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D01/01 Environmental Assessment

S12A Rezoning Application for Sai Lam Temple, at Lot Nos. 63, 296 (Part), 331 RP (Part) & 393 S.B. (Part) in D.D. 185, Sheung Wo Che No. 198, Sha Tin

Prepared for Sai Lam (Salvation) Foundation Ltd
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1 INTRODUCTION

1.1 Background

1.1.1 "Sai Lam Temple" comprising Sam Yuen Kung (the Site) is located at Lots Nos. 63, 296 (Part), 331 RP (Part) and 393 S.B (Part) in D.D. 185, Sheung Wo Che No. 198, Sha Tin. It is operated by Sai Lam (Salvation) Foundation Ltd (the Applicant). As advised by the Applicant, the Site, including Sai Lam Temple and Sam Yuen Kung Temple, has a long history of community and religious uses since both Sai Lam Temple and Sam Yuen Kung Temple have been built in the 1920s.The Site is currently occupied by worship hall as well as columbarium use that can accommodate up to 10,960 niches.

1.1.2 The Site is zoned "Village Type Development" ("V") under the draft Sha Tin Outline Zoning Plan (OZP) No. S/ST/35. In order to continue the current operation of the Site, it is proposed to rezone the Site from "V" to "Government, Institution or Community (1)" ("(G/IC(1)") under Section 12A of the *Town Planning Ordinance* (TPO). This rezoning application is compatible with the existing land use in Sheung Wo Che, which is a traditional religious district in Sha Tin. The continued operation of the columbarium can also help resolve the currently significant shortage of columbarium supply confirmed by the government [Note 1].

1.1.3 In order to support the aforementioned planning application, SMEC Asia Limited (SMEC) has been appointed by the Applicant to conduct an Environmental Assessment (EA).

1.2 Site Description

1.2.1 The Site area is about 2524.4m^2. As shown on ***Figure 1-1***, the Site is surrounded by hillsides, mature trees and burial grounds. Sin Tin Tao Home for the Aged is located to the immediate east of the Site. To the immediate north of the Site is a footpath towards To Fuk Shan Tsz (道福山祠).

1.2.2 The Site is located close to public transport services including Sha Tin MTR Station and its adjoining bus terminus. It spends approximately 10-15 minutes between the Site and the aforesaid public transportation means on foot. Visitors can access to the Site either via a footpath from Sha Tin Rural Committee Road or the track from the unnamed access road connecting Sheung Wo Che Garden and Pai Tau Street.

1.2.3 As stated in ***paragraph 1.1.1***, the Site has been occupied since 1920s. As such, generation of wastewater from the Site is not new to the environment.

1.3 Project Description

1.3.1 The existing ancillary columbarium provides 10,960 niches for placing 13,015 urns. The Site area is about 2524.4m^2. The niche number to be applied for will be 10,960 sold niches (8,905 single niches and 2,055 double-urn niches).

1.3.2 The Site is already developed provided with most of the buildings and facilities on ***Figure 1-2***. It comprises two parts namely Part A and Part B that comprising:

Part A

- G/F Worshipping Hall in Building A (H1)
- G/F Storage Room, Ancestral Table Room and 1/F Columbarium in Building B (H2)
- G/F Columbarium and 1/F Columbarium in Building C (H3)

[1] The Press Releases dated 28 July 2016 provided by the Secretary for Food and Health (SFH) on Medical Council and columbarium supply, http://www.info.gov.hk/gia/general/201606/28/P201606280882.htm.

- G/F Columbarium and Worshipping Hall, 1/F Columbarium and 2/F Worshipping Hall in Building D (H4)
- G/F Management Office, Shop and Storage Room and Columbarium, and 1/F Columbarium and Praying Room, Storage Room in Building E (H5)

Part B

- Sitting Out Area (existing)
- Temple of "Sam Yuen Kung", which is a registered temple of the Chinese Temple Committee (existing)
- Surveyed Structures for Storage Use
- Buddha Sculpture (existing)
- Memorial Garden (existing)
- Permanent Toilets (existing)

1.3.3 The operating hours of the Project are from 9am to 6pm during non-festival periods and from 8am to 6pm during festival periods, which include the Ching Ming Festival and the Chung Yeung Festival.

1.3.4 As mentioned in ***paragraph 1.3.2***, most of the buildings and facilities are already in place. Therefore, no major construction works will be carried out. Construction works will involve renovations when necessary. Therefore, adverse environmental impacts including air quality, noise, water quality and waste management arising from this Planning Application are not anticipated.

1.4 Objectives of this Report

1.4.1 This EA study is undertaken to demonstrate the environmental acceptability of the continued operation of Sai Lam Temple. Mitigation measures have been recommended, where appropriate, to alleviate any potential environmental impacts or constraints during the operation.

1.4.2 Potential environmental impacts during the construction phase, though minor and transient, have also been reviewed and mitigation measures have been recommended to reduce any identified environmental impacts to acceptable levels.

Figure 1-1: Site Location and its Environs

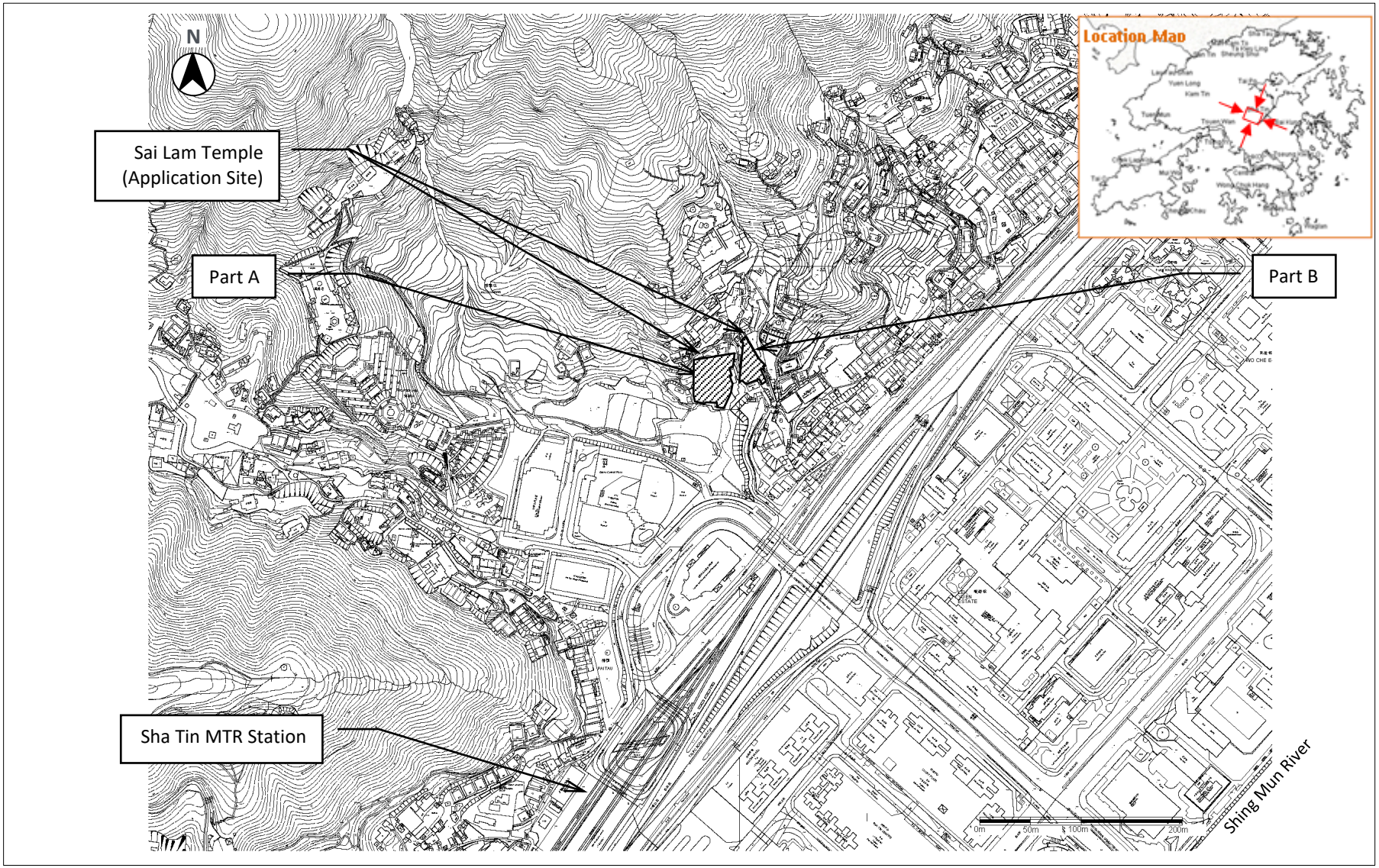
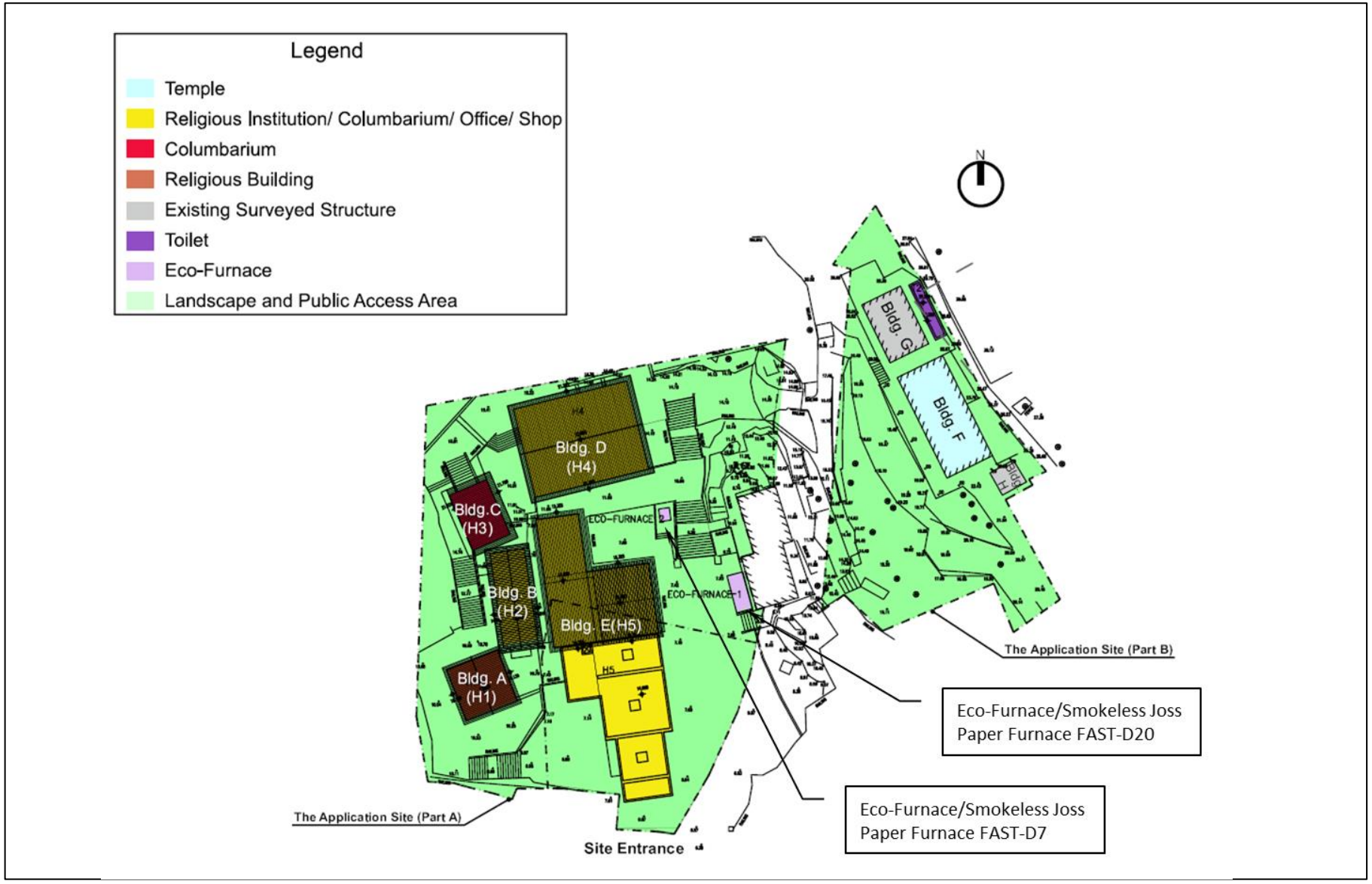


Figure 1-2: Master Layout Plan of the Project



2 AIR QUALITY REVIEW

2.1 Introduction

2.1.1 This section assesses the potential air quality impacts associated with the Project during construction and operation phases. Mitigation measures are recommended where necessary.

2.2 Environmental Legislation and Standards

Air Quality Objectives

2.2.1 The Air Quality Objectives (AQOs) established under the *Air Pollution Control Ordinance* (APCO) (Cap. 311) are given in ***Table 2-1*** below.

Table 2-1: Hong Kong Air Quality Objectives

Pollutant	Averaging Time	Concentration Limit [Note 1], µg/m^3	No. of Exceedance Allowed
Sulphur Dioxide (SO_2)	10-minutes	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10})[Note 2]	24-hour	100	9
	Annual	50	Not applicable
Fine Suspended Particulates ($PM_{2.5}$)[Note 3]	24-hour	50	35
	Annual	25	Not applicable
Nitrogen Dioxide (NO_2)	1-hour	200	18
	Annual	40	Not applicable
Ozone (O_3)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead (Pb)	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 293 Kelvin 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

2.2.2 Enacted under Section 43 of the APCO, the *Air Pollution Control (Construction Dust) Regulation* defines notifiable and regulatory works for achieving the purpose of dust control for a number of activities.

2.2.3 The Regulation requires that any notifiable work [Ref.#2] shall give advance notice to the Environmental Protection Department (EPD), and the contractor shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations

2.2.4 Enacted under Section 43 of the APCO, the *Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations* stipulate that a prior approval from EPD will be required if the total fuel consumption capacity of any fuel-burning equipment or its chimney on premises to be installed or altered exceeds (a) 25 litres (L) of conventional liquid fuel per hour; or (b) 35 kilograms (kg) of conventional solid fuel per hour; or (c) 1,150 megajoules (MJ) of any gaseous fuel per hour.

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

2.2.5 This Regulation takes effect on 1 June 2015 and requires Non-road Mobile Machinery (NRMM), except those exempted, to comply with the prescribed emission standards. From 1 September 2015, all regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites, container terminals and back up facilities, restricted areas of the airport, designated waste disposal facilities and specified processes.

Hong Kong Planning Standards and Guidelines (HKPSG)

2.2.6 The minimum buffer distances required between the relevant class of roads and active open spaces are recommended in Chapter 9 Environment of *Hong Kong Planning Standards and Guidelines* (HKPSG). The relevant buffer distances of HKPSG are summarised in ***Table 2-2*** for ease of reference.

Table 2-2: HKPSG Minimum Setback Distances

POLLUTION SOURCE	TYPE OF ROAD	BUFFER DISTANCE	PERMITTED USES
Road and Highways	Trunk Road and Primary Distributor	>20m	Active and passive recreation use
		3 - 20m	Passive recreational use
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational use
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational use
		<5m	Passive recreational use

2 Notifiable works include site formation, reclamation, demolition of a building, work carried out in any part of a tunnel that is within 100m of any exit to the open air, construction of the foundation of a building, construction of the superstructure of a building and road construction work.

POLLUTION SOURCE	TYPE OF ROAD	BUFFER DISTANCE	PERMITTED USES
	Under Flyovers	-	Passive recreational use

Source: Adapted from Table 3.1 of Chapter 9 Environment of HKPSG.

2.3 Background Air Quality

2.3.1 The Site is located at Lot Nos. 63, 296 (Part), 331 RP (Part) & 393 S.B (Part) in D. D. 185, Sheung Wo Che No. 198, Sha Tin. The Site is mainly surrounded by hillsides, trees and religious related buildings including To Fuk Shan Tsz to its north, Sin Tin Tao Home for the Aged to its south and some other village houses scattered around the surrounding area. Based on the Site visits conducted on 30 March 2022, no chimneys were identified within 500m from the Site.

2.3.2 Given the above, there are no major off-site/cumulative sources of air pollution in the background concentrations at the surrounding of the site.

2.4 Assessment and Mitigation

Identification of Air Sensitive Receivers (ASRs)

2.4.1 Based on the observations of the aforementioned Site visits and the information on the survey map, representative Air Sensitive Receivers (ASRs) within an Air Quality Study Area of 500m from the Site boundary are listed in ***Table 2-3*** and shown on ***Figure 2-1***.

Table 2-3: Representative Air Sensitive Receivers

ASR	LAND USE	GROUND LEVEL (MPD)	SHORTEST DISTANCE TO SITE BOUNDARY (M)
A1	To Fuk Shan Tsz	~26.4	~20
A2	Village House No. 189A, Sheung Wo Che	~34.7	~6
A3	Grand Central Plaza Tower 1	~30.3	~70
A4	Sin Tin Toa Home for the Aged	~15.8	~31
A5	Village House No. 172, Sheung Wo Che	~11.1	~45

Construction Phase

2.4.2 No major construction work except minor works such as renovation works will be required for the Project. As such, significant fugitive dust emission during the construction phase is not anticipated.

Operation Phase

Vehicle Emissions

2.4.3 The Site has no vehicular access and it can only be reached on foot via the footpath connecting to Sha Tin Rural Committee Road. The public roads located closest to the Site are Sha Tin Rural Committee Road, Sheung Wo Che Road and Tai Po Road – Sha Tin, which are about 90m to 125m away from the Site as shown on ***Figure 2-2***. As the distances between the Site boundary and all the public roads are well within the recommended buffer distances recommended in HKPSG as

summarised in ***Table 2-2***, adverse vehicular emission impacts arising from the Site are not expected.

Emissions from Smokeless Joss Paper Furnaces

2.4.4 In order to reduce the potential air quality impact arising from joss paper burning, two sets of smokeless joss paper furnaces with high dust and smoke removal efficiency have been purchased and installed on Site. The exhaust outlets of the furnaces are properly located, which are away from the ASRs identified in ***Table 2-3***. No comment was received from EPD on the aforementioned furnaces for the licence application under the *Private Columbaria Ordinance*. Details of these burners are provided in ***Appendix A*** for reference.

2.4.5 The Applicant is committed to follow the major considerations as well as the good operation practice and administrative measures recommended in Guidelines on Air Pollution Control for Joss Paper Burning at Chinese Temples, Crematoria and Similar Places published by EPD. This includes:

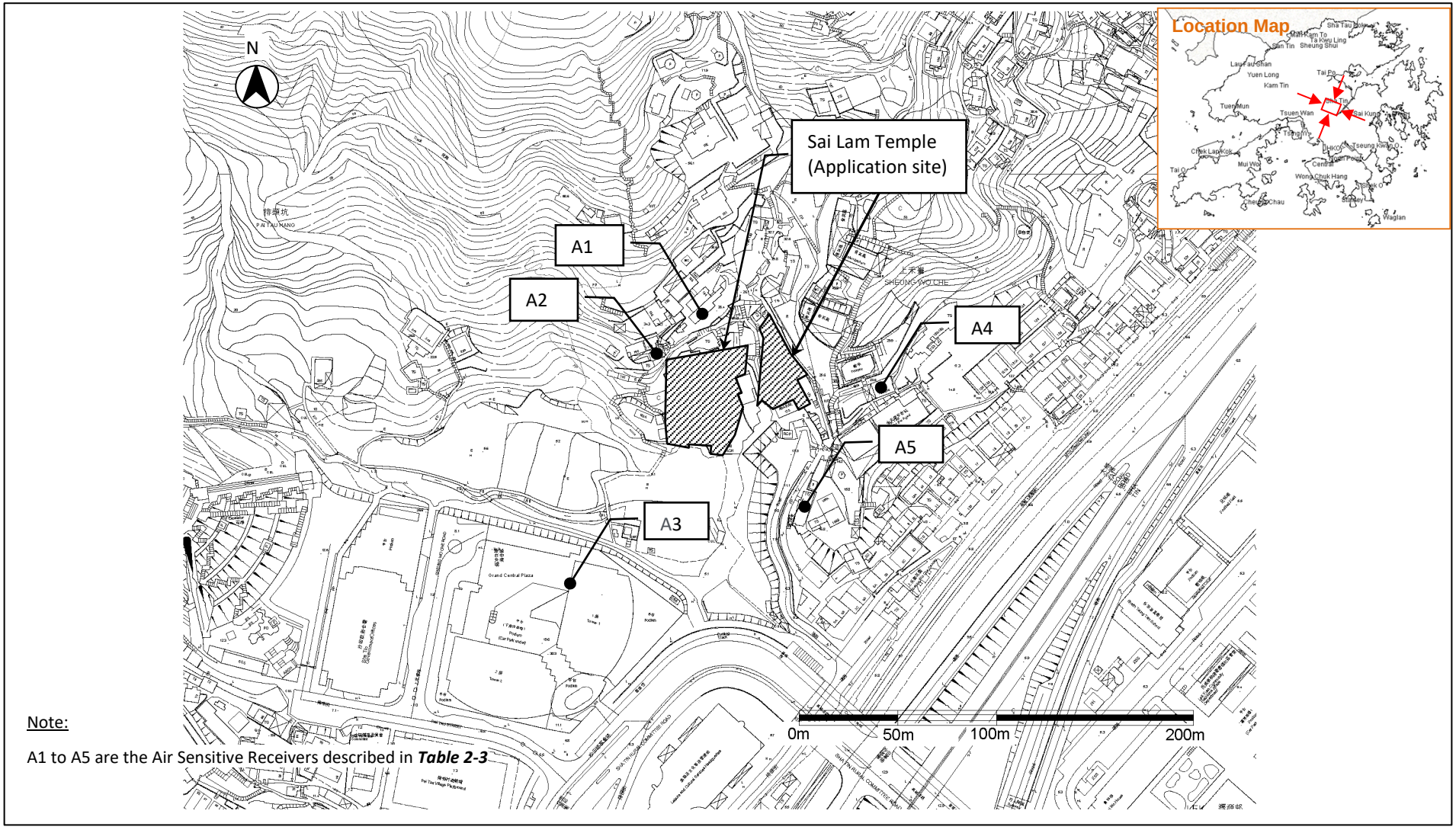
1. Encourage visitors to adopt green worship, e.g. flower worshipping and fruit worshipping, etc.
2. Try to arrange off-site burning as far as practicable, which the off-site burning facilities should be remote from air sensitive receivers with provision of proper joss paper furnaces and effective air pollution control equipment.
3. If the above two items are not practicable and on-side joss paper burning is inevitable, the Applicant shall provide joss paper furnaces and effective air pollution control equipment to achieve no visible emissions and no environmental nuisance to achieve no visible emissions and no environmental nuisance are identified to nearby ASRs. Also, the following measures shall be provided and implemented:
   (a) Provide trained staff to operate the smokeless furnaces and prohibit visitors/other people from operating the furnaces.
   (b) Ensure that the air pollution control equipment on the furnaces has been turned on prior to use and is operating properly.
   (c) Allow smokeless joss paper furnaces for use in memorial ceremonies upon request only.
   (d) Prohibit joss paper burning without the use of the smokeless joss paper furnaces.
   (e) Prohibit other usage of the smokeless joss paper furnaces.
   (f) Advise and encourage visitors to burn joss paper to be provided by the Applicant so as to control the quantity and quality of burning materials.
   (g) Provide guidance to visitors on minimising the quantity of burning materials and removing non-paper materials (such as plastic wrapping) before burning.
   (h) The furnaces with air pollution control equipment should be properly operated and maintained all the time.

2.5 Conclusions

2.5.1 During construction, only minor works will be carried out and so fugitive dust emissions are not anticipated. No special measures are likely to be required to control dust and no adverse air quality impact is anticipated during the construction phase of the Project.

2.5.2 During operation, no adverse vehicular emission impacts generated by the visitors during special festivals to the Site is anticipated. Smokeless joss paper furnaces with dust control measures will be installed and the recommendations in EPD's Guidelines on Air Pollution Control for Joss Paper Burning at Chinese Temples, Crematoria and Similar Places will be followed. Therefore, no adverse air quality impact is anticipated during the operation phase of the Project.

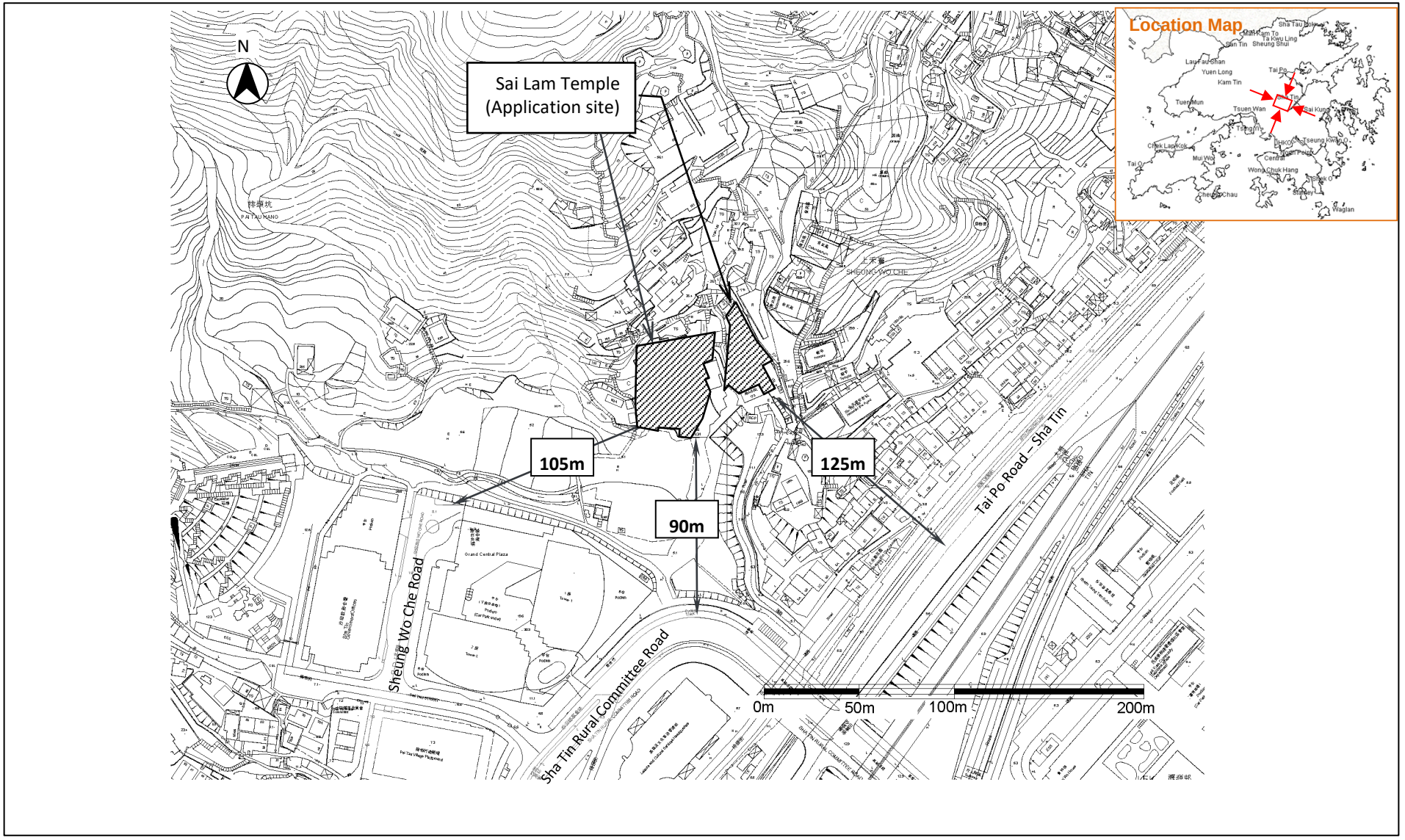
Figure 2-1: Representative Air Sensitive Receivers



Note:

A1 to A5 are the Air Sensitive Receivers described in ***Table 2-3***

Figure 2-2 Distance between the Site and the Closest Major Roads



3 NOISE

3.1 Introduction

3.1.1 This section assesses the potential noise impacts generated by the Project during the construction and operation phases. Mitigation measures are recommended where necessary.

3.2 Environmental Legislation and Standards

Noise Control Ordinance (Cap. 400)

3.2.1 The main piece of legislation controlling environmental noise impact is the *Noise Control Ordinance* (NCO). The NCO enables regulations and Technical Memoranda (TM) to be enacted, which introduce detailed control criteria, measurement procedures and other technical matters.

3.2.2 Construction noise are governed under the following TMs:

- Technical Memorandum on Noise from Percussive Piling (PP-TM).
- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM).
- Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM).

3.2.3 No percussive piling will be conducted for the Project and so the PP-TM is not applicable. With reference to Plan No. EPD/AN/NT-04 “Designated Areas – Sha Tin, Ma On Shan and Sai Kung”, the Site is entirely located within the Designated Area (DA). Thus, DA-TM is applicable.

3.2.4 In addition, there are the following requirements under the NCO:

- Hand-held breakers having a mass of above 10kg and any air compressor capable of supplying compressed air at 500kPa or above must be fitted with a Noise Emission Label issued under the Noise Control (Hand Held Percussive Breakers) Regulation and Noise Control (Air Compressors) Regulation of NCO.
- Construction Noise Permit (CNP) must be applied by the Contractor from EPD for any percussive piling at any time or any other construction activities conducted within restricted hours (for all days 7pm to 7am the next day and at all times on Public Holidays or Sundays) as defined in NCO.

3.2.5 There is no statutory control for noise arising from construction activities (other than percussive pilling) during normal working hours (7am to 7pm from Monday to Saturday, not including general holidays). Nevertheless, Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN2/93 Noise from Construction Activities – Non-statutory Controls (ProPECC PN2/93) recommends a guideline to minimise the potential construction noise impact during normal hours. The construction noise levels in terms of $L_{eq(30min)}$ as set out in ProPECC PN 2/93 shall be complied with:

- 75dB(A) for dwelling.
- 70dB(A) or 65dB(A) during examination for school.

3.2.6 For fixed plant noise during operation stage, the Applicant shall comply with the requirements of the Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (TM-IND).

Hong Kong Planning Standards & Guidelines (HKPSG)

3.2.7 For the noise sensitive uses near the Site, the requirements of Table 4.1 of Chapter 9 of HKPSG shall be followed:

1. 5dB(A) below the appropriate Acceptable Noise Levels (ANLs) shown in Table 2 of the Technical Memorandum for the Assessment of Noise from Places Other than Domestic Premises, Public Places or Construction Sites and
2. the prevailing background noise levels (in the case of the background being 5 dB(A) lower than the Acceptable Noise Levels).

3.3 Assessment and Mitigation

Identification of Noise Sensitive Receivers (NSRs)

3.3.1 Based on the Site observations on 30 March 2022, and the information on the survey map, representative Noise Sensitive Receivers (NSRs) within a Noise Study Area of 300m from the boundary of the Site are listed in ***Table 3-1*** and shown on ***Figure 3-1***.

Table 3-1: Representative Noise Sensitive Receivers

NSR	LAND USE	GROUND LEVEL (MPD)	SHORTEST DISTANCE TO SITE BOUNDARY (M)
N1	To Fuk Shan Tsz	~26.4	~20
N2	Village House No. 189A, Sheung Wo Che	~34.7	~6
N3	Sin Tin Toa Home for the Aged	~15.8	~31
N4	No. 3A, Sheung Wo Che Garden House	~5.1	~99
N5	Village House No. 172, Sheung Wo Che	~11.1	~45

Construction Phase

3.3.2 No major construction work except minor renovation works will be required for the Project. As such, noise from the construction work will be minimal.

3.3.3 A pedestrian staircase near the ramp connecting Sha Tin MTR Station and Pai Tau Street is proposed by the Applicant to alleviate the potential traffic and pedestrian impact. The proposed pedestrian staircase will be completely outside the Site boundary and it is yet to be agreed by the relevant government departments and other parties such as MTR Corporation Limited (MTR). Therefore, the details of construction works for the staircase are not available at this planning stage. Notwithstanding, the construction works of the staircase will generally include foundation works, concreting and material lifting. With the provision and implementation of the following mitigation measures, no adverse construction noise impact is anticipated:

1. Construction shall be carried out during non-restricted hours from 07:00 to 19:00 on days not being general holidays as far as practicable.
2. The mitigation measures recommended in ProPECC PN2/93 should be implemented where applicable.
3. Quiet Powered Mechanical Equipment (PME) and construction method should be adopted if possible.
4. The Contractor shall devise and execute working methods to minimise the noise impacts on the surrounding sensitive uses, and provide experienced personnel with suitable training to ensure that those methods are implemented.
5. Switch off idling equipment.
6. Regular maintenance of equipment.
7. Fit muffler or silencer for equipment, when necessary.

8. Noisy equipment and noisy activities should be located as far away from the NSRs as practicable.
9. Use quiet construction method, e.g. use saw-cut or hydraulic crusher instead of excavator-mounted percussive breaker, as far as practicable.
10. PME should be kept to a minimum and the parallel use of noisy equipment / machineries should be avoided as far as practicable.
11. Erect noise barriers or noise enclosure for the PME if appropriate when necessary.
12. Implement good house-keeping and provide regular maintenance to the PME.
13. Spot check resultant noise levels at nearby NSRs, if needed.

Operation Phase

3.3.4 The operating hours of the Project will be from 9am to 6pm for non-festival periods and from 8am to 6pm for festival periods. Sources of potential noise include religious ceremonies/ activities and noise from the operation of Building Services (BS) equipment are discussed below:

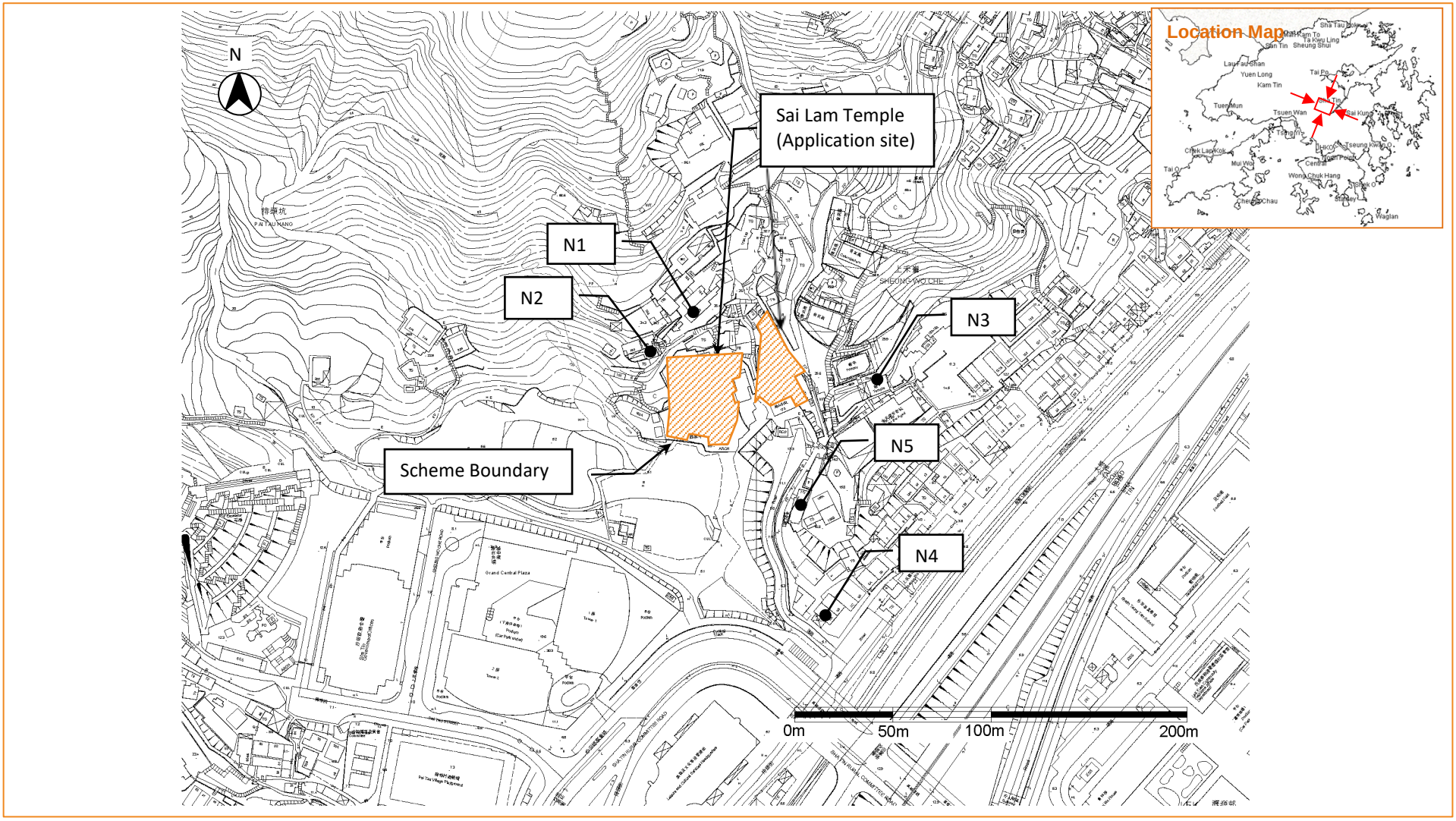
1. **Religious Ceremonies/Activities** – the Site will be used for peaceful and quiet contemplation and, upon request, only small scale religious ceremonies/activities are allowed to be carried out during non-festival periods. As such, no adverse noise impact on the nearby NSRs is anticipated.
2. **BS Equipment** – the major BS equipment will include:
   (a) Split-type air conditioners: they are currently installed and in use which are fully screened from NSRs by building structures within the Site and the surrounding topography. Thus, the associated noise impact will be minimal.
   (b) Water pumps and transformers: they are currently installed inside Mechanical and Electrical (M&E) rooms and so the associate noise impact will be minimal.
   (c) Smokeless Joss Paper Furnaces: such furnaces have been widely used in Hong Kong. The major noise sources of such furnace include fan and water pump (for furnace installed with scrubber) only and so no significant noise is arising from smokeless joss paper furnace.

3.4 Conclusions

3.4.1 During construction, only minor works will be carried out for the Site and so construction noise impact will be minimal. With the provision and implementation of the recommended measures, no adverse construction noise impact arising from the pedestrian staircase proposed by the Applicant is anticipated.

3.4.2 During operation, noise impact arising from religious ceremonies/ activities or BS equipment will be minimal.

Figure 3-1: Representative Noise Sensitive Receivers



4 WATER QUALITY

4.1 Introduction

4.1.1 This section addresses the potential water quality impacts arising from the Project during construction and operation phases. Mitigation measures are recommended, where necessary, as part of the assessment.

4.2 Environmental Legislation and Standards

Water Pollution Control Ordinance (Cap. 358)

4.2.1 The Water Pollution Control Ordinance (WPCO) provides a mechanism for setting effluent standards. These are included in the Technical Memorandum Standards for Effluents Discharged in to Drainage and Sewerage Systems, Inland and Coastal Waters (WPCO Cap 358, S.21). All discharges into government sewerage systems, storm water drainage systems, marine and inland waters are required to comply with the standards stipulated in the Technical Memorandum.

Construction Site Drainage, ProPECC PN1/94

4.2.2 Under ProPECC Practice Note PN1/94 Construction Site Drainage (ProPECC PN1/94), various guidelines for the handling and disposal of construction site discharges are included. The guidelines include the use of sediment traps, wheel washing facilities for vehicles leaving the site, adequate maintenance of drainage systems to prevent flooding and overflow, sewage collection and treatment, and comprehensive waste management (collection, handling, transportation, and disposal) procedures.

4.3 Water Sensitive Receiver

4.3.1 Desktop study on the OZP, topographic map and site visit were conducted, one water sensitive receiver is identified within 500m from the Site boundary, which is listed as follows:

- Natural watercourses in upstream area/ Pai Tau Hang (WSR1)

4.3.2 The location of WSR1 is shown in ***Figure 4-2***.

4.3.3 Based on the desktop study within 500m Study Area, the followings were observed:

1. No areas of ecological or conservation values including marine conservation areas, existing or gazetted proposed marine parks and marine reserves, sites of special scientific interest (SSSI), existing or gazetted proposed country parks and special areas, wetlands, mangroves and important freshwater habitats are identified within 500m from the Site.
2. The downstream of the stream and the aforementioned box culverts should not be abstracted for potable water supply.
3. The downstream of the stream and the aforementioned box culverts should not be abstracted for irrigation and aquaculture.
4. No fish spawning grounds, fish culture zones, shellfish harvesting/culture site and brackish/freshwater fish ponds are identified within 500m from the Site.
5. No beaches and other recreational areas are identified within 500m from the Site.
6. The downstream of the stream and the aforementioned box culverts should not be abstracted for cooling, flushing and other industrial purposes.
7. No areas for navigation/shipping including typhoon shelters, marinas and boat parks are identified within 500m from the Site.

4.4 Identification of Water Quality Impact

Construction Phase

4.4.1 No major construction work except minor works such as renovation works. Potential sources of pollution include construction site runoff and sewage effluent from construction workforce. With the implementation of appropriate mitigation measures mentioned in ***paragraph 4.4.2***, water pollution from the construction work will be minimal.

4.4.2 The Applicant shall handle the site drainage during the construction phase according to ProPECC No. PN1/94 to minimise and properly control turbid/muddy water. The mitigation measures or good practices for dealing with the site drainage and surface run-off include:

1. Any surface run-off generated from construction works should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.
2. Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
3. Construction works should be programmed to minimise soil excavation works in rainy season (April to September). If excavation in soil could not be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest/edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.
4. Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.
5. Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.
6. Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.
7. Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.

8. Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC No. PN1/94.
9. Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary.

4.4.3 During construction, it is recommended that portable toilets should be provided for construction workers. These will be supplied, maintained and emptied (at a sewage treatment facility) by a special contractor.

Operation Phase

4.4.4 During operation phase, sewage/wastewater generation from staff and visitor is the major source of water pollution. There is no catering service provided to the visitors or site staff. At present, no municipal sewerage system near the downstream of Part A of the Site. Sewage generated from the existing use of the Site is collected and treated by a septic tank/ soakaway pit at Part A.

4.4.5 Five Permanent toilets are located adjacent to Sam Yuen Kung of Part B of the Site in order to discharge sewage into the downstream municipal sewerage system. In order to minimise the sewerage impact, approximately one to two portable chemical toilets will also be provided for the visitors during peak periods e.g. during Ching Ming and Chung Yeung Festivals. The proposed temporary chemical toilets to be provided during peak periods will be located adjoining the disabled toilet as shown on ***Figure 4-1***.

4.4.6 During non-peak periods, the staff and visitors will use the permanent toilets connected to the municipal sewerage system as mentioned in ***paragraph 4.4.4***. The sewage stored in the smokeless joss paper furnace will be collected and tankered away by licensed contractor when necessary, which is anticipated approximately once per week.

4.4.7 During peak periods, additional sewage from visitors collected in the portable chemical toilets will be tankered away off-site by a licensed collector. The sewage stored in in the chemical toilets and the wastewater of the furnace are expected to be tankered approximately once per day.

4.4.8 Use of fertilisers and pesticides is the only major contamination source of surface runoff during the operation phase. Regarding the trees or plantings in the Site, environmental-friendly fertilisers and pesticides will be adopted for these plantings. The types of fertilisers and pesticides to be used will make reference to the guidelines published by the Agriculture, Fisheries and Conservation Department (AFCD) including "*Good Agricultural Practices – General Guidelines: Production of Local Vegetables*" and "*Good Agricultural Practices for Crop Production: Farm Operation – Use of Fertilizers*". Therefore, adverse water quality impact on surface runoff from the planting areas due to the use of the aforementioned fertilisers and pesticides is not anticipated.

4.4.9 With the implementation of the above mitigation measures, adverse water pollution from the operation of the Site is not anticipated will be minimal.

4.5 Conclusions

4.5.1 During construction, only minor renovation works will be carried out. With the implementation of the mitigation measures and good practice as recommended in ***paragraph 4.4.2***, water pollution associated with construction phase will be minimal.

4.5.2 During operation, no adverse water quality impact is anticipated from the toilets or joss paper furnaces because sewage and wastewater will be discharged to municipal sewer or collected and tankered away off-site by a licensed collector. As such, no adverse water quality impact is anticipated during the operational phase of the Project.

Figure 4-1: Proposed Locations of Toilets in the Future

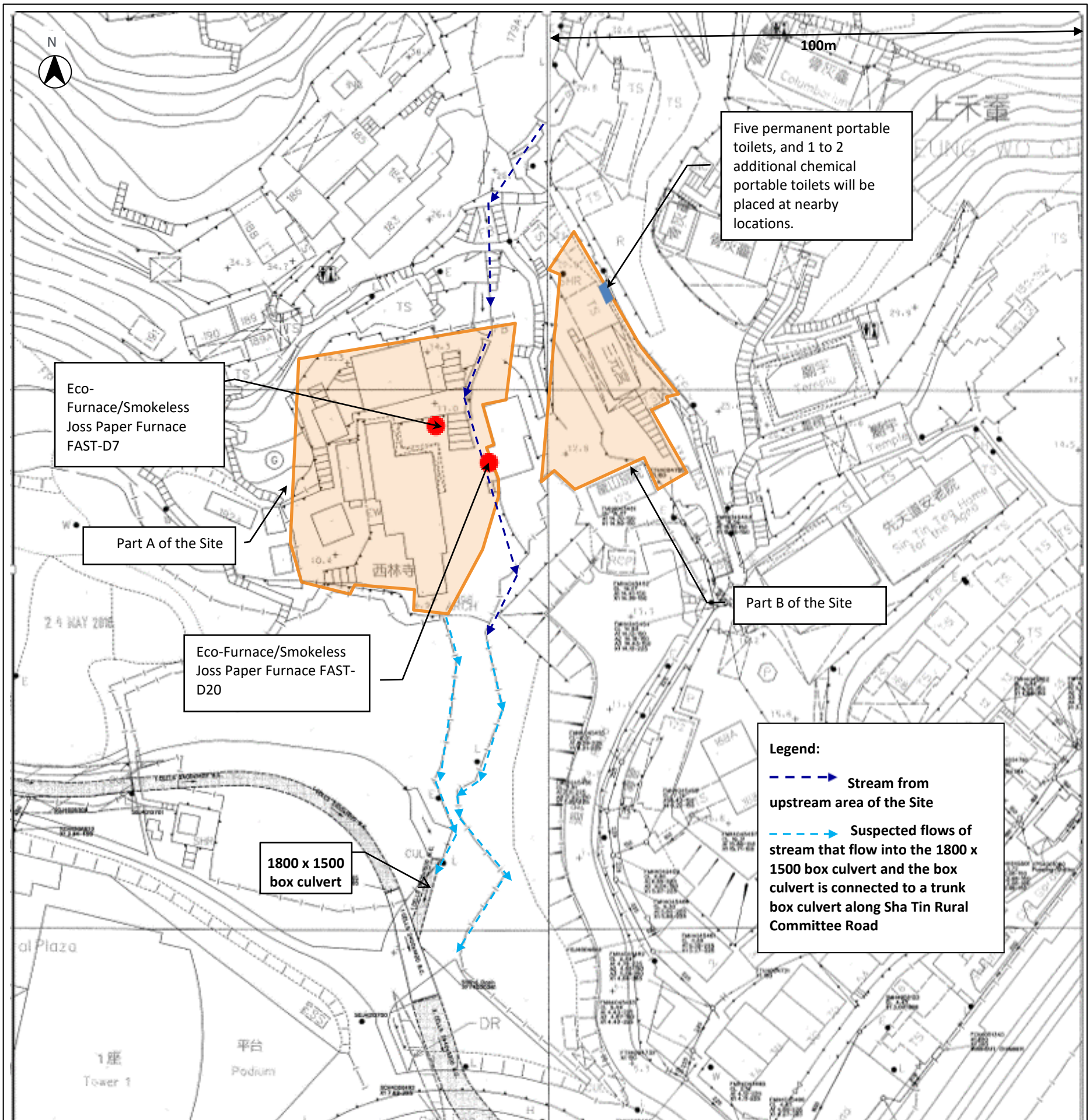
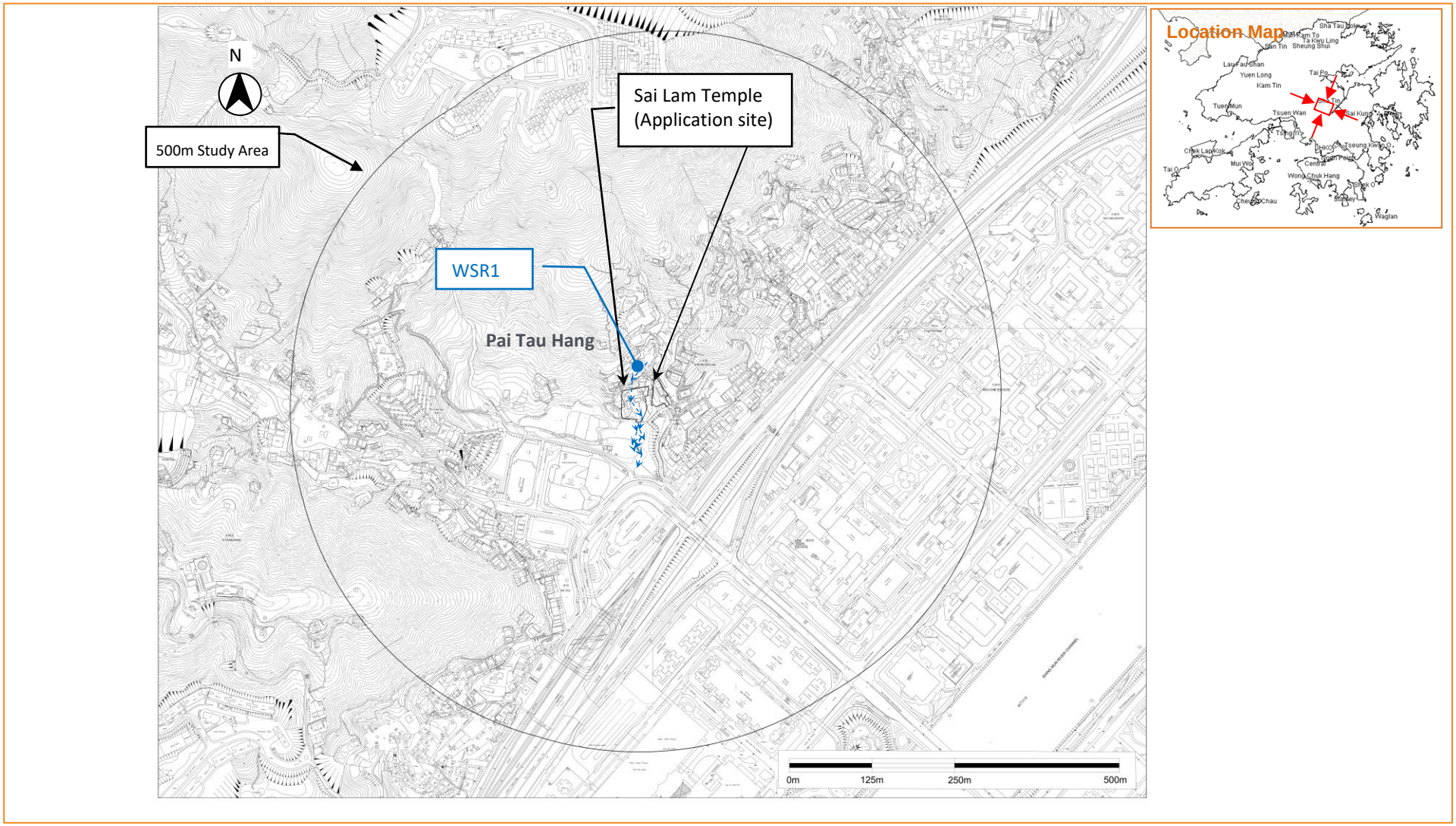


Figure 4-2 Locations of the Representative Water Sensitive Receivers (WSR) within 500m Study Area



5 WASTE MANAGEMENT

5.1 Introduction

5.1.1 An evaluation of the potential waste management implications associated with the construction and operation of the Project is presented in this section. Mitigation measures are recommended as part of the assessment, where necessary.

5.2 Environmental Legislation and Standards

5.2.1 In carrying out the assessment, references have been made to the following relevant legislation, documents and guidelines that are applicable to waste management and disposal in Hong Kong:

- The Waste Disposal Ordinance (Cap. 354) (WDO) and subsidiary legislation such as the Waste Disposal (Chemical Waste) (General) Regulation sets out requirements for the storage, handling and transportation of all types of wastes, and subsidiary legislation such as Waste Disposal (Charges for Disposal of Construction Waste) Regulation.
- Building Department Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers – Waste Minimisation - Provision of Fitments and Fittings in New Buildings (APP-114)
- Building Department Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers – Control of Environmental Nuisance from Construction Sites (ADV-4)
- Building Department Practice Notes for Authorised Persons, Registered Structural Engineers and Registered Geotechnical Engineers – Construction and Demolition Waste (ADV-19)
- Building Department Practice Notes for Registered Contractors – Control of Environmental Nuisance from Construction Sites (PNRC-17)
- Best Practice Guide for Environmental Protection on Construction Sites, Hong Kong Construction Association
- Environmental, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 19/2005, Environmental Management on Construction Sites.
- Environmental, Transport and Works Bureau (ETWB) Technical Circular (Works) No. 22/2003A, Additional Measures to improve Site Cleanliness and Control Mosquito Breeding on Construction Sites.
- Development Bureau (DEVB) Technical Circular (Works) No. 6/2010, Trip Ticket System for Disposal of Construction & Demolition Materials.

5.3 Potential Waste Management Impact and Mitigation

Construction Phase

5.3.1 No major construction work except minor renovation works will be required for the Project. As such, it is anticipated that no significant amount of construction waste will be generated.

Operation Phase

5.3.2 The only major type of waste that will be generated from the operation of the Site would be Municipal Solid Waste (MSW). This will be collected and disposed of regularly by a licensed waste collector and disposed of at an appropriate waste disposal facility. Since no catering service will be provided, no significant amount of food waste will be generated during the operation phase. In addition, different types of waste will be considered to be reused and recycled by the Applicant as far as practicable before they are disposed. As such, no adverse

waste management impact is anticipated and no special measures are likely to be required to manage MSW.

5.4 Conclusions

5.4.1 No major construction work except minor renovation works will be required for the Project. As such, it is anticipated that no significant amount of construction waste will be generated.

5.4.2 During operation, MSW will be the major type of waste that will be generated, and it will be collected and disposed of regularly. As such, no adverse waste management impact is anticipated.

6 CONCLUSIONS

6.1.1 Sai Lam Temple, comprising Sam Yuen Kung (the Site), is located at Lots Nos. 63, 296 (Part), 331 RP (Part) and 393 S.B (Part) in D.D. 185, Sheung Wo Che No. 198, Sha Tin. The Site is currently occupied by worship hall as well as columbarium use that can accommodate 10,960 niches. The Site is currently zoned "V". In order to continue the operation of the Site, it is proposed to rezone the Site from "V" to "G/IC(1)". The niche number to be applied for will be 10,960 sold niches (8,905 single niches and 2,055 double-urn niches). The air quality, noise, water quality and waste management have been assessed in this EA Report to support the rezoning application.

6.1.2 In terms of air quality, as only minor renovation works will be carried out during the construction phase, air quality during construction phase will be minimal. During operation phase, the Applicant shall follow the major considerations as well as good operation practice and administrative measures recommended in *Guidelines on Air Pollution Control for Joss Paper Burning at Chinese Temples, Crematoria and Similar Places* published by EPD. Therefore, no adverse air quality impact is anticipated during the operational phase.

6.1.3 As only minor renovation works will be carried out during the construction phase, significant construction noise impact is not anticipated. During operation, no adverse noise impact is anticipated from religious ceremonies/ activities, traffic or the operation of building services equipment. Therefore, no adverse noise impact is anticipated during the operational phase of the Project.

6.1.4 Water quality impact during construction phase is not anticipated. The Applicant shall handle the site drainage during the construction phase according to ProPECC No. PN1/94 and no adverse water quality impacts are therefore anticipated during the construction phase. During operation, no adverse water quality impact is anticipated from the toilets or joss paper furnaces because sewage and wastewater will be discharged to municipal sewer or collected and tankered away off-site by a licensed collector. The Applicant shall seek consent from relevant departments, including EPD and DSD, relating to the discharge of sewage and wastewater from the smokeless furnaces into government sewers.

6.1.5 In terms of waste management, no major construction work will be required. As such, no significant construction waste is anticipated and all waste generated will be handled and disposed of in accordance with the Waste Disposal Ordinance. During operation, MSW is the only major type of waste that will be generated, which will be collected and disposed of regularly. As such, no adverse waste management impact is anticipated and no special measures are likely be required to manage MSW.

6.1.6 With the implementation of the recommended mitigation measures and good site practice, the findings of this Environmental Assessment study demonstrate the environmental acceptability of the Project, both during renovation and operation.

Appendix A SMOKELESS FURNACE CATALOGUE

西林寺
設計、供應、安裝及保養
乾式「寶潔科 綠化寶系統™」全功能環保化寶系統工程

參考編號： 7880/18/Q15-1718/CCLJ/L006
日期 ： 2019 年 3 月 12 日

條件及條款

a. 系統規格

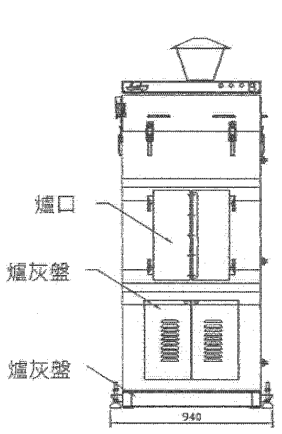
設計、供應、安裝及保養一台乾式「寶潔科 綠化寶系統™」型號：FAST-D7 的環保化寶系統。系統規格如下：

設備	規格	型號：FAST-D7
全系統	冥鏹燃燒量	7 公斤/小時（約 4 條兩呎高的四方形元寶紙，適合一般寺院使用）
	總尺寸（mm）（闊 x 深 x 高）	約 940 x 1496 x 2163
	抽風量（於室溫時量度）	0.1 m^3/s
	運行重量	約 0.35 噸
	功率	1 kW
	供電要求	220V/1ph/50Hz
	外殼用料	主要為不銹鋼 304 材料
	煙塵排放濃度	少於 30 mg/m^3
	除塵效率	高於 90%
燃燒倉	爐口尺寸（mm）（闊 x 高）	約 330 x 400
	爐內尺寸（mm）（闊 x 深 x 高）	約 400 x 620 x 605
抽風機	數量	一台
乾式濾芯（連自動反吹裝置）	數量	18 支
噪音值（與系統距離為一米）	聲壓級（dBA）	66.57

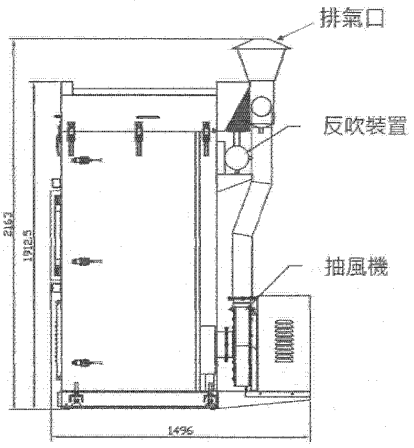
參考編號： 7880/18/Q15-1718/CCLJ/L006
日期　　： 2019 年 3 月 12 日

條件及條款

b. 系統設計圖如下

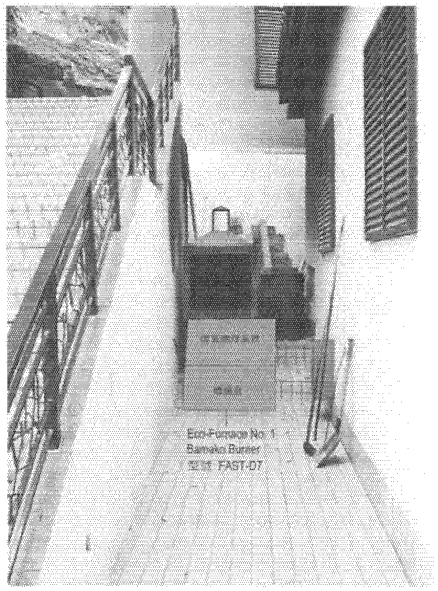


正面圖



側面圖

c. 系統選址示意圖如下



參考編號： 7880/18/Q15-1718/CCLJ/L006
日期　　： 2019 年 3 月 12 日

條件及條款

d. 系統規格

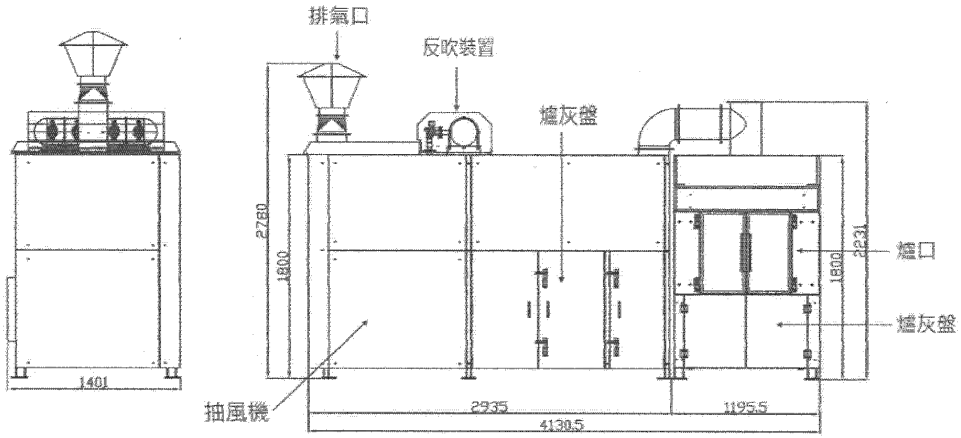
設計、供應、安裝及保養一台乾式「寶潔科 綠化寶系統™」型號：FAST-D20 的環保化寶系統。系統規格如下：

設備	規格	型號：FAST-D20
全系統	冥鏹燃燒量	20 公斤/小時（約 10 條兩呎高的四方形元寶紙/ 50 個 400 克的衣包）
	總尺寸（mm）（闊 x 深 x 高）	約 4131 x 1401 x 2780
	抽風量（於室溫時量度）	0.25m³/s
	運行重量	約 4 噸
	功率	3.3kW
	供電要求	220V/1ph/50Hz
	外殼用料	主要為不銹鋼 304 材料
	煙塵排放濃度	少於 30 mg/m³
	除塵效率	高於 90%
燃燒倉	爐口尺寸（mm）（闊 x 高）	約 515 x 400
	爐內尺寸（mm）（闊 x 深 x 高）	約 750 x 600 x 765
抽風機	數量	一台
乾式濾芯（連自動反吹裝置）	數量	45 支
噪音值（與系統距離為一米）	聲壓級（dBA）	65.56

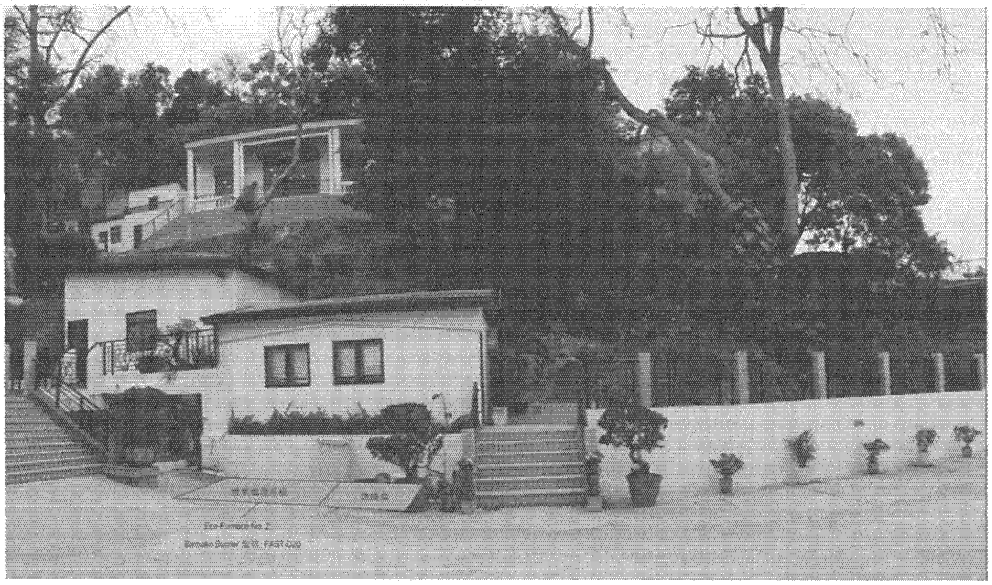
參考編號： 7880/18/Q15-1718/CCLJ/L006
日期　　： 2019 年 3 月 12 日

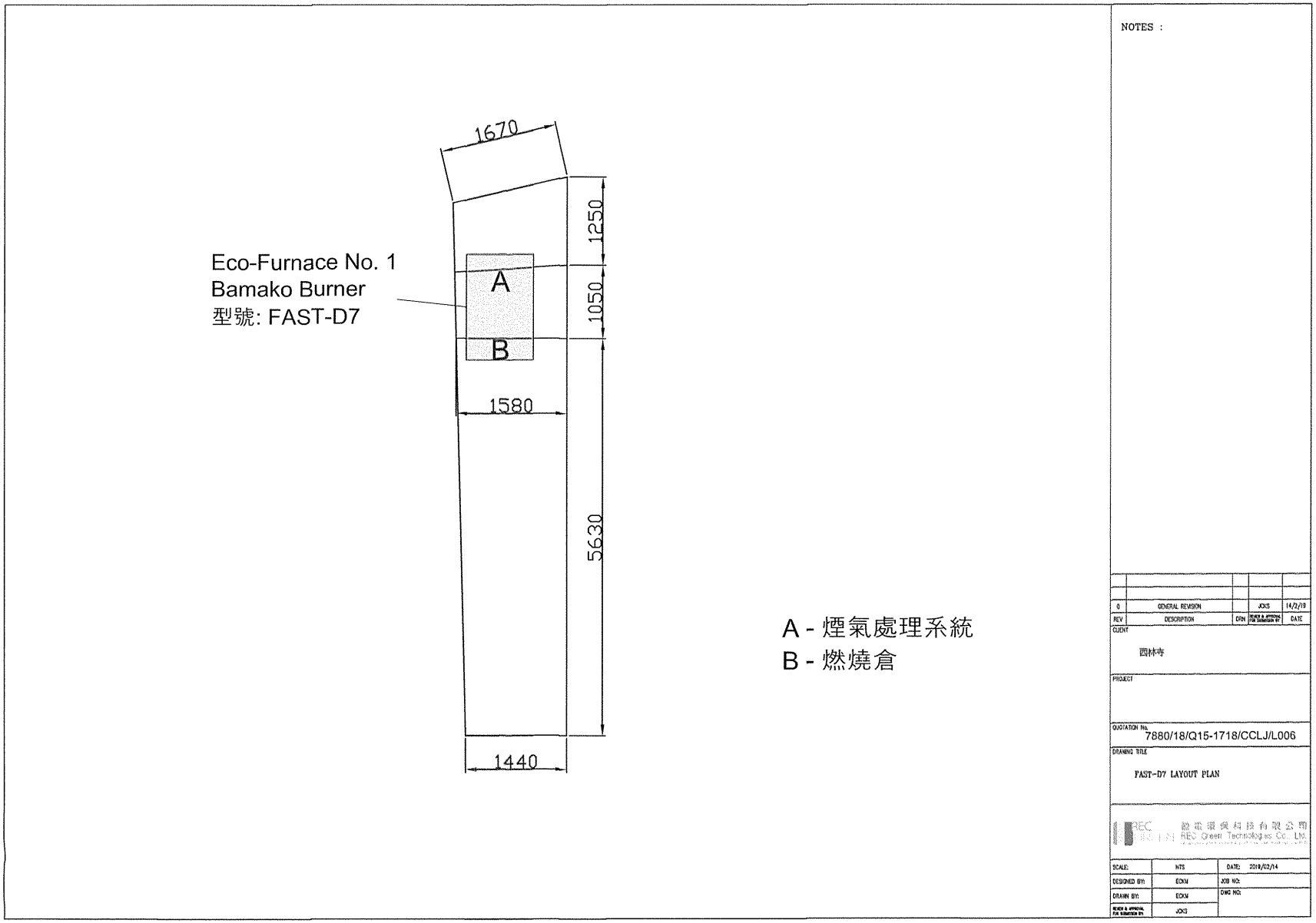
條件及條款

e. 系統設計圖如下



f. 系統選址示意圖如下

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1670
1250
1050
5630
1580
1440
A
B
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Bamako Burner
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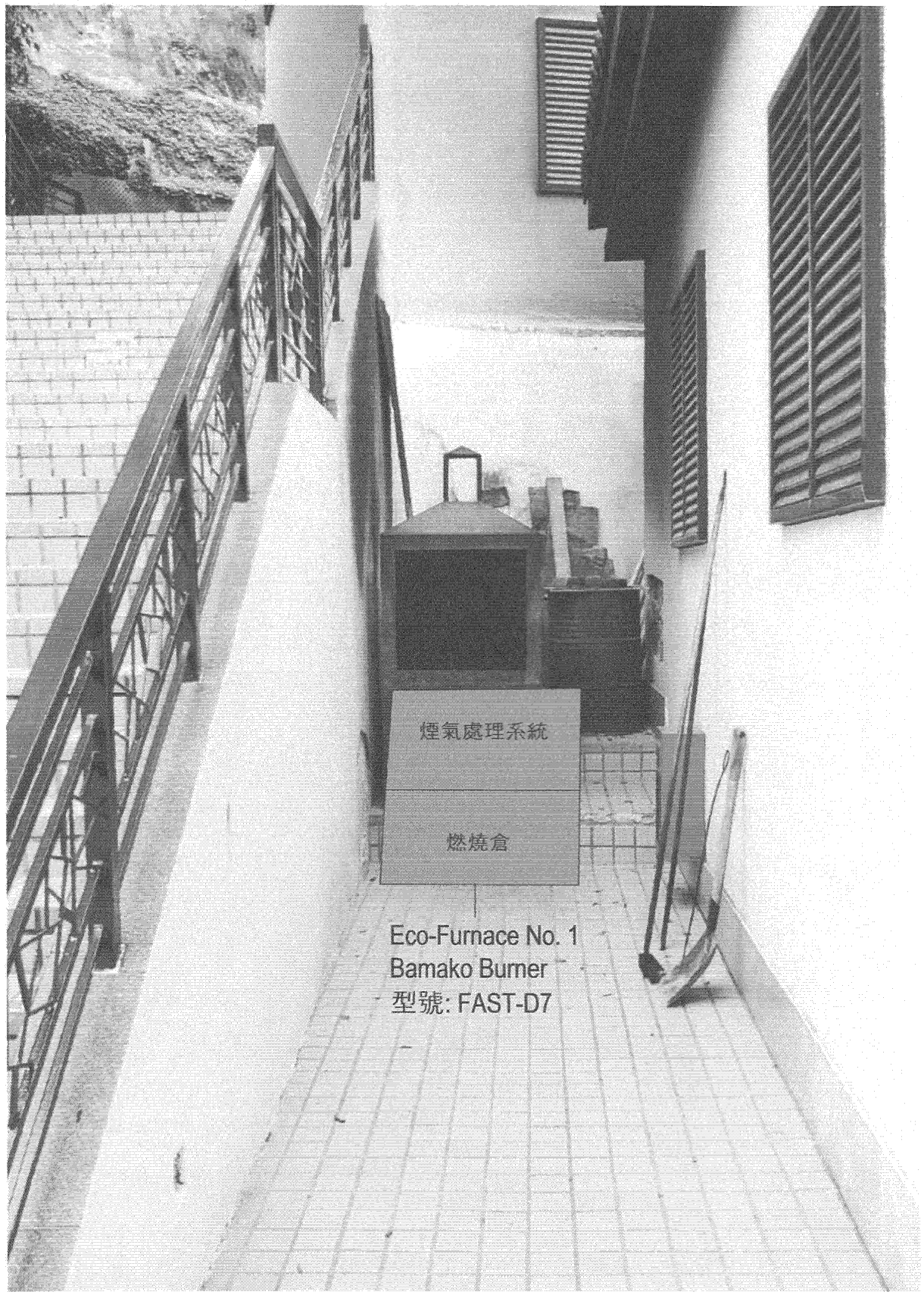
A - 煙氣處理系統
B - 燃燒倉
0 GENERAL REVISION JCKS 14/2/19
REV DESCRIPTION DRN REVIEW & APPROVAL FOR SUBMISSION BY DATE
CLIENT
圓林寺
PROJECT
QUOTATION No.
7880/18/Q15-1718/CCLJ/L006
DRAWING TITLE
FAST-D7 LAYOUT PLAN
REC 綠能環境科技有限公司
REC Green Technologies Co., Ltd.
SCALE: NTS DATE: 2019/02/14
DESIGNED BY: EOKM JOB NO:
DRAWN BY: EOKM DWG NO:
REVIEW & APPROVAL FOR SUBMISSION BY: JCKS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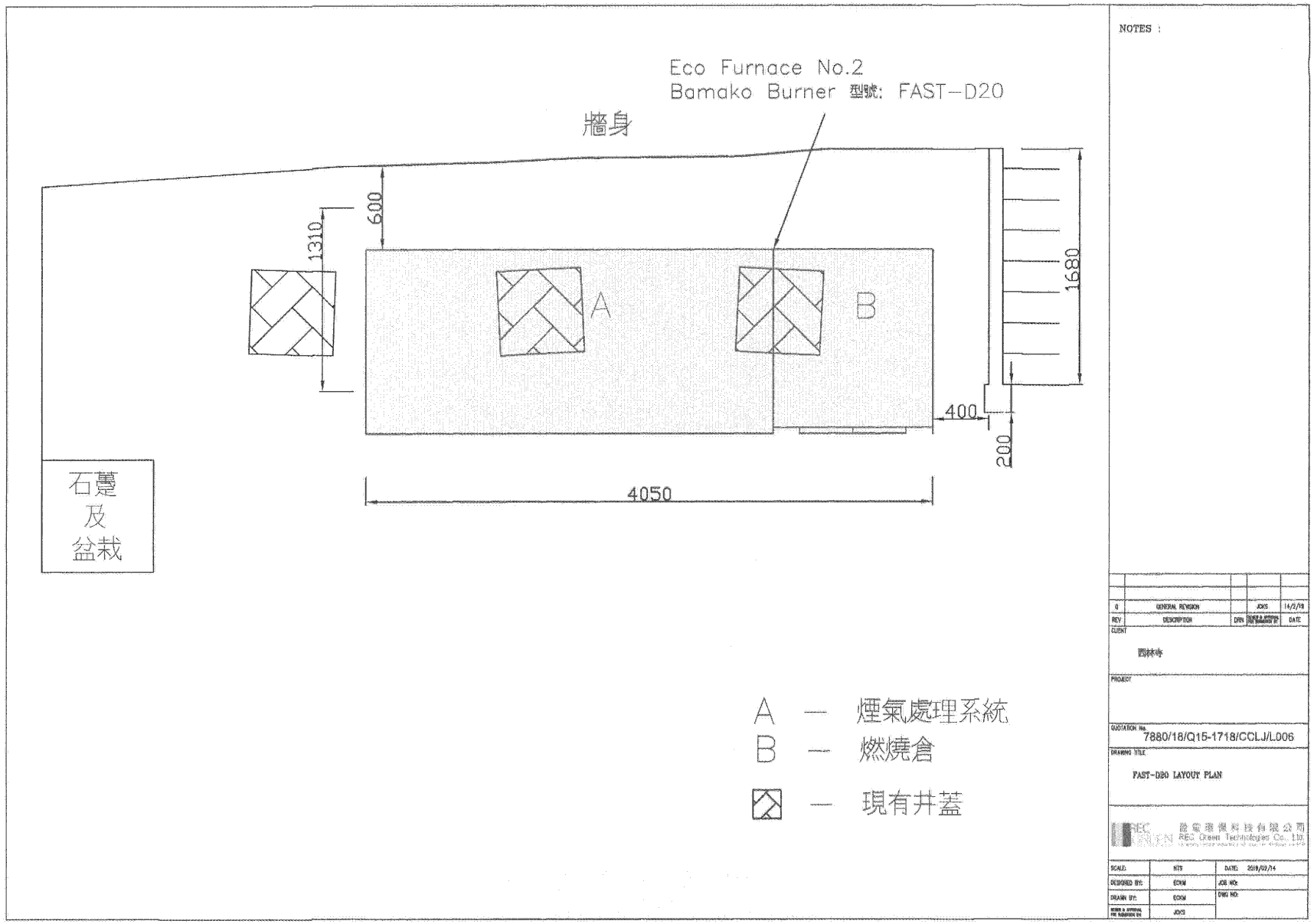
燃燒倉
Eco-Furnace No. 1
Bamako Burner
型號: FAST-D7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Bamako Burner 型號: FAST-D20
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1680
A
B
400
200
4050
石蘆
及
盆栽
A — 煙氣處理系統
B — 燃燒倉
— 現有井蓋
0 GENERAL REVISION JOKS 14/2/19
REV DESCRIPTION DRN DATE
CLIENT
四林寺
PROJECT
QUOTATION No. 7880/18/Q15-1718/CCLJ/L006
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SCALE: NTS DATE: 2018/02/14
DESIGNED BY: ECKM JOB NO:
DRAWN BY: ECKM DWG NO:
JOKS


煙氣處理系統
燃燒室
Eco-Furnace No. 2
Bamako Burner 型號: FAST-D20