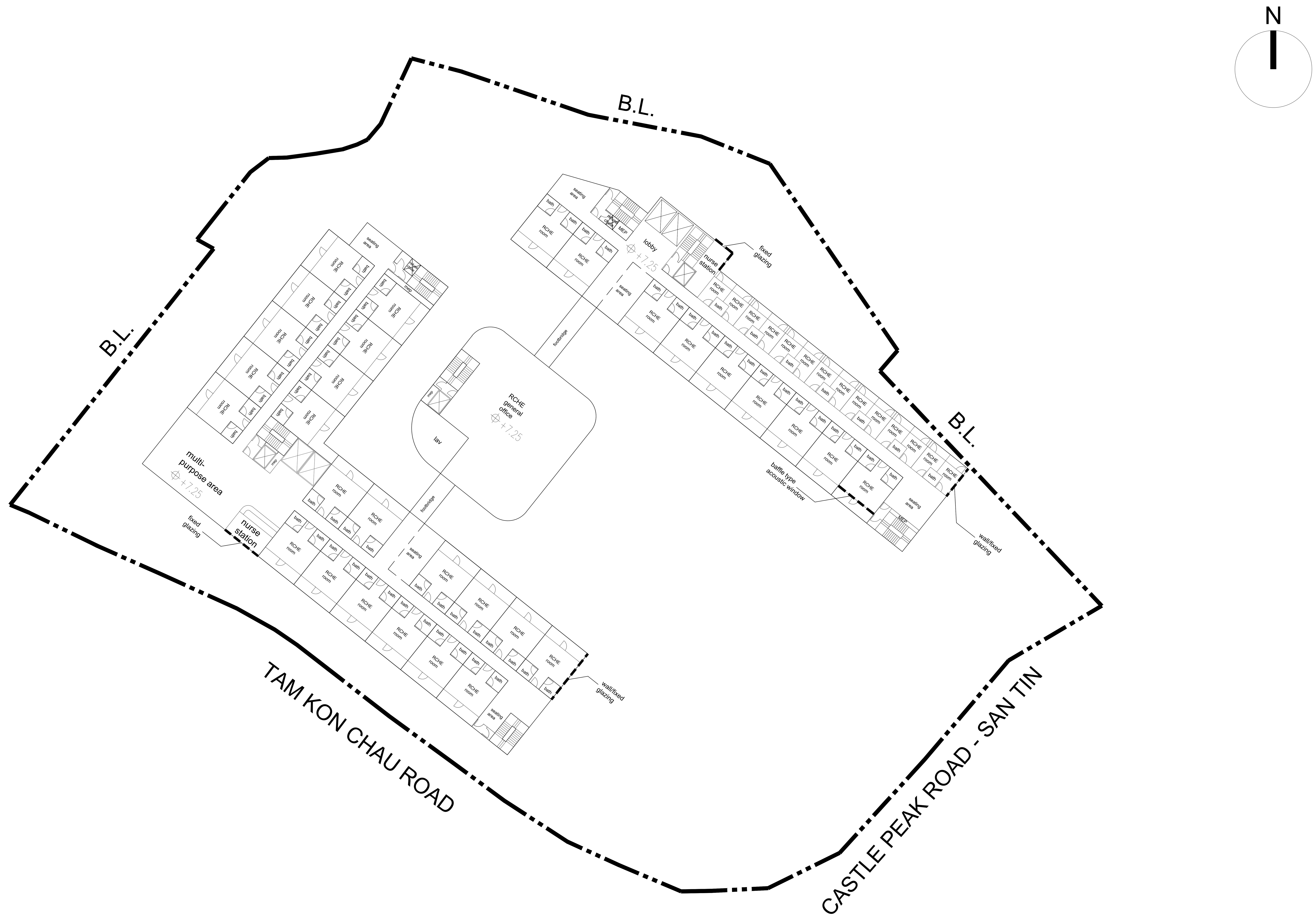
LEGEND

APPLICATION SITE

1ST FLOOR PLAN

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-4



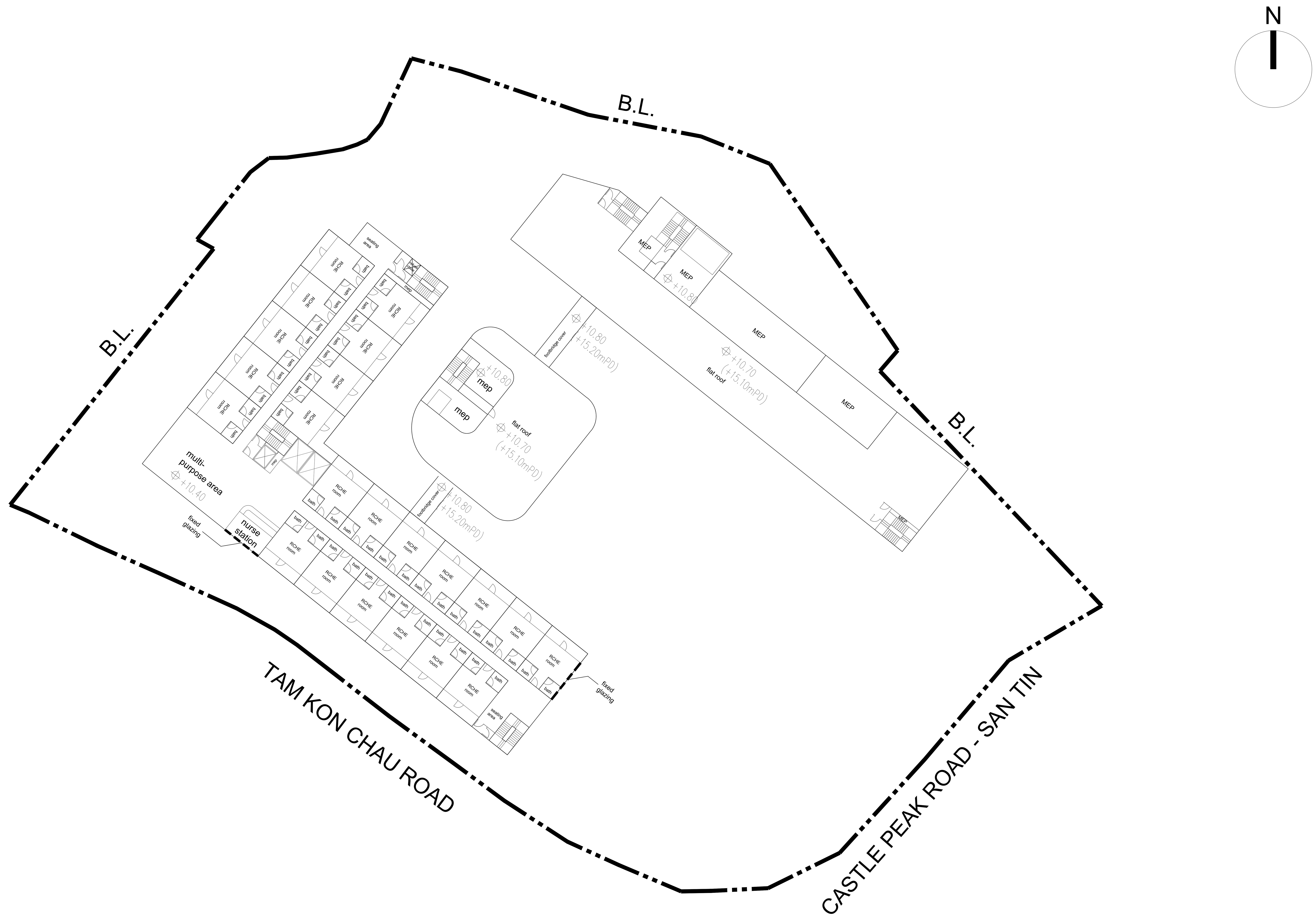
LEGEND

APPLICATION SITE

2TH FLOOR PLAN

LWK
+PARTNERS

参考編號 REFERENCE No.	繪圖 DRAWING A-5



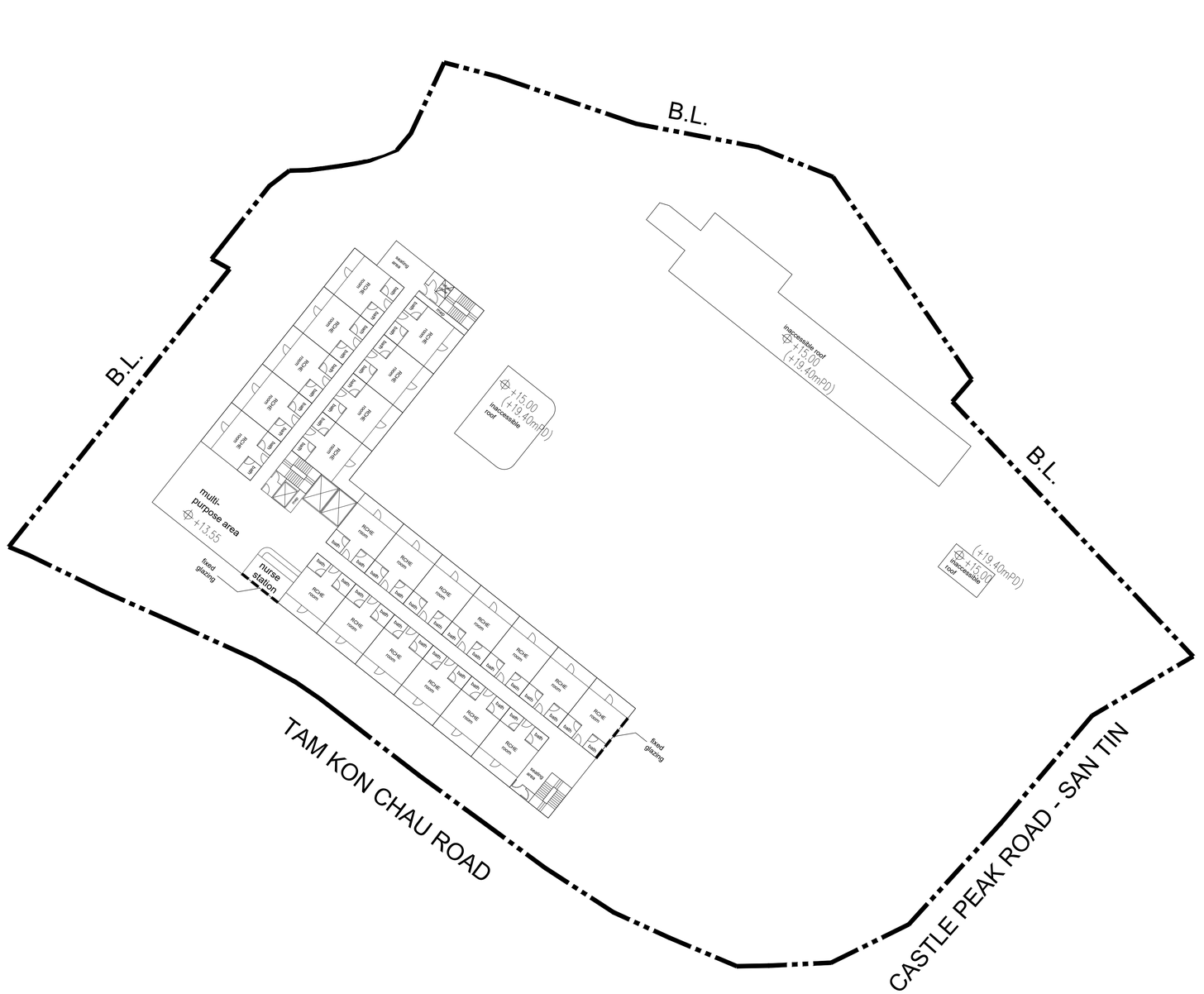
LEGEND

APPLICATION SITE

3TH FLOOR PLAN

LWK +PARTNERS

参考編號 REFERENCE No.	繪圖 DRAWING A-6



LEGEND

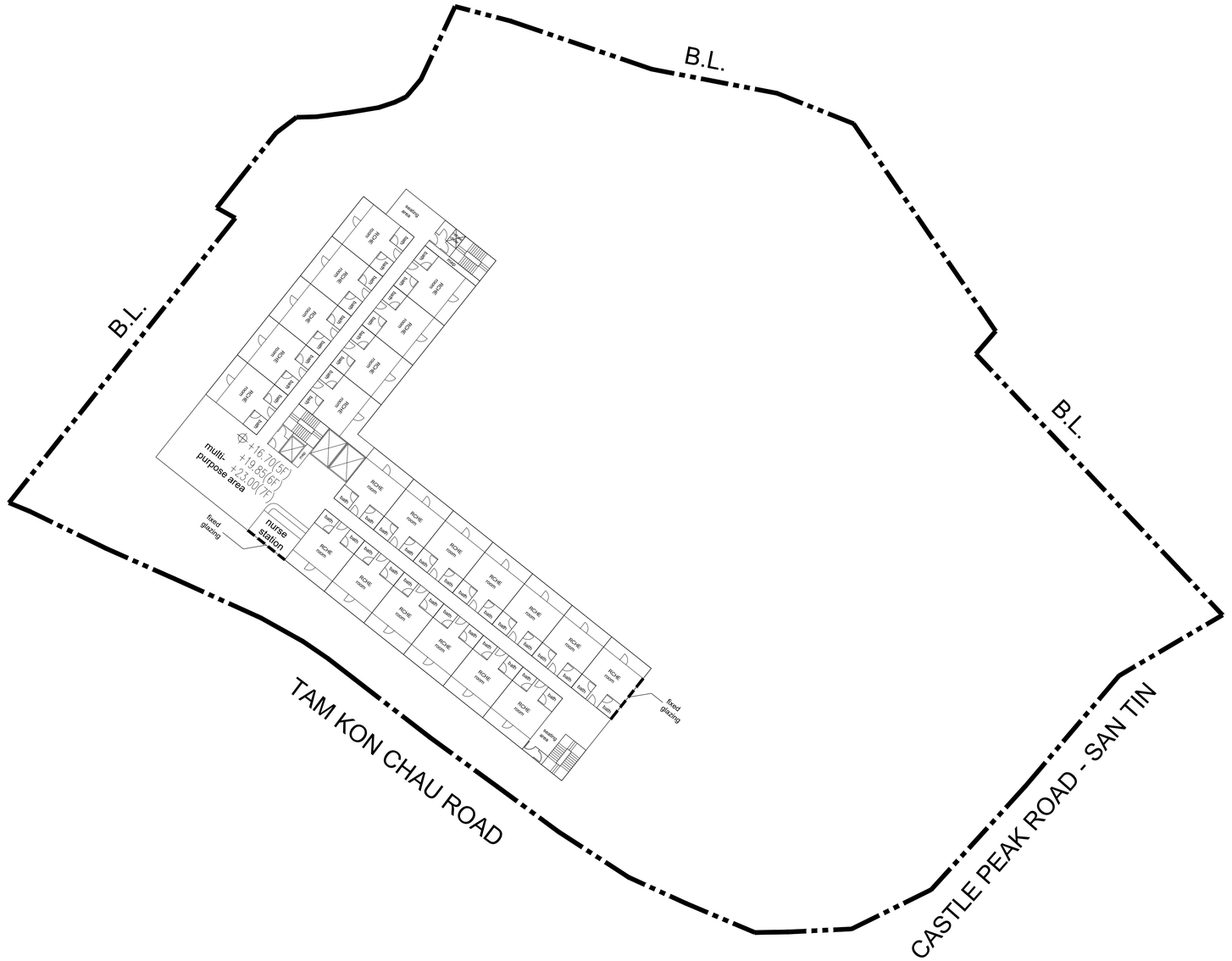
APPLICATION SITE

4TH FLOOR PLAN

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-7

N



LEGEND

APPLICATION SITE

5TH-7TH FLOOR PLAN

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-8

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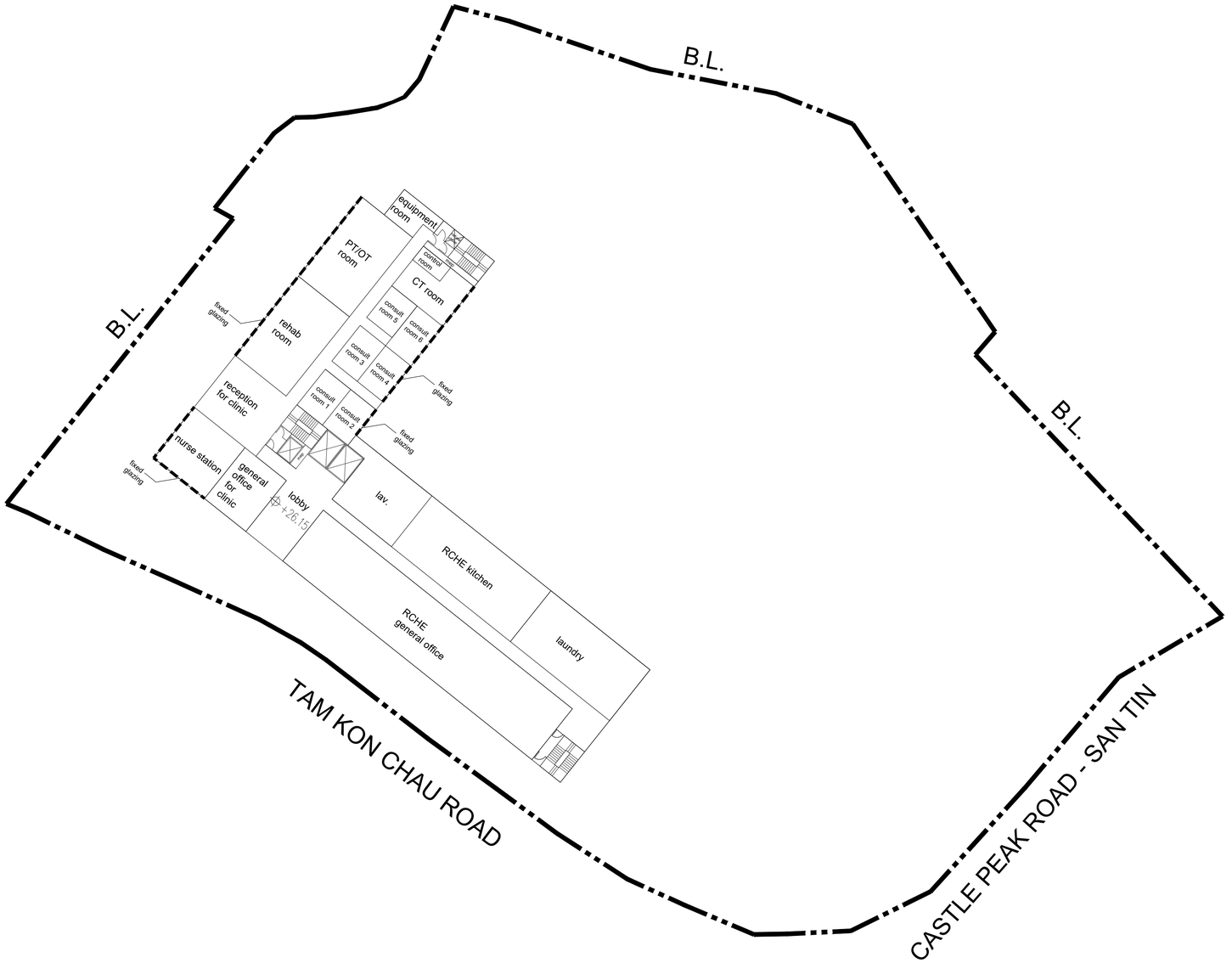


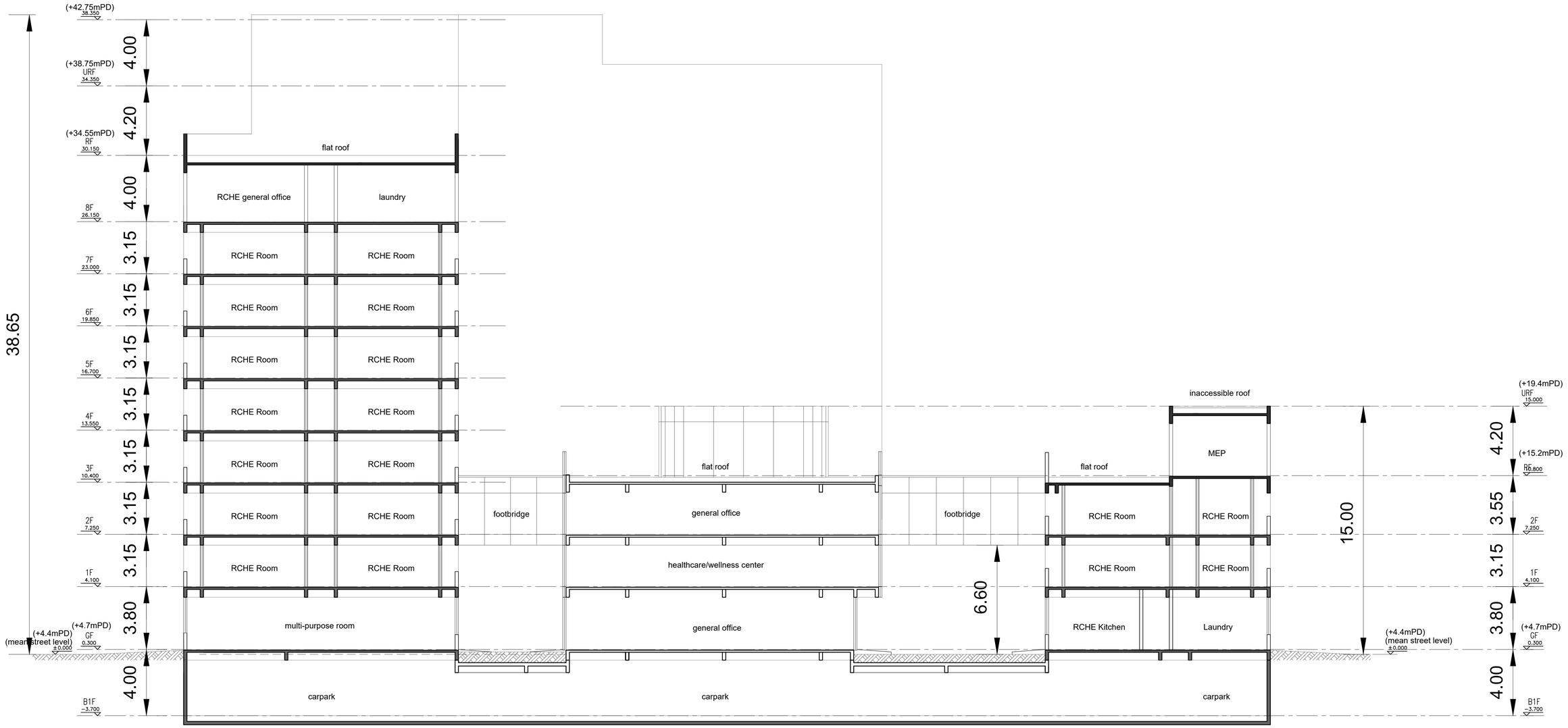
LEGEND

APPLICATION SITE

8TH FLOOR PLAN

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-9



Section 1-1 1:125

SECTION 1-1

LWK +PARTNERS

參考編號 REFERENCE No.	繪圖 DRAWING A-13

Appendix 2.1

Justification by Project Traffic Consultant

Road Classification for Tam Kon Chau Road

As per Hong Kong Planning Standards and Guidelines (HKPSG) - Chapter 8, roads can be classified broadly according to their particular functions and can be defined into different hierarchy due to their unique characteristics. Moreover, since urban roads and rural roads serve different purposes, the classification standard for urban roads and rural roads are also various.

According to HKPSG, in urban areas (including Hong Kong, Kowloon and New Towns), the hierarchy of roads comprises: Expressways, Truck Road, Primary Distributor Roads, District Distributor Roads and Local Distributor Roads. And for rural areas, roads may be classified as: Expressway and Trunk Road, Rural Road A, Rural Road B, Feeder Road and Single Track Access Road.

The proposed development is in Mai Po, Yuen Long. From traffic engineering point of view, it should be considered as a rural area, and the road classification standard of rural roads should be adopted. Tam Kon Chau Road is a single carriageway with passing bay provided at certain interval, and from 2024 traffic surveys, during AM peak, the traffic volume on Tam Kon Chau Road is 70 pcu/hr southbound and 100 pcu/hr northbound, as for PM peak, the traffic volume is 85 pcu/hr southbound and 110 pcu/hr northbound. The traffic volume of Tam Kon Chau Road in 2024 is considered relatively low.

As per TD's comments in June 2024, stating that Tam Kon Chau Road is a Single Track Access Road. Since Tam Kon Chau Road is only a single carriageway, the comparison of Minimum Single Carriageway Widths for urban roads and rural roads required in HKPSG Chapter 8 is shown in table below.

Table 1. Minimum Single Carriageway Widths in Urban and Rural Areas

Urban Area		Rural Area	
Road Type	Single Carriageway	Road Type	Single Carriageway
Expressway and Trunk Road	-	Expressway and Trunk Road	-
Primary Distributor Road	-	-	-
District Distributor Road	7.3m (2-lane) 10.3m (2-lane) 13.5m (4-lane)	Rural Road A	7.3m (2-lane) 10.3m (2-lane)
Local Distributor Road	7.3m (2-lane) 10.3m (2-lane) 13.5m (4-lane)	Rural Road B	6.75m (2-lane) 10.3m (2-lane)
-	-	Feeder Road	6m (2-lane)
-	-	Single Track Access Road	3.5m (1-lane)

Urban Area		Rural Area	
Road Type	Single Carriageway	Road Type	Single Carriageway
			6m (2-lane)

Although the road types of urban areas and rural areas are different, as can be seen from the table above, the hierarchy of Rural Road A in rural area is similar to that of district distributor road in urban area, and the hierarchy of rural road B in rural area is similar to, even lower than, that of local distributor road in urban area.

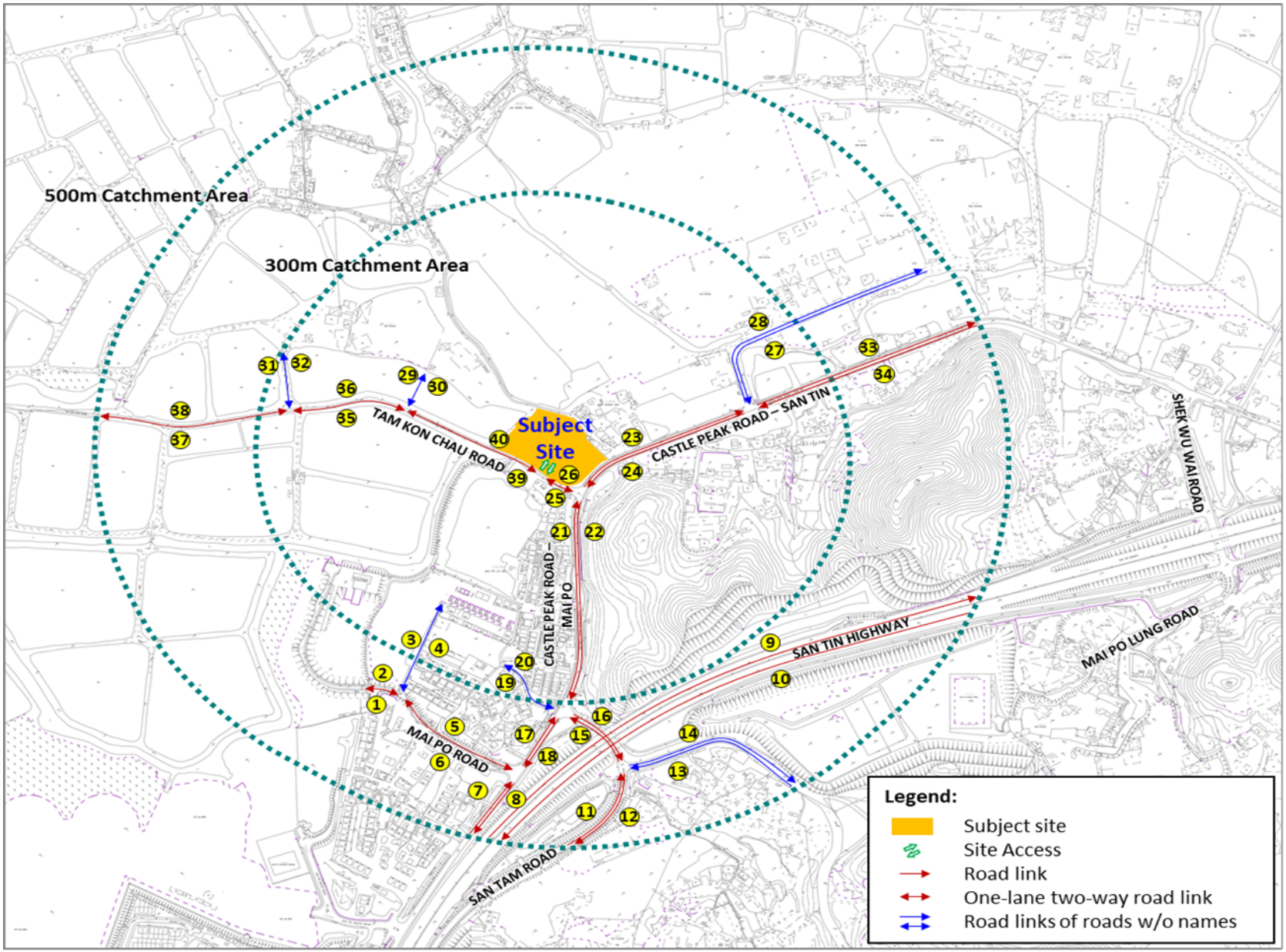
According to HKPSG Chapter 8's requirement for Local Distributor Road, the hierarchy of Single Track Access Road is lower than the hierarchy of Local Distributor Road

In all, as a Single Track Access Road, it is conservative to consider Tam Kon Chau Road as a Local Distributor Road for EIA purpose.

Appendix 3.1

Traffic Forecast Data

Road	Road Name	Bound	Speed Limit (km/hr)	Road Type	Road Length (km)
3	NO NAME	EB	50	Feeder Road	0.27
4	NO NAME	WB	50	Feeder Road	0.27
19	NO NAME	NB	50	Feeder Road	0.10
20	NO NAME	SB	50	Feeder Road	0.10
21	CASTLE PEAK ROAD	EB	50	Rural Road	0.29
22	CASTLE PEAK ROAD	WB	50	Rural Road	0.29
23	CASTLE PEAK ROAD	EB	50	Rural Road	0.25
24	CASTLE PEAK ROAD	WB	50	Rural Road	0.25
25	TAM KON CHAU ROAD	NB	50	Feeder Road	0.04
26	TAM KON CHAU ROAD	SB	50	Feeder Road	0.04
27	NO NAME	WB	50	Feeder Road	0.48
28	NO NAME	EB	50	Feeder Road	0.48
29	NO NAME	NB	50	Feeder Road	0.06
30	NO NAME	SB	50	Feeder Road	0.06
31	NO NAME	NB	50	Feeder Road	0.08
32	NO NAME	SB	50	Feeder Road	0.08
33	CASTLE PEAK ROAD	EB	50	Rural Road	0.30
34	CASTLE PEAK ROAD	WB	50	Rural Road	0.30
35	TAM KON CHAU ROAD	NB	50	Feeder Road	0.15
36	TAM KON CHAU ROAD	SB	50	Feeder Road	0.15
37	TAM KON CHAU ROAD	NB	50	Feeder Road	0.25
38	TAM KON CHAU ROAD	SB	50	Feeder Road	0.25
39	TAM KON CHAU ROAD	NB	50	Feeder Road	0.19
40	TAM KON CHAU ROAD	SB	50	Feeder Road	0.19


500m Catchment Area
300m Catchment Area
Subject Site
TAM KON CHAU ROAD
CASTLE PEAK ROAD – SAN TIN
CASTLE PEAK ROAD – MAI PO
SAN TIN HIGHWAY
SHEK WU WAI ROAD
MAI PO LUNG ROAD
MAI PO ROAD
SAN TAM ROAD
Legend:
Subject site
Site Access
Road link
One-lane two-way road link
Road links of roads w/o names

NIA **Reference: ROI Assessment Year 2043**

Index	Road Name	Direction	AM Peak Traffic Volume (veh/hr)	Heavy Vehicles (%)	Heavy Vehicles -	PM Peak Traffic Volume (veh/hr)	Heavy Vehicles (%)	Heavy Vehicles -	Speed Limit (km/h)
3+4	**NO NAME**	**two-way**	**50**	**0%**	**0**	**55**	**0%**	0	**50**
19+20	**NO NAME**	**two-way**	**50**	**20%**	**20**	**75**	**0%**	0	**50**
21	CASTLE PEAK ROAD	EB	865	21%	21	625	26%	26	50
22	CASTLE PEAK ROAD	WB	680	23%	23	750	19%	19	50
23	CASTLE PEAK ROAD	EB	740	21%	21	605	22%	22	50
24	CASTLE PEAK ROAD	WB	655	24%	24	755	19%	19	50
25+26	**TAM KON CHAU ROAD**	**two-way**	**270**	**17%**	**17**	**220**	**18%**	18	**50**
27	NO NAME	WB	65	54%	54	60	42%	42	50
28	NO NAME	EB	65	38%	38	65	46%	46	50
29+30	**NO NAME**	**two-way**	**105**	**33%**	**33**	**105**	**24%**	24	**50**
31+32	**NO NAME**	**two-way**	**80**	**38%**	**38**	**65**	**31%**	31	**50**
33	CASTLE PEAK ROAD	EB	895	34%	34	730	28%	28	50
34	CASTLE PEAK ROAD	WB	790	29%	29	895	27%	27	50
35+36	**TAM KON CHAU ROAD**	**two-way**	**95**	**32%**	**32**	**90**	**22%**	22	**50**
37+38	**TAM KON CHAU ROAD**	**two-way**	**55**	**27%**	**27**	**50**	**20%**	20	**50**
39+40	**TAM KON CHAU ROAD**	**two-way**	**160**	**25%**	**25**	**165**	**18%**	18	**50**

Appendix 3.2

Road Traffic Noise Impact Assessment Results (Unmitigated)

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Unmitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_01	Planned NSRs at RCH room	1/F	8.5	70	71	Y
T1_01	Planned NSRs at RCH room	2/F	11.7	70	70	N
T1_01	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_01	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_01	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_01	Planned NSRs at RCH room	6/F	24.3	70	68	N
T1_01	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_02	Planned NSRs at RCH room	1/F	8.5	70	71	Y
T1_02	Planned NSRs at RCH room	2/F	11.7	70	70	N
T1_02	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_02	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_02	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_02	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_02	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_03	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_03	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_03	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_03	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_03	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_03	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_03	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_04	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_04	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_04	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_04	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_04	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_04	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_04	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_05	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_05	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_05	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_05	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_05	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_05	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_05	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_06	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_06	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_06	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_06	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_06	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_06	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_06	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_07	Planned NSRs at RCH room	1/F	8.5	70	68	N
T1_07	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_07	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_07	Planned NSRs at RCH room	4/F	18.0	70	69	N
T1_07	Planned NSRs at RCH room	5/F	21.1	70	69	N
T1_07	Planned NSRs at RCH room	6/F	24.3	70	69	N
T1_07	Planned NSRs at RCH room	7/F	27.4	70	68	N
T1_08	Planned NSRs at RCH room	1/F	8.5	70	66	N
T1_08	Planned NSRs at RCH room	2/F	11.7	70	67	N
T1_08	Planned NSRs at RCH room	3/F	14.8	70	67	N
T1_08	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_08	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_08	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_08	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_09	Planned NSRs at RCH room	1/F	8.5	70	65	N
T1_09	Planned NSRs at RCH room	2/F	11.7	70	66	N
T1_09	Planned NSRs at RCH room	3/F	14.8	70	66	N
T1_09	Planned NSRs at RCH room	4/F	18.0	70	66	N
T1_09	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_09	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_09	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_10	Planned NSRs at RCH room	1/F	8.5	70	64	N
T1_10	Planned NSRs at RCH room	2/F	11.7	70	65	N
T1_10	Planned NSRs at RCH room	3/F	14.8	70	65	N
T1_10	Planned NSRs at RCH room	4/F	18.0	70	65	N
T1_10	Planned NSRs at RCH room	5/F	21.1	70	66	N
T1_10	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_10	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_11	Planned NSRs at RCH room	1/F	8.5	70	63	N
T1_11	Planned NSRs at RCH room	3/F	14.8	70	64	N
T1_11	Planned NSRs at RCH room	4/F	18.0	70	64	N
T1_11	Planned NSRs at RCH room	5/F	21.1	70	64	N
T1_11	Planned NSRs at RCH room	6/F	24.3	70	65	N
T1_11	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_12	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_12	Planned NSRs at RCH room	2/F	11.7	70	62	N
T1_12	Planned NSRs at RCH room	3/F	14.8	70	62	N
T1_12	Planned NSRs at RCH room	4/F	18.0	70	63	N
T1_12	Planned NSRs at RCH room	5/F	21.1	70	63	N
T1_12	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_12	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_13	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_13	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_13	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_13	Planned NSRs at RCH room	4/F	18.0	70	62	N
T1_13	Planned NSRs at RCH room	5/F	21.1	70	63	N
T1_13	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_13	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_14	Planned NSRs at RCH room	1/F	8.5	70	58	N
T1_14	Planned NSRs at RCH room	2/F	11.7	70	58	N
T1_14	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_14	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_14	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_14	Planned NSRs at RCH room	6/F	24.3	70	63	N

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Unmitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_14	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_15	Planned NSRs at RCH room	1/F	8.5	70	54	N
T1_15	Planned NSRs at RCH room	2/F	11.7	70	55	N
T1_15	Planned NSRs at RCH room	3/F	14.8	70	56	N
T1_15	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_15	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_15	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_15	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_16	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_16	Planned NSRs at RCH room	2/F	11.7	70	46	N
T1_16	Planned NSRs at RCH room	3/F	14.8	70	50	N
T1_16	Planned NSRs at RCH room	4/F	18.0	70	56	N
T1_16	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_16	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_16	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_17	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_17	Planned NSRs at RCH room	2/F	11.7	70	46	N
T1_17	Planned NSRs at RCH room	3/F	14.8	70	49	N
T1_17	Planned NSRs at RCH room	4/F	18.0	70	53	N
T1_17	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_17	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_17	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_18	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_18	Planned NSRs at RCH room	2/F	11.7	70	59	N
T1_18	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_18	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_18	Planned NSRs at RCH room	5/F	21.1	70	59	N
T1_18	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_18	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_19	Planned NSRs at RCH room	1/F	8.5	70	60	N
T1_19	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_19	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_19	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_19	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_19	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_19	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_20	Planned NSRs at RCH room	1/F	8.5	70	60	N
T1_20	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_20	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_20	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_20	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_20	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_20	Planned NSRs at RCH room	7/F	27.4	70	60	N
T1_21	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_21	Planned NSRs at RCH room	2/F	11.7	70	61	N
T1_21	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_21	Planned NSRs at RCH room	4/F	18.0	70	61	N
T1_21	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_21	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_21	Planned NSRs at RCH room	7/F	27.4	70	60	N
T1_22	Planned NSRs at RCH room	1/F	8.5	70	62	N
T1_22	Planned NSRs at RCH room	2/F	11.7	70	62	N
T1_22	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_22	Planned NSRs at RCH room	4/F	18.0	70	61	N
T1_22	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_22	Planned NSRs at RCH room	6/F	24.3	70	61	N
T1_22	Planned NSRs at RCH room	7/F	27.4	70	61	N
T1_23	Planned NSRs at RCH room	1/F	8.5	70	71	Y
T1_23	Planned NSRs at RCH room	2/F	11.7	70	71	Y
T1_23	Planned NSRs at RCH room	3/F	14.8	70	71	Y
T1_23	Planned NSRs at RCH room	4/F	18.0	70	71	Y
T1_23	Planned NSRs at RCH room	5/F	21.1	70	71	Y
T1_23	Planned NSRs at RCH room	6/F	24.3	70	71	Y
T1_23	Planned NSRs at RCH room	7/F	27.4	70	71	Y
T2_01	Planned NSRs at RCH room	1/F	8.5	70	54	N
T2_01	Planned NSRs at RCH room	2/F	11.7	70	54	N
T2_02	Planned NSRs at RCH room	1/F	8.5	70	61	N
T2_02	Planned NSRs at RCH room	2/F	11.7	70	62	N
T2_03	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_03	Planned NSRs at RCH room	2/F	11.7	70	63	N
T2_04	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_04	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_05	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_05	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_06	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_06	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_07	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_07	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_08	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_08	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_09	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_09	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_10	Planned NSRs at RCH room	1/F	8.5	70	69	N
T2_10	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_11	Planned NSRs at RCH room	1/F	8.5	70	71	Y
T2_11	Planned NSRs at RCH room	2/F	11.7	70	70	N
T2_12	Planned NSRs at RCH room	1/F	8.5	70	73	Y
T2_12	Planned NSRs at RCH room	2/F	11.7	70	73	Y
T2_13	Planned NSRs at RCH room	1/F	8.5	70	72	Y
T2_13	Planned NSRs at RCH room	2/F	11.7	70	72	Y
T2_14	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_14	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_15	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_15	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_16	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_16	Planned NSRs at RCH room	2/F	11.7	70	68	N

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Unmitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T2_17	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_17	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_18	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_18	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_19	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_19	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_20	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_20	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_21	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_21	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_22	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_22	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_23	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_23	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_24	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_24	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_25	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_25	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_26	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_26	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_27	Planned NSRs at Nurse Station	1/F	8.5	55	63	Y
T2_27	Planned NSRs at Nurse Station	2/F	11.7	55	64	Y
T2_28	Planned NSRs at Nurse Station	1/F	8.5	55	63	Y
T2_28	Planned NSRs at Nurse Station	2/F	11.7	55	64	Y
T3_01	Planned RCHE General Office	G/F	4.7	70	67	N
T3_01	Planned RCHE General Office	1/F	8.5	70	67	N
T3_01	Planned RCHE General Office	2/F	11.7	70	67	N
T3_02	Planned RCHE General Office	G/F	4.7	70	60	N
T3_02	Planned RCHE General Office	1/F	8.5	70	60	N
T3_02	Planned RCHE General Office	2/F	11.7	70	60	N
T3_03	Planned RCHE General Office	G/F	4.7	70	40	N
T3_03	Planned RCHE General Office	1/F	8.5	70	41	N
T3_03	Planned RCHE General Office	2/F	11.7	70	44	N
T3_04	Planned RCHE General Office	G/F	4.7	70	61	N
T3_04	Planned RCHE General Office	1/F	8.5	70	61	N
T3_04	Planned RCHE General Office	2/F	11.7	70	62	N
T1_24	Planned RCHE General Office	8/F	30.6	70	68	N
T1_25	Planned RCHE General Office	8/F	30.6	70	67	N
T1_26	Planned RCHE General Office	8/F	30.6	70	66	N
T1_27	Planned General Office for Clinic	8/F	30.6	70	66	N
T1_28	Planned Nurse Station	8/F	30.6	55	66	Y
T1_29	Planned Nurse Station	8/F	30.6	55	63	Y
T1_30	Planned Rehab Room	8/F	30.6	55	60	Y
T1_31	Planned PT/ OT room	8/F	30.6	55	59	Y
T1_32	Planned PT/ OT room	8/F	30.6	55	52	N
T1_33	Planned CT room	8/F	30.6	55	65	Y
T1_34	Planned Medical Consultation Room	8/F	30.6	55	65	Y
T1_35	Planned Medical Consultation Room	8/F	30.6	55	65	Y
T1_36	Planned Medical Consultation Room	8/F	30.6	55	64	Y

Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Unmitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_01	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_01	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_01	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_01	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_01	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_01	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_01	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_02	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_02	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_02	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_02	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_02	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_02	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_02	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_03	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_03	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_03	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_03	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_03	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_03	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_03	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_04	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_04	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_04	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_04	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_04	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_04	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_04	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_05	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_05	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_05	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_05	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_05	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_05	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_05	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_06	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_06	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_06	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_06	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_06	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_06	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_06	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_07	Planned NSRs at RCH room	1/F	8.5	70	68	N
T1_07	Planned NSRs at RCH room	2/F	11.7	70	68	N
T1_07	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_07	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_07	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_07	Planned NSRs at RCH room	6/F	24.3	70	68	N
T1_07	Planned NSRs at RCH room	7/F	27.4	70	68	N
T1_08	Planned NSRs at RCH room	1/F	8.5	70	66	N
T1_08	Planned NSRs at RCH room	2/F	11.7	70	66	N
T1_08	Planned NSRs at RCH room	3/F	14.8	70	66	N
T1_08	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_08	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_08	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_08	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_09	Planned NSRs at RCH room	1/F	8.5	70	65	N
T1_09	Planned NSRs at RCH room	2/F	11.7	70	65	N
T1_09	Planned NSRs at RCH room	3/F	14.8	70	65	N
T1_09	Planned NSRs at RCH room	4/F	18.0	70	66	N
T1_09	Planned NSRs at RCH room	5/F	21.1	70	66	N
T1_09	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_09	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_10	Planned NSRs at RCH room	1/F	8.5	70	64	N
T1_10	Planned NSRs at RCH room	2/F	11.7	70	64	N
T1_10	Planned NSRs at RCH room	3/F	14.8	70	64	N
T1_10	Planned NSRs at RCH room	4/F	18.0	70	65	N
T1_10	Planned NSRs at RCH room	5/F	21.1	70	65	N
T1_10	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_10	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_11	Planned NSRs at RCH room	1/F	8.5	70	63	N
T1_11	Planned NSRs at RCH room	3/F	14.8	70	63	N
T1_11	Planned NSRs at RCH room	4/F	18.0	70	64	N
T1_11	Planned NSRs at RCH room	5/F	21.1	70	64	N
T1_11	Planned NSRs at RCH room	6/F	24.3	70	65	N
T1_11	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_12	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_12	Planned NSRs at RCH room	2/F	11.7	70	62	N
T1_12	Planned NSRs at RCH room	3/F	14.8	70	62	N
T1_12	Planned NSRs at RCH room	4/F	18.0	70	63	N
T1_12	Planned NSRs at RCH room	5/F	21.1	70	63	N
T1_12	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_12	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_13	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_13	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_13	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_13	Planned NSRs at RCH room	4/F	18.0	70	61	N
T1_13	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_13	Planned NSRs at RCH room	6/F	24.3	70	63	N
T1_13	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_14	Planned NSRs at RCH room	1/F	8.5	70	58	N
T1_14	Planned NSRs at RCH room	2/F	11.7	70	58	N
T1_14	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_14	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_14	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_14	Planned NSRs at RCH room	6/F	24.3	70	63	N

Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Unmitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_14	Planned NSRs at RCH room	7/F	27.4	70	63	N
T1_15	Planned NSRs at RCH room	1/F	8.5	70	54	N
T1_15	Planned NSRs at RCH room	2/F	11.7	70	55	N
T1_15	Planned NSRs at RCH room	3/F	14.8	70	56	N
T1_15	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_15	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_15	Planned NSRs at RCH room	6/F	24.3	70	63	N
T1_15	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_16	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_16	Planned NSRs at RCH room	2/F	11.7	70	46	N
T1_16	Planned NSRs at RCH room	3/F	14.8	70	50	N
T1_16	Planned NSRs at RCH room	4/F	18.0	70	56	N
T1_16	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_16	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_16	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_17	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_17	Planned NSRs at RCH room	2/F	11.7	70	45	N
T1_17	Planned NSRs at RCH room	3/F	14.8	70	49	N
T1_17	Planned NSRs at RCH room	4/F	18.0	70	53	N
T1_17	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_17	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_17	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_18	Planned NSRs at RCH room	1/F	8.5	70	58	N
T1_18	Planned NSRs at RCH room	2/F	11.7	70	58	N
T1_18	Planned NSRs at RCH room	3/F	14.8	70	58	N
T1_18	Planned NSRs at RCH room	4/F	18.0	70	58	N
T1_18	Planned NSRs at RCH room	5/F	21.1	70	58	N
T1_18	Planned NSRs at RCH room	6/F	24.3	70	58	N
T1_18	Planned NSRs at RCH room	7/F	27.4	70	58	N
T1_19	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_19	Planned NSRs at RCH room	2/F	11.7	70	59	N
T1_19	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_19	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_19	Planned NSRs at RCH room	5/F	21.1	70	59	N
T1_19	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_19	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_20	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_20	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_20	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_20	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_20	Planned NSRs at RCH room	5/F	21.1	70	59	N
T1_20	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_20	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_21	Planned NSRs at RCH room	1/F	8.5	70	60	N
T1_21	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_21	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_21	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_21	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_21	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_21	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_22	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_22	Planned NSRs at RCH room	2/F	11.7	70	61	N
T1_22	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_22	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_22	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_22	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_22	Planned NSRs at RCH room	7/F	27.4	70	60	N
T1_23	Planned NSRs at RCH room	1/F	8.5	70	71	Y
T1_23	Planned NSRs at RCH room	2/F	11.7	70	71	Y
T1_23	Planned NSRs at RCH room	3/F	14.8	70	71	Y
T1_23	Planned NSRs at RCH room	4/F	18.0	70	70	N
T1_23	Planned NSRs at RCH room	5/F	21.1	70	70	N
T1_23	Planned NSRs at RCH room	6/F	24.3	70	71	Y
T1_23	Planned NSRs at RCH room	7/F	27.4	70	70	N
T2_01	Planned NSRs at RCH room	1/F	8.5	70	53	N
T2_01	Planned NSRs at RCH room	2/F	11.7	70	53	N
T2_02	Planned NSRs at RCH room	1/F	8.5	70	61	N
T2_02	Planned NSRs at RCH room	2/F	11.7	70	61	N
T2_03	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_03	Planned NSRs at RCH room	2/F	11.7	70	63	N
T2_04	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_04	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_05	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_05	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_06	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_06	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_07	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_07	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_08	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_08	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_09	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_09	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_10	Planned NSRs at RCH room	1/F	8.5	70	69	N
T2_10	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_11	Planned NSRs at RCH room	1/F	8.5	70	70	N
T2_11	Planned NSRs at RCH room	2/F	11.7	70	70	N
T2_12	Planned NSRs at RCH room	1/F	8.5	70	73	Y
T2_12	Planned NSRs at RCH room	2/F	11.7	70	73	Y
T2_13	Planned NSRs at RCH room	1/F	8.5	70	71	Y
T2_13	Planned NSRs at RCH room	2/F	11.7	70	72	Y
T2_14	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_14	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_15	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_15	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_16	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_16	Planned NSRs at RCH room	2/F	11.7	70	68	N

Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Unmitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T2_17	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_17	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_18	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_18	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_19	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_19	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_20	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_20	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_21	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_21	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_22	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_22	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_23	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_23	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_24	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_24	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_25	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_25	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_26	Planned NSRs at RCH room	1/F	8.5	70	62	N
T2_26	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_27	Planned NSRs at Nurse Station	1/F	8.5	55	62	Y
T2_27	Planned NSRs at Nurse Station	2/F	11.7	55	64	Y
T2_28	Planned NSRs at Nurse Station	1/F	8.5	55	62	Y
T2_28	Planned NSRs at Nurse Station	2/F	11.7	55	64	Y
T3_01	Planned RCHE General Office	G/F	4.7	70	67	N
T3_01	Planned RCHE General Office	1/F	8.5	70	67	N
T3_01	Planned RCHE General Office	2/F	11.7	70	67	N
T3_02	Planned RCHE General Office	G/F	4.7	70	60	N
T3_02	Planned RCHE General Office	1/F	8.5	70	60	N
T3_02	Planned RCHE General Office	2/F	11.7	70	60	N
T3_03	Planned RCHE General Office	G/F	4.7	70	39	N
T3_03	Planned RCHE General Office	1/F	8.5	70	41	N
T3_03	Planned RCHE General Office	2/F	11.7	70	43	N
T3_04	Planned RCHE General Office	G/F	4.7	70	61	N
T3_04	Planned RCHE General Office	1/F	8.5	70	61	N
T3_04	Planned RCHE General Office	2/F	11.7	70	61	N
T1_24	Planned RCHE General Office	8/F	30.6	70	67	N
T1_25	Planned RCHE General Office	8/F	30.6	70	66	N
T1_26	Planned RCHE General Office	8/F	30.6	70	66	N
T1_27	Planned General Office for Clinic	8/F	30.6	70	65	N
T1_28	Planned Nurse Station	8/F	30.6	55	65	Y
T1_29	Planned Nurse Station	8/F	30.6	55	62	Y
T1_30	Planned Rehab Room	8/F	30.6	55	59	Y
T1_31	Planned PT/ OT room	8/F	30.6	55	58	Y
T1_32	Planned PT/ OT room	8/F	30.6	55	52	N
T1_33	Planned CT room	8/F	30.6	55	65	Y
T1_34	Planned Medical Consultation Room	8/F	30.6	55	65	Y
T1_35	Planned Medical Consultation Room	8/F	30.6	55	64	Y
T1_36	Planned Medical Consultation Room	8/F	30.6	55	64	Y

Appendix 3.3

Road Traffic Noise Impact Assessment Results (Mitigated)

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Mitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_01	Planned NSRs at RCH room	1/F	8.5	70	< 70 [2]	N
T1_01	Planned NSRs at RCH room	2/F	11.7	70	70	N
T1_01	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_01	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_01	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_01	Planned NSRs at RCH room	6/F	24.3	70	68	N
T1_01	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_02	Planned NSRs at RCH room	1/F	8.5	70	< 70 [2]	N
T1_02	Planned NSRs at RCH room	2/F	11.7	70	70	N
T1_02	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_02	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_02	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_02	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_02	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_03	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_03	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_03	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_03	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_03	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_03	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_03	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_04	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_04	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_04	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_04	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_04	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_04	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_04	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_05	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_05	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_05	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_05	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_05	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_05	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_05	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_06	Planned NSRs at RCH room	1/F	8.5	70	70	N
T1_06	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_06	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_06	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_06	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_06	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_06	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_07	Planned NSRs at RCH room	1/F	8.5	70	68	N
T1_07	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_07	Planned NSRs at RCH room	3/F	14.8	70	69	N
T1_07	Planned NSRs at RCH room	4/F	18.0	70	69	N
T1_07	Planned NSRs at RCH room	5/F	21.1	70	69	N
T1_07	Planned NSRs at RCH room	6/F	24.3	70	69	N
T1_07	Planned NSRs at RCH room	7/F	27.4	70	68	N
T1_08	Planned NSRs at RCH room	1/F	8.5	70	66	N
T1_08	Planned NSRs at RCH room	2/F	11.7	70	67	N
T1_08	Planned NSRs at RCH room	3/F	14.8	70	67	N
T1_08	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_08	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_08	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_08	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_09	Planned NSRs at RCH room	1/F	8.5	70	65	N
T1_09	Planned NSRs at RCH room	2/F	11.7	70	66	N
T1_09	Planned NSRs at RCH room	3/F	14.8	70	66	N
T1_09	Planned NSRs at RCH room	4/F	18.0	70	66	N
T1_09	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_09	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_09	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_10	Planned NSRs at RCH room	1/F	8.5	70	64	N
T1_10	Planned NSRs at RCH room	2/F	11.7	70	65	N
T1_10	Planned NSRs at RCH room	3/F	14.8	70	65	N
T1_10	Planned NSRs at RCH room	4/F	18.0	70	65	N
T1_10	Planned NSRs at RCH room	5/F	21.1	70	66	N
T1_10	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_10	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_11	Planned NSRs at RCH room	1/F	8.5	70	63	N
T1_11	Planned NSRs at RCH room	3/F	14.8	70	64	N
T1_11	Planned NSRs at RCH room	4/F	18.0	70	64	N
T1_11	Planned NSRs at RCH room	5/F	21.1	70	64	N
T1_11	Planned NSRs at RCH room	6/F	24.3	70	65	N
T1_11	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_12	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_12	Planned NSRs at RCH room	2/F	11.7	70	62	N
T1_12	Planned NSRs at RCH room	3/F	14.8	70	62	N
T1_12	Planned NSRs at RCH room	4/F	18.0	70	63	N
T1_12	Planned NSRs at RCH room	5/F	21.1	70	63	N
T1_12	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_12	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_13	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_13	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_13	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_13	Planned NSRs at RCH room	4/F	18.0	70	62	N
T1_13	Planned NSRs at RCH room	5/F	21.1	70	63	N
T1_13	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_13	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_14	Planned NSRs at RCH room	1/F	8.5	70	58	N
T1_14	Planned NSRs at RCH room	2/F	11.7	70	58	N
T1_14	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_14	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_14	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_14	Planned NSRs at RCH room	6/F	24.3	70	63	N

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Mitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_14	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_15	Planned NSRs at RCH room	1/F	8.5	70	54	N
T1_15	Planned NSRs at RCH room	2/F	11.7	70	55	N
T1_15	Planned NSRs at RCH room	3/F	14.8	70	56	N
T1_15	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_15	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_15	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_15	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_16	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_16	Planned NSRs at RCH room	2/F	11.7	70	46	N
T1_16	Planned NSRs at RCH room	3/F	14.8	70	50	N
T1_16	Planned NSRs at RCH room	4/F	18.0	70	56	N
T1_16	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_16	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_16	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_17	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_17	Planned NSRs at RCH room	2/F	11.7	70	46	N
T1_17	Planned NSRs at RCH room	3/F	14.8	70	49	N
T1_17	Planned NSRs at RCH room	4/F	18.0	70	53	N
T1_17	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_17	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_17	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_18	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_18	Planned NSRs at RCH room	2/F	11.7	70	59	N
T1_18	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_18	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_18	Planned NSRs at RCH room	5/F	21.1	70	59	N
T1_18	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_18	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_19	Planned NSRs at RCH room	1/F	8.5	70	60	N
T1_19	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_19	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_19	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_19	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_19	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_19	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_20	Planned NSRs at RCH room	1/F	8.5	70	60	N
T1_20	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_20	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_20	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_20	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_20	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_20	Planned NSRs at RCH room	7/F	27.4	70	60	N
T1_21	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_21	Planned NSRs at RCH room	2/F	11.7	70	61	N
T1_21	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_21	Planned NSRs at RCH room	4/F	18.0	70	61	N
T1_21	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_21	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_21	Planned NSRs at RCH room	7/F	27.4	70	60	N
T1_22	Planned NSRs at RCH room	1/F	8.5	70	62	N
T1_22	Planned NSRs at RCH room	2/F	11.7	70	62	N
T1_22	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_22	Planned NSRs at RCH room	4/F	18.0	70	61	N
T1_22	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_22	Planned NSRs at RCH room	6/F	24.3	70	61	N
T1_22	Planned NSRs at RCH room	7/F	27.4	70	61	N
T1_23	Planned NSRs at RCH room	1/F	8.5	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	2/F	11.7	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	3/F	14.8	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	4/F	18.0	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	5/F	21.1	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	6/F	24.3	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	7/F	27.4	70	N/A [1]	N
T2_01	Planned NSRs at RCH room	1/F	8.5	70	54	N
T2_01	Planned NSRs at RCH room	2/F	11.7	70	54	N
T2_02	Planned NSRs at RCH room	1/F	8.5	70	61	N
T2_02	Planned NSRs at RCH room	2/F	11.7	70	62	N
T2_03	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_03	Planned NSRs at RCH room	2/F	11.7	70	63	N
T2_04	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_04	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_05	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_05	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_06	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_06	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_07	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_07	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_08	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_08	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_09	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_09	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_10	Planned NSRs at RCH room	1/F	8.5	70	69	N
T2_10	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_11	Planned NSRs at RCH room	1/F	8.5	70	< 70 [2]	N
T2_11	Planned NSRs at RCH room	2/F	11.7	70	< 70 [2]	N
T2_12	Planned NSRs at RCH room	1/F	8.5	70	N/A [1]	N
T2_12	Planned NSRs at RCH room	2/F	11.7	70	N/A [1]	N
T2_13	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_13	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_14	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_14	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_15	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_15	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_16	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_16	Planned NSRs at RCH room	2/F	11.7	70	68	N

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Mitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T2_17	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_17	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_18	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_18	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_19	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_19	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_20	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_20	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_21	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_21	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_22	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_22	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_23	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_23	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_24	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_24	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_25	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_25	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_26	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_26	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_27	Planned NSRs at Nurse Station	1/F	8.5	55	N/A [1]	N
T2_27	Planned NSRs at Nurse Station	2/F	11.7	55	N/A [1]	N
T2_28	Planned NSRs at Nurse Station	1/F	8.5	55	N/A [1]	N
T2_28	Planned NSRs at Nurse Station	2/F	11.7	55	N/A [1]	N
T3_01	Planned RCHE General Office	G/F	4.7	70	67	N
T3_01	Planned RCHE General Office	1/F	8.5	70	67	N
T3_01	Planned RCHE General Office	2/F	11.7	70	67	N
T3_02	Planned RCHE General Office	G/F	4.7	70	60	N
T3_02	Planned RCHE General Office	1/F	8.5	70	60	N
T3_02	Planned RCHE General Office	2/F	11.7	70	60	N
T3_03	Planned RCHE General Office	G/F	4.7	70	40	N
T3_03	Planned RCHE General Office	1/F	8.5	70	41	N
T3_03	Planned RCHE General Office	2/F	11.7	70	44	N
T3_04	Planned RCHE General Office	G/F	4.7	70	61	N
T3_04	Planned RCHE General Office	1/F	8.5	70	61	N
T3_04	Planned RCHE General Office	2/F	11.7	70	62	N
T1_24	Planned RCHE General Office	8/F	30.6	70	68	N
T1_25	Planned RCHE General Office	8/F	30.6	70	67	N
T1_26	Planned RCHE General Office	8/F	30.6	70	66	N
T1_27	Planned General Office for Clinic	8/F	30.6	70	66	N
T1_28	Planned Nurse Station	8/F	30.6	55	N/A [1]	N
T1_29	Planned Nurse Station	8/F	30.6	55	N/A [1]	N
T1_30	Planned Rehab Room	8/F	30.6	55	N/A [1]	N
T1_31	Planned PT/ OT room	8/F	30.6	55	N/A [1]	N
T1_32	Planned PT/ OT room	8/F	30.6	55	52	N
T1_33	Planned CT room	8/F	30.6	55	N/A [1]	N
T1_34	Planned Medical Consultation Room	8/F	30.6	55	N/A [1]	N
T1_35	Planned Medical Consultation Room	8/F	30.6	55	N/A [1]	N
T1_36	Planned Medical Consultation Room	8/F	30.6	55	N/A [1]	N

Remarks:

[1] Since fixed glazing has been incorporated into design, it is no longer noise sensitive and no other noise mitigation measure will be required.

[2] According to EPD's PropECC PN 5/23 regarding innovative noise mitigation designs against road traffic noise impact, special design window systems have been implemented in othe rprojects such as baffle type acoustic window to alleviate road traffic noise impact. It is understood that up to 6 dB(A) noise reduction can be achieved by baffle type acoustic window based on a room size of $8m^2$ (Table 1 in EPD's ProPECC PN 5/23, refers). Given that the current noise exceedance recorded at affected units are around 3dB(A) only, it is considered that provision of such bafle type acoustic window/ balcony is feasible and implementable and the mitigated noise lvel would ocmply with relevant noise criteria.

Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Mitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_01	Planned NSRs at RCH room	1/F	8.5	70	< 70 [2]	N
T1_01	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_01	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_01	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_01	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_01	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_01	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_02	Planned NSRs at RCH room	1/F	8.5	70	< 70 [2]	N
T1_02	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_02	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_02	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_02	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_02	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_02	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_03	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_03	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_03	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_03	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_03	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_03	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_03	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_04	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_04	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_04	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_04	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_04	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_04	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_04	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_05	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_05	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_05	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_05	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_05	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_05	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_05	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_06	Planned NSRs at RCH room	1/F	8.5	70	69	N
T1_06	Planned NSRs at RCH room	2/F	11.7	70	69	N
T1_06	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_06	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_06	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_06	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_06	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_07	Planned NSRs at RCH room	1/F	8.5	70	68	N
T1_07	Planned NSRs at RCH room	2/F	11.7	70	68	N
T1_07	Planned NSRs at RCH room	3/F	14.8	70	68	N
T1_07	Planned NSRs at RCH room	4/F	18.0	70	68	N
T1_07	Planned NSRs at RCH room	5/F	21.1	70	68	N
T1_07	Planned NSRs at RCH room	6/F	24.3	70	68	N
T1_07	Planned NSRs at RCH room	7/F	27.4	70	68	N
T1_08	Planned NSRs at RCH room	1/F	8.5	70	66	N
T1_08	Planned NSRs at RCH room	2/F	11.7	70	66	N
T1_08	Planned NSRs at RCH room	3/F	14.8	70	66	N
T1_08	Planned NSRs at RCH room	4/F	18.0	70	67	N
T1_08	Planned NSRs at RCH room	5/F	21.1	70	67	N
T1_08	Planned NSRs at RCH room	6/F	24.3	70	67	N
T1_08	Planned NSRs at RCH room	7/F	27.4	70	67	N
T1_09	Planned NSRs at RCH room	1/F	8.5	70	65	N
T1_09	Planned NSRs at RCH room	2/F	11.7	70	65	N
T1_09	Planned NSRs at RCH room	3/F	14.8	70	65	N
T1_09	Planned NSRs at RCH room	4/F	18.0	70	66	N
T1_09	Planned NSRs at RCH room	5/F	21.1	70	66	N
T1_09	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_09	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_10	Planned NSRs at RCH room	1/F	8.5	70	64	N
T1_10	Planned NSRs at RCH room	2/F	11.7	70	64	N
T1_10	Planned NSRs at RCH room	3/F	14.8	70	64	N
T1_10	Planned NSRs at RCH room	4/F	18.0	70	65	N
T1_10	Planned NSRs at RCH room	5/F	21.1	70	65	N
T1_10	Planned NSRs at RCH room	6/F	24.3	70	66	N
T1_10	Planned NSRs at RCH room	7/F	27.4	70	66	N
T1_11	Planned NSRs at RCH room	1/F	8.5	70	63	N
T1_11	Planned NSRs at RCH room	3/F	14.8	70	63	N
T1_11	Planned NSRs at RCH room	4/F	18.0	70	64	N
T1_11	Planned NSRs at RCH room	5/F	21.1	70	64	N
T1_11	Planned NSRs at RCH room	6/F	24.3	70	65	N
T1_11	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_12	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_12	Planned NSRs at RCH room	2/F	11.7	70	62	N
T1_12	Planned NSRs at RCH room	3/F	14.8	70	62	N
T1_12	Planned NSRs at RCH room	4/F	18.0	70	63	N
T1_12	Planned NSRs at RCH room	5/F	21.1	70	63	N
T1_12	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_12	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_13	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_13	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_13	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_13	Planned NSRs at RCH room	4/F	18.0	70	61	N
T1_13	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_13	Planned NSRs at RCH room	6/F	24.3	70	63	N
T1_13	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_14	Planned NSRs at RCH room	1/F	8.5	70	58	N
T1_14	Planned NSRs at RCH room	2/F	11.7	70	58	N
T1_14	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_14	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_14	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_14	Planned NSRs at RCH room	6/F	24.3	70	63	N

Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Mitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T1_14	Planned NSRs at RCH room	7/F	27.4	70	63	N
T1_15	Planned NSRs at RCH room	1/F	8.5	70	54	N
T1_15	Planned NSRs at RCH room	2/F	11.7	70	55	N
T1_15	Planned NSRs at RCH room	3/F	14.8	70	56	N
T1_15	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_15	Planned NSRs at RCH room	5/F	21.1	70	62	N
T1_15	Planned NSRs at RCH room	6/F	24.3	70	63	N
T1_15	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_16	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_16	Planned NSRs at RCH room	2/F	11.7	70	46	N
T1_16	Planned NSRs at RCH room	3/F	14.8	70	50	N
T1_16	Planned NSRs at RCH room	4/F	18.0	70	56	N
T1_16	Planned NSRs at RCH room	5/F	21.1	70	61	N
T1_16	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_16	Planned NSRs at RCH room	7/F	27.4	70	64	N
T1_17	Planned NSRs at RCH room	1/F	8.5	70	43	N
T1_17	Planned NSRs at RCH room	2/F	11.7	70	45	N
T1_17	Planned NSRs at RCH room	3/F	14.8	70	49	N
T1_17	Planned NSRs at RCH room	4/F	18.0	70	53	N
T1_17	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_17	Planned NSRs at RCH room	6/F	24.3	70	64	N
T1_17	Planned NSRs at RCH room	7/F	27.4	70	65	N
T1_18	Planned NSRs at RCH room	1/F	8.5	70	58	N
T1_18	Planned NSRs at RCH room	2/F	11.7	70	58	N
T1_18	Planned NSRs at RCH room	3/F	14.8	70	58	N
T1_18	Planned NSRs at RCH room	4/F	18.0	70	58	N
T1_18	Planned NSRs at RCH room	5/F	21.1	70	58	N
T1_18	Planned NSRs at RCH room	6/F	24.3	70	58	N
T1_18	Planned NSRs at RCH room	7/F	27.4	70	58	N
T1_19	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_19	Planned NSRs at RCH room	2/F	11.7	70	59	N
T1_19	Planned NSRs at RCH room	3/F	14.8	70	59	N
T1_19	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_19	Planned NSRs at RCH room	5/F	21.1	70	59	N
T1_19	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_19	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_20	Planned NSRs at RCH room	1/F	8.5	70	59	N
T1_20	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_20	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_20	Planned NSRs at RCH room	4/F	18.0	70	59	N
T1_20	Planned NSRs at RCH room	5/F	21.1	70	59	N
T1_20	Planned NSRs at RCH room	6/F	24.3	70	59	N
T1_20	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_21	Planned NSRs at RCH room	1/F	8.5	70	60	N
T1_21	Planned NSRs at RCH room	2/F	11.7	70	60	N
T1_21	Planned NSRs at RCH room	3/F	14.8	70	60	N
T1_21	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_21	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_21	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_21	Planned NSRs at RCH room	7/F	27.4	70	59	N
T1_22	Planned NSRs at RCH room	1/F	8.5	70	61	N
T1_22	Planned NSRs at RCH room	2/F	11.7	70	61	N
T1_22	Planned NSRs at RCH room	3/F	14.8	70	61	N
T1_22	Planned NSRs at RCH room	4/F	18.0	70	60	N
T1_22	Planned NSRs at RCH room	5/F	21.1	70	60	N
T1_22	Planned NSRs at RCH room	6/F	24.3	70	60	N
T1_22	Planned NSRs at RCH room	7/F	27.4	70	60	N
T1_23	Planned NSRs at RCH room	1/F	8.5	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	2/F	11.7	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	3/F	14.8	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	4/F	18.0	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	5/F	21.1	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	6/F	24.3	70	N/A [1]	N
T1_23	Planned NSRs at RCH room	7/F	27.4	70	N/A [1]	N
T2_01	Planned NSRs at RCH room	1/F	8.5	70	53	N
T2_01	Planned NSRs at RCH room	2/F	11.7	70	53	N
T2_02	Planned NSRs at RCH room	1/F	8.5	70	61	N
T2_02	Planned NSRs at RCH room	2/F	11.7	70	61	N
T2_03	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_03	Planned NSRs at RCH room	2/F	11.7	70	63	N
T2_04	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_04	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_05	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_05	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_06	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_06	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_07	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_07	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_08	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_08	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_09	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_09	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_10	Planned NSRs at RCH room	1/F	8.5	70	69	N
T2_10	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_11	Planned NSRs at RCH room	1/F	8.5	70	< 70 [2]	N
T2_11	Planned NSRs at RCH room	2/F	11.7	70	< 70 [2]	N
T2_12	Planned NSRs at RCH room	1/F	8.5	70	N/A [1]	N
T2_12	Planned NSRs at RCH room	2/F	11.7	70	N/A [1]	N
T2_13	Planned NSRs at RCH room	1/F	8.5	70	68	N
T2_13	Planned NSRs at RCH room	2/F	11.7	70	69	N
T2_14	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_14	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_15	Planned NSRs at RCH room	1/F	8.5	70	67	N
T2_15	Planned NSRs at RCH room	2/F	11.7	70	68	N
T2_16	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_16	Planned NSRs at RCH room	2/F	11.7	70	67	N

Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Mitigated Scenario)

NSR Information					Year 2043 Design Traffic Flow	Mitigation Measures Required [Y/N]
					With Development	
NAP ID	NAP Description	Floor	mPD*	Criteria	Noise Level (dB(A))	
T2_17	Planned NSRs at RCH room	1/F	8.5	70	66	N
T2_17	Planned NSRs at RCH room	2/F	11.7	70	67	N
T2_18	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_18	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_19	Planned NSRs at RCH room	1/F	8.5	70	65	N
T2_19	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_20	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_20	Planned NSRs at RCH room	2/F	11.7	70	66	N
T2_21	Planned NSRs at RCH room	1/F	8.5	70	64	N
T2_21	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_22	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_22	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_23	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_23	Planned NSRs at RCH room	2/F	11.7	70	65	N
T2_24	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_24	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_25	Planned NSRs at RCH room	1/F	8.5	70	63	N
T2_25	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_26	Planned NSRs at RCH room	1/F	8.5	70	62	N
T2_26	Planned NSRs at RCH room	2/F	11.7	70	64	N
T2_27	Planned NSRs at Nurse Station	1/F	8.5	55	N/A [1]	N
T2_27	Planned NSRs at Nurse Station	2/F	11.7	55	N/A [1]	N
T2_28	Planned NSRs at Nurse Station	1/F	8.5	55	N/A [1]	N
T2_28	Planned NSRs at Nurse Station	2/F	11.7	55	N/A [1]	N
T3_01	Planned RCHE General Office	G/F	4.7	70	67	N
T3_01	Planned RCHE General Office	1/F	8.5	70	67	N
T3_01	Planned RCHE General Office	2/F	11.7	70	67	N
T3_02	Planned RCHE General Office	G/F	4.7	70	60	N
T3_02	Planned RCHE General Office	1/F	8.5	70	60	N
T3_02	Planned RCHE General Office	2/F	11.7	70	60	N
T3_03	Planned RCHE General Office	G/F	4.7	70	39	N
T3_03	Planned RCHE General Office	1/F	8.5	70	41	N
T3_03	Planned RCHE General Office	2/F	11.7	70	43	N
T3_04	Planned RCHE General Office	G/F	4.7	70	61	N
T3_04	Planned RCHE General Office	1/F	8.5	70	61	N
T3_04	Planned RCHE General Office	2/F	11.7	70	61	N
T1_24	Planned RCHE General Office	8/F	30.6	70	67	N
T1_25	Planned RCHE General Office	8/F	30.6	70	66	N
T1_26	Planned RCHE General Office	8/F	30.6	70	66	N
T1_27	Planned General Office for Clinic	8/F	30.6	70	65	N
T1_28	Planned Nurse Station	8/F	30.6	55	N/A [1]	N
T1_29	Planned Nurse Station	8/F	30.6	55	N/A [1]	N
T1_30	Planned Rehab Room	8/F	30.6	55	N/A [1]	N
T1_31	Planned PT/ OT room	8/F	30.6	55	N/A [1]	N
T1_32	Planned PT/ OT room	8/F	30.6	55	52	N
T1_33	Planned CT room	8/F	30.6	55	N/A [1]	N
T1_34	Planned Medical Consultation Room	8/F	30.6	55	N/A [1]	N
T1_35	Planned Medical Consultation Room	8/F	30.6	55	N/A [1]	N
T1_36	Planned Medical Consultation Room	8/F	30.6	55	N/A [1]	N

Remarks:

[1] Since fixed glazing has been incorporated into design, it is no longer noise sensitive and no other noise mitigation measure will be required.

[2] According to EPD's PropECC PN 5/23 regarding innovative noise mitigation designs against road traffic noise impact, special design window systems have been implemented in othe rprojects such as baffle type acoustic window to alleviate road traffic noise impact. It is understood that up to 6 dB(A) noise reduction can be achieved by baffle type acoustic window based on a room size of 8m^2 (Table 1 in EPD's ProPECC PN 5/23, refers). Given that the current noise exceedance recorded at affected units are around 3dB(A) only, it is considered that provision of such bafle type acoustic window/ balcony is feasible and implementable and the mitigated noise lvel would ocmply with relevant noise criteria.

Appendix 4.1

Details of Representative Noise Sensitive Receivers for Fixed Noise Impact Assessment

Appendix 4.1 Planned Noise Sensitive Receivers within the Site

Assessment Point ID	Description	Nature of Use	Existing/ Planned Uses	Location		Local Ground, (mPD)	Selected Floor	Floor Level, (mPD)	Assessment Point, z, (mPD)	ASR	Noise Criteria, Leq *	Noise Impact, dB(A)	
												Unmitigated	
				x Easting	y Northing							Daytime & Evening Impact	Night-time
FR01	RCHE Room at Tower 1	Residential	Planned	824331	839512	4.4	1/F	8.5	9.7	B	49	40	40
FR02	RCHE Room at Tower 2	Residential	Planned	824358	839511	4.4	1/F	8.5	9.7	B	49	40	40

Remark: * Based on ANL-5 or background noise level, whichever is lower.

Appendix 4.2

Predicted Maximum Allowable Noise Level for Proposed STP

Appendix 4.2 Predicted Maximum Allowable Noise Level for Proposed Sewage Treatment Plant

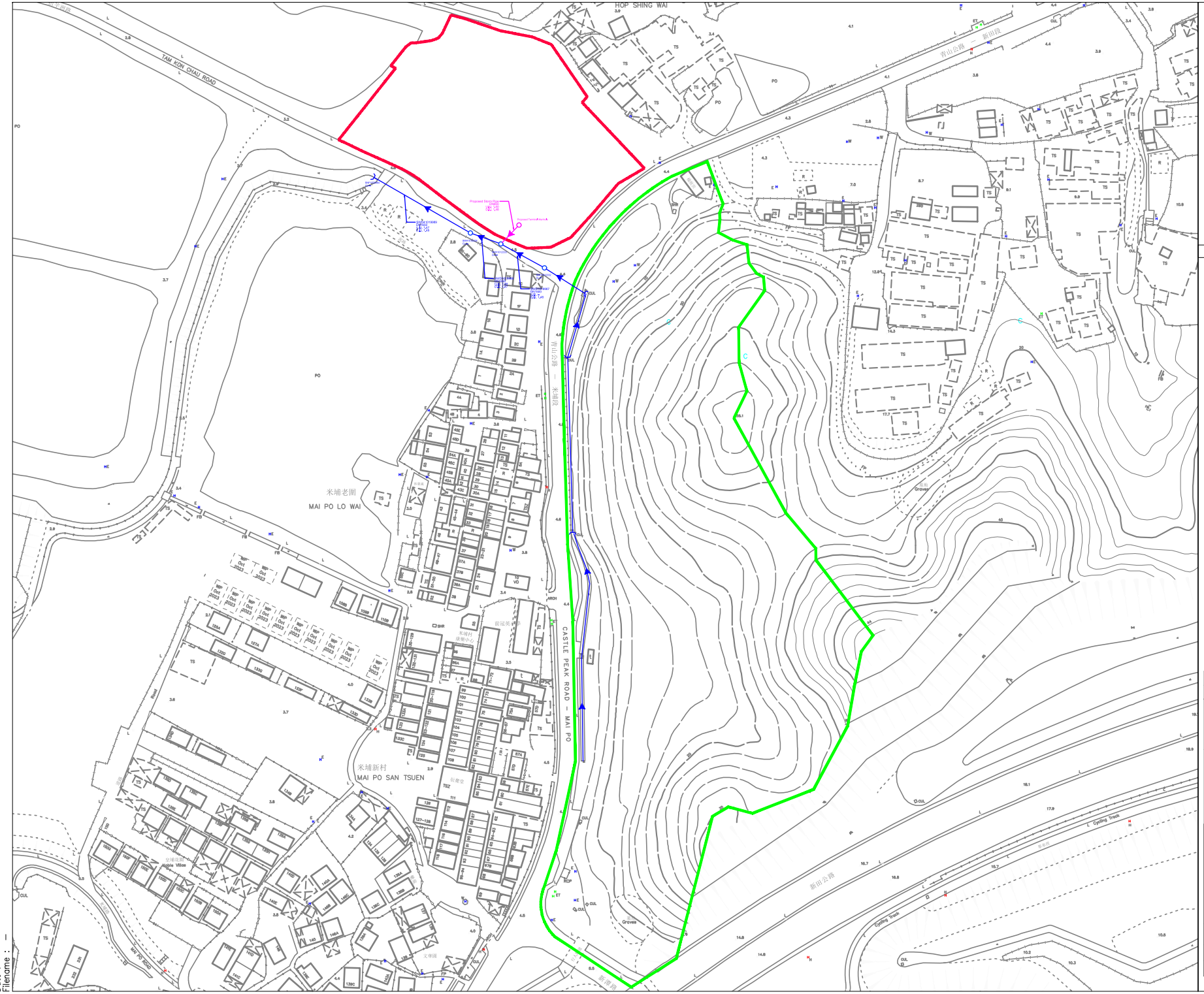
Assessment Point ID	Assessment Point Description	ASR	Noise Criteria, L_{eq} (30 min) *	Description of Noise Sources	Maximum Allowable SWL, dB(A)		Directivity Factor (Q)	No. of Plant	% on-time within 30min (Daytime Peak)	% on-time within 30min (Night-time Peak)	Distance to NSR, d (m)	Correction for, dB(A)					Noise Impact at NSR dB(A)	
			Nighttime (2300-0700)		Daytime & Evening Time (0700-2300)	Nighttime (2300-0700)						Distance	No. of plant	Tonality	Reverberation	Facade	Daytime & Evening Period	Night-time
FR01	RCHE Room at Tower 1	B	49	Proposed Sewage Treatment Plant	**74**	**74**	2	1	100.00%	100.00%	28	-36.9	0	0	0	3	**40**	**40**
																Total =	**40**	**40**

Assessment Point ID	Assessment Point Description	ASR	Noise Criteria, L_{eq} (30 min) *	Description of Noise Sources	Maximum Allowable SWL, dB(A)		Directivity Factor (Q)	No. of Plant	% on-time within 30min (Daytime Peak)	% on-time within 30min (Night-time Peak)	Distance to NSR, d (m)	Correction for, dB(A)					Noise Impact at NSR dB(A)	
			Nighttime (2300-0700)		Daytime & Evening Time (0700-2300)	Nighttime (2300-0700)						Distance	No. of plant	Tonality	Reverberation	Facade	Daytime & Evening Period	Night-time
FR02	RCHE Room at Tower 2	B	49	Proposed Sewage Treatment Plant	**74**	**74**	2	1	100.00%	100.00%	29	-37.4	0	0	0	3	**40**	**40**
																Total =	**40**	**40**

Remark: * Based on ANL-5 or background noise level, whichever is lower.

Appendix 5.1

Directly Extracted Pages from Planning Statement



Directly extracted from Planning Statement

LOCATION PLAN

LEGENDS:

- APPLICATION SITE BOUNDARY
- BOUNDARY OF CATCHMENT A
- EXISTING STORM PIPE/CHANNEL
- EXISTING STORM MANHOLE
- SWD1019988 — STORM PIPE NUMBER
- DN 1500 — PIPE DIAMETER
- U.I.L 1.48 — UPSTREAM INVERT LEVEL (mPD)
- D.I.L 1.47 — DOWNSTREAM INVERT LEVEL (mPD)
- SMH1012333 — STORM MANHOLE NUMBER
- CL – — COVER IEVEL (mPD)
- PROPOSED STORM PIPE
- PROPOSED TERMINAL STORM MANHOLE

Rev	Description	By	Date

Consultant

wsp

Project title

DRAINAGE IMPACT ASSESSMENT

for Proposed Residential Care Homes for the Elderly (RCHE) at Lot DD101 76 S.G & 76 S.H, Mai Po, Yuen Long

Drawing title

CATCHMENTS PLAN AND STORM PIPES UNDER ASSESSMENT

Drawing no.		Rev.
FIGURE 2		0
Drawn: JX	Date: APRIL2025	Checked: – / Approved: –
Scale: –		Status:

Date : –
Filename : –

Appendix 7.1

Aerial Photos

Appendix: 6.1

Title: Aerial Photo (Year 1963)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: JW

Checked by: HN

Rev.: 2.0

Date: Sep 2024

Appendix: 7.1

Title: Aerial Photo (Year 1985)

Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin

RAMBOLL

Drawn by: JW

Checked by: HN

Rev.: 2.0

Date: Sep 2024

Appendix: 7.1	RAMBOLL
Title: Aerial Photo (Year 1999)	Drawn by: JW Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 2.0 Date: Sep 2024

Appendix: 7.1	RAMBOLL
Title: Aerial Photo (Year 2004)	Drawn by: JW Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 2.0 Date: Sep 2024

Appendix: 7.1	RAMBOLL
Title: Aerial Photo (Year 2012)	Drawn by: JW Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 2.0 Date: Sep 2024

Appendix: 7.1	RAMBOLL
Title: Aerial Photo (Year 2017)	Drawn by: JW Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 2.0 Date: Sep 2024

Appendix: 7.1	RAMBOLL
Title: Aerial Photo (Year 2023)	Drawn by: JW Checked by: HN
Project: S16 Planning Application (From 'Village Type Development' to 'Residential Institution (Elderly Home)) for Proposed Development at Lot DD101 76 S.G & 76 S.H., San Tin	Rev.: 2.0 Date: Sep 2024