春坎角
Chung Hom Kok

Annex A
Environmental Assessment

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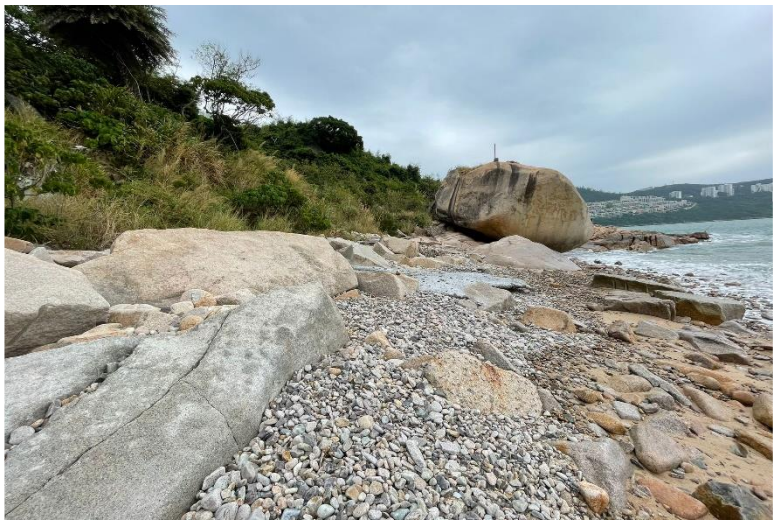


Environmental Assessment Report
S16 Planning Application for Telecommunications Cable Landing at Chung Hom Kok, Hong Kong Island

Prepared for:
URBIS Limited

18 July 2024

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Prepared for
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For and on behalf of
EnviroSolutions & Consulting

Approved by

Antony WONG
Technical Director – Hong Kong

ESC Project No.	EPA23.1033-J.01
Deliverable No.	D01
Revision No.	2.1

Shared Documents - HK Projects\EPA23.1033-J.01 S16 EA for CTG CHK Cable Landing\07 Deliverables

Rev.	Description	Prepared	Reviewed	Approved	Date
1.2	Environmental Assessment Report	CL	CC	AW	17/04/2024
2.0	Environmental Assessment Report	CL	CC	AW	18/07/2024
2.1	Environmental Assessment Report	CL	CC	AW	23/08/2024

Distribution ☐ Internal ☐ Confidential ☒ Public

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ABBREVIATIONS

ALC	Asia Link Cable
APCO	Air Pollution Control Ordinance
AQO	Air Quality Objectives
ASR	Air Sensitive Receiver
C&D	Construction and Demolition
CNP	Construction Noise Permit
CO	Carbon Monoxide
CPA	Coastal Protection Area
CWTC	Chemical Waste Treatment Centre
DA-TM	Technical Memorandum on Noise from Construction Work in Designated Areas
EA	Environmental Assessment
EPD	Environmental Protection Department
GW-TM	Technical Memorandum on Noise from Construction Work other than Percussive Piling
HKPSG	Hong Kong Planning Standards and Guidelines
HWM	High Water Mark

NCO	Noise Control Ordinance
NEL	Noise Emission Label
NO_2	Nitrogen Dioxide
NRMM	Non-road Mobile Machinery
NSR	Noise Sensitive Receiver
O_3	Ozone
OU(CSOSC)	Other Specified Use annotated Composite Signals Organisation Station Complex
OZP	Outline Zoning Plan
PCW	Prescribed Construction Work
PFA	Pulverised Fuel Ash
$PM_{2.5}$	Fine Suspended Particulates
PM_{10}	Respirable Suspended Particulates
PME	Powered Mechanical Equipment
ProPECC	Professional Persons Environmental Consultative Committee
ProPECC PN	Professional Persons Environmental Consultative Committee Practice Note
PVC	Polyvinyl Chloride
RBL	Rural Building Lot
SO_2	Sulphur Dioxide
SS	Suspended Solids
TM	Technical Memorandum
TPB	Town Planning Board
TPO	Town Planning Ordinance
ULSD	Ultra Low Sulphur Diesel
WDO	Waste Disposal Ordinance
WMP	Waste Management Plan
WPCO	Water Pollution Control Ordinance

1 INTRODUCTION

1.1 Project Background

1.1.1 China Telecom Global Limited and China Mobile International Limited ("the Applicant") are proposing to implement proposed cable landing ducts with draw pits, two beach manholes and shore-end part of the feed-in submarine cables ("proposed installation") on Government land near Rural Building Lot (RBL) No. 1220 and 1221, Chung Hom Kok, Hong Kong Island ("Project Site"). The proposed installation is to connect incoming submarine cables with the cable landing stations at RBL No. 1220 and 1221 which are under development by the Applicant.

1.1.2 The proposed installation comprises works that will be carried out in two phases. Phase 1 Works include the implementation of the proposed cable landing ducts with draw pits and two beach manholes, whilst Phase 2 Works relate to the laying of shore-end part of the feed-in submarine cables. It is intended that the part of Phase 2 Works which involves marine works will be constructed by a future supplier and therefore do not fall within the scope of this Environmental Assessment (EA) Report. The Phase 1 Works will be carried out on land above high water mark (HWM) and there will be no marine and dredging works. The Phase 1 Works is therefore not a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499)(EIAO).

1.1.3 According to the Approved Stanley Outline Zoning Plan (OZP) No. S/H19/16, majority of the Project Site falls within an area zoned as Other Specified Use annotated Composite Signals Organization Station Complex (OU(CSOSC)), whilst a minor portion of the Project Site situates within an area zoned as Coastal Protection Area (CPA). For the part of the Project Site falling within the CPA zone, the proposed installation constitutes a 'Public Utility Installation' use under Column 2 that may be permitted with or without conditions on application to the Town Planning Board (TPB). This part of the Project Site is defined as the Application Site.

1.1.4 For the part of the Project Site located within the OU(CSOSC) zone, the proposed installation will be ancillary to the specified use i.e. 'Radar, Telecommunications Electronic Microwave Repeater, Television and/pr Radio Transmitter Installation' under Column 1 that is always permitted in this zone, and thus is not classified as the Application Site.

1.1.5 In regard of the proposed installation falling within the Project Site (including the Application Site), a Section 16 Planning Application will be made to the TPB under the Town Planning Ordinance (TPO). EnviroSolutions & Consulting Limited has been commissioned by URBIS Limited to provide an EA Report to assess the potential environmental impact arising from the proposed installation in support of the planning application.

1.2 Project Description

1.2.1 The Project Site extends from the cable landing stations at RBL 1220 and 1221 to the vehicular road and down to a vegetated sloping area reaching a rocky beach at the southern end of Chung Hom Kok Road. The proposed installation is for the future ALC, a submarine cable system connecting Hong Kong SAR China and Singapore whilst branching into Brunei Darussalam, the Philippines and Hainan China, and future feed-in submarine telecommunications cable to land at the rocky beach and connect to the cable landing stations uphill at RBL No. 1220 and 1221. The components of the proposed installation are shown on **Figure 1-1**.

1.2.2 Phase 1 of proposed installation comprises terrestrial works for installation of the following:

- 12 number of (nos.) polyvinyl chloride (PVC) and steel conduits with supporting rack as the cable landing ducts with total length of approximately 188m;
- 11 nos. of draw pits each of dimension of approximately 1.8m (L) x 1m(W) x 1.5m (D) at most; and
- Two new beach manholes, each of dimension of approximately 3.5m (L) x 3m (W) x 3.0m (H) at the rocky beach.

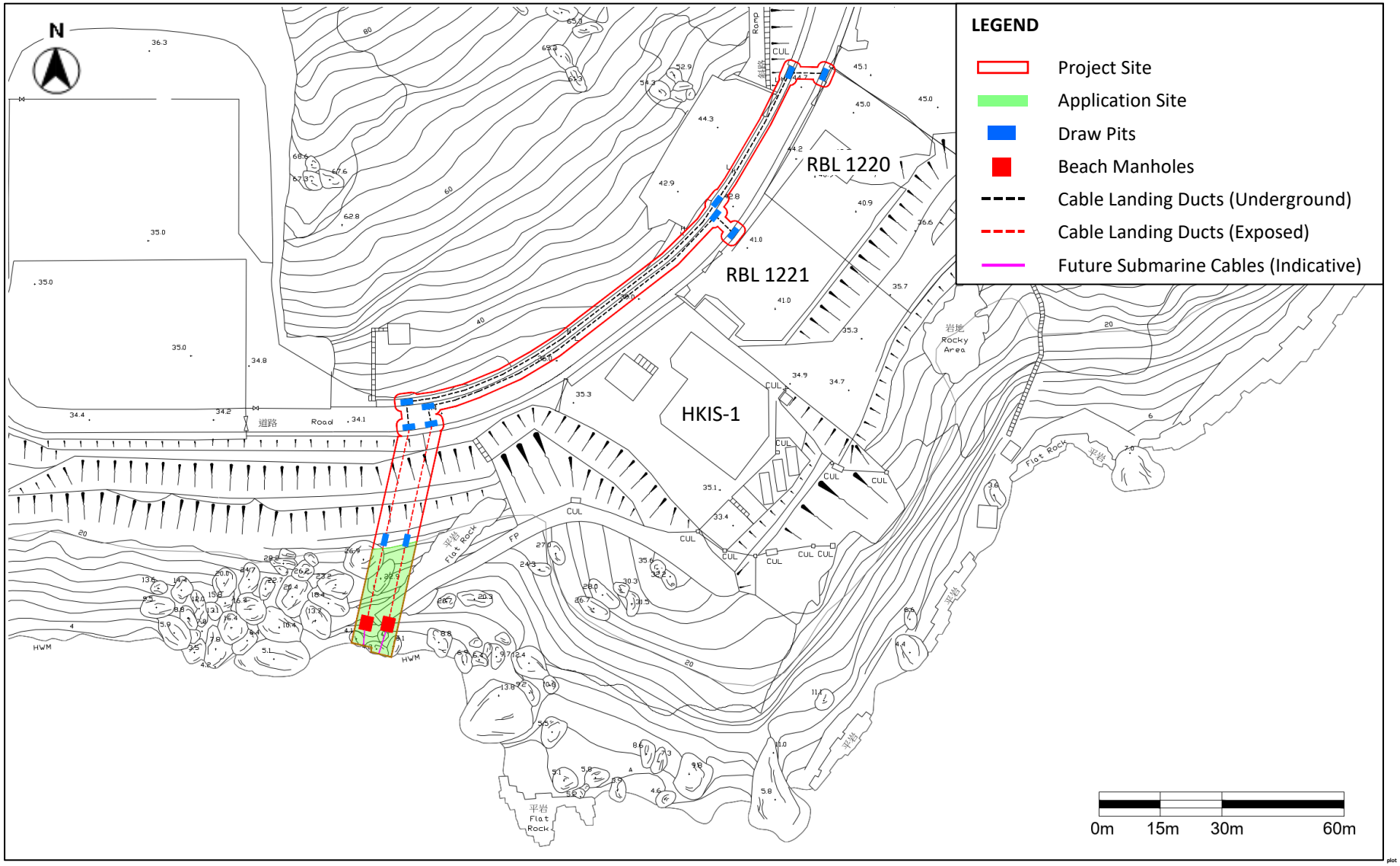
1.2.3 Construction works for the installation of these telecommunications cable landing facilities will mainly involve excavation works for landing ducts with draw pits and two beach manholes for future submarine cable landing with the use of excavator and hand-held tools. The excavated area will be backfilled and reinstated.

1.3 Purpose of the Report

1.3.1 This EA Report aims to:

- Evaluate the potential air quality impact arising from the construction and operation of the proposed installation;
- Evaluate the potential noise impact arising from the construction and operation of the proposed installation;
- Evaluate the potential water quality impact, waste management and land contamination arising from the construction and operation of the proposed installation; and
- Propose necessary mitigation measures to alleviate any unacceptable environmental impacts, if needed.

Figure 1-1 Location and Components of the Proposed Installation



2 AIR QUALITY

2.1 Introduction

2.1.1 In this section, the potential impacts of the proposed installation on air quality during the phases of construction and operation were evaluated; and mitigation measures are suggested when needed.

2.2 Legislation and Standards

Air Quality Objectives

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

Table 2-1 Air Quality Objectives

POLLUTANT	AVERAGING TIME	CONCENTRATION LIMIT [1], µg/m3	NO. OF EXCEEDANCE ALLOWED
Sulphur Dioxide (SO_2)	10-minutes	500	3
	24-hour	50	3
Respirable Suspended Particulates (PM_{10}) [2]	24-hour	100	9
	Annual	50	Not applicable
Fine Suspended Particulates ($PM_{2.5}$) [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

Remarks:

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 mean suspended particles in air with a nominal aerodynamic diameter of 10µm or less.
3. Fine suspended particulates mean suspended particles in air with a nominal aerodynamic diameter of 2.5µm or less.

Air Pollution Control (Construction Dust) Regulation

2.2.2 The Air Pollution Control (Construction Dust) Regulation enacted under Section 43 of the APCO, provides definition of notifiable works and regulatory works to ensure proper dust abatement measures have been put in place to limit dust emissions for various construction activities.

2.2.3 According to the Regulation, any notifiable works shall provide advance notice to EPD, and the contractor is responsible for ensuring the notifiable and regulatory works are completed

in compliance with the Schedule of the Regulation. The Schedule includes dust control and suppression measures.

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

2.2.4 Effective from 1 June 2015, this regulation mandates that all Non-road Mobile Machinery (NRMM) shall comply with the prescribed emission standards, with the exception of those that are exempted. Starting on 1 September 2015, all regulated sold or leased machines being used in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by the EPD. From 1 December 2015, construction sites, container terminals, backup facilities, restricted areas of the airport, designated waste disposal facilities, and specific processes are the specified activities and locations where only approved or exempted NRMMs with the proper label are permitted to be used.

Air Pollution Control (Fuel Restriction) Regulation

2.2.5 This regulation comes into effect on 1 October 2008 and requires that, except in the Sha Tin district, only fuels meeting the following requirements may be used: a) gaseous fuel; b) conventional solid fuel with a sulphur content not exceeding 1% by weight; c) liquid fuel with a sulphur content not exceeding 0.005% by weight and a viscosity not more than 6 centistokes at 40°C, such as Ultra Low Sulphur Diesel (ULSD).

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

2.2.6 The Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations enacted under section 43 of the APCO require prior approval by the EPD 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) 30 kilograms (kg) of conventional solid fuel per hour; or (c) 1,150 megajoules (MJ) of any gaseous fuel per hour.

2.3 Identification of Air Sensitive Receivers

2.3.1 According to the desktop study and site visit conducted in November 2023, the air sensitive uses surrounding the Project Site are residential use and office use. Four representative Air Sensitive Receivers (ASRs) in the vicinity of the Project Site were identified, as summarised in **Table 2-2**. The locations of the identified representative ASRs are shown in **Figure 2-1**.

Table 2-2 Representative Air Sensitive Receivers (ASRs)

ASR ID	ADDRESS	USE	SHORTEST DITANCE FROM THE PROJECT SITE BOUNDARY, m
ASR 1	26F, Cape Road, Chung Hom Kok	Residential	225
ASR 2	76, Chung Hom Kok Road, Chung Hom Kok	Residential	233
ASR 3*	RBL 1219, Planned External Telecommunications Station	Office	4
ASR 4	HKIS – 1 Cable Landing Station	Office	15

Remarks (*): ASR 3 is currently under construction.

2.4 Potential Air Quality Impact during Construction Phase

2.4.1 During the construction phase, activities such as excavation, stockpiling, earth moving, transferring or handling of dusty materials generating fugitive dust will be the main sources of air quality impact. The construction works will be carried out on land and above high water mark (HWM) that no marine and dredging works will be involved.

2.4.2 The proposed installation comprises installation of the cable landing ducts with draw pits and two beach manholes for future submarine cable landing, which only involves shallow excavation and foundation works. To minimize the air quality impact, the construction works will be carried out by hand-held tools as far as practicable. As advised by the Applicant, there will be less than 10 nos. of construction machineries, including backhoe, air compressor and generator, etc. to be operated on-site. All the plants to be used on site will comply with relevant statutory regulations. Considering the quantity of on-site plants is limited, emission impact would be minimal with implementation of mitigation measures recommended in **Section 2.5**.

2.4.3 About 340m^3 of excavated materials would be generated during the entire 6-month construction period. As estimated under **Section 5.3**, a total of 121m^3 of excavated materials will be disposed off-site, the average daily generate rate is about 0.8m^3/day, and the capacity of a dump truck is about 10m^3, 1 trip per day is expected and considered sufficient to handle these excavated materials. All loaded dump trucks shall be covered by impervious sheeting and the vehicle wheels shall be washed thoroughly before leaving the Site. Generation of fugitive dusts from these small-scale works are regarded as minimal.

2.4.4 Regarding potential cumulative impact, desktop study and site visit has been conducted to ascertain the presence of any concurrent projects in the vicinity of the Site. Except the construction activities undergoing within RBL 1220, no other potential concurrent project was found in the vicinity of the Site.

2.4.5 According to the tentative project programme, the proposed installation is not expected to be conducted concurrently with current on-going construction works within RBL 1220. Hence, cumulative air quality impact from concurrent projects is not anticipated. Nevertheless, if any other projects end up being planned to be carried out concurrently with the proposed installation, the Applicant will be responsible for the liaison with the responsible personnel of other projects to avoid adverse cumulative air quality impact.

2.4.6 Moreover, mitigation measures including good site practice in accordance with the Air Pollution Control (Construction Dust) Regulation would be implemented to further minimise dust generation.

2.5 Mitigation Measures

2.5.1 The use of NRMM shall comply with the requirements under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation. To minimise the air quality impact from the emission of NRMMs, only approved NRMMs shall be used during the construction phase. Moreover, electrical NRMMs and hand-held tools shall be used as far as practicable.

2.5.2 The use of machinery with liquid fuel shall comply with the control of Air Pollution Control (Fuel Restriction) Regulation that ULSD with sulphur content not exceeding 0.005% by weight shall be used unless certificates of compliance are obtained.

2.5.3 In compliance with the abovementioned regulations, the emissions from the utilization of NRMMs and machinery would be minimised and adverse air quality impact is not anticipated.

2.5.4 Good practice and mitigation measures to be implemented during the construction phase include the following:

- Exposed site surfaces shall be sprayed with water regularly to reduce dust emissions, particularly during dry weather and areas close to ASRs.
- Any open stockpiles shall be avoided or covered by impervious sheeting. The placing of dusty materials or stockpiles close to ASRs will be prevented as far as practicable.
- Any stockpiling of dusty materials/ aggregate shall be covered entirely by impervious sheeting or provide 3 side enclosure with the top covering or sprayed with water/ dust suppression chemical to reduce dust emissions.
- All dusty vehicle loads transported to and from the Project Site shall be covered by impervious sheeting.
- Water spraying shall be conducted at the loading area or area that dust emission happens during the loading process of loose material, particularly in dry weather.
- where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level shall be provided along the entire length of that portion of the site boundary except for a site entrance or exit.
- Vehicles routing and positioning of construction plant shall be located at the maximum distance from off-site ASRs as far as possible.
- Every stock of more than 20 bags of cement or dry Pulverised Fuel Ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.

2.6 Potential Air Quality Impact during Operation Phase

2.6.1 During operation, the proposed installation will only consist of the installed cable landing ducts with draw pits and two beach manholes for future submarine cable landing. There will be no air pollution source from the proposed installation and adverse air quality impact is not expected.

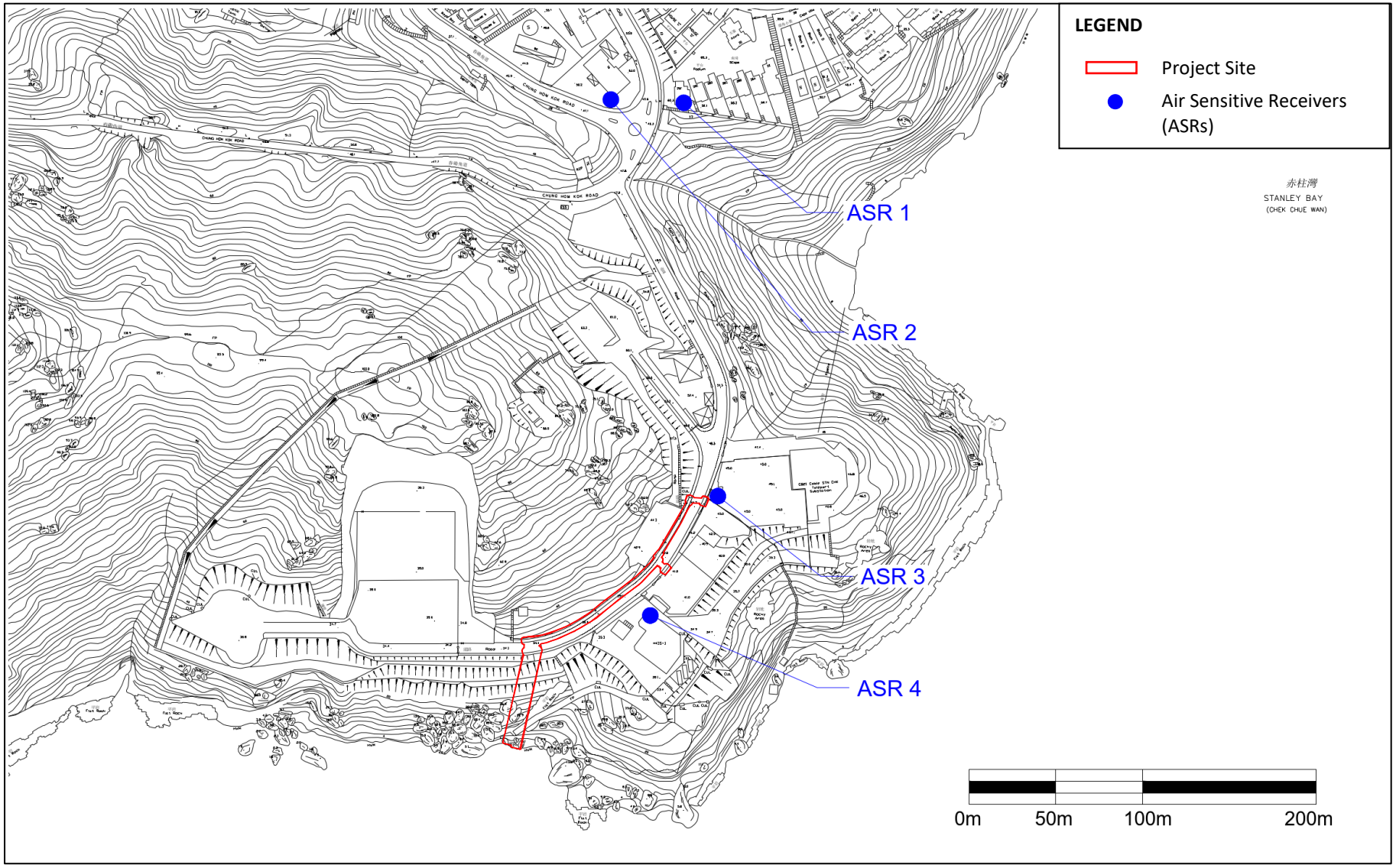
2.7 Conclusion

2.7.1 During the construction phase, adverse air quality impact is not anticipated with the implementation of the proposed mitigation measures including good site practice.

2.7.2 During the operation phase, there will be no air pollution source from the proposed installation and adverse air quality impact is not anticipated.

2.7.3 Therefore, no adverse air quality impact is expected during both the construction and operation phases of the proposed installation.

Figure 2-1 Location of Representative ASRs



3 NOISE

3.1 Introduction

3.1.1 This section comprises an assessment of the potential noise impact related to the proposed installation during the construction and operation phases. Mitigation measures are suggested, where necessary, as part of the assessment.

3.2 Legislation and Standards

Noise Control Ordinance (Cap. 400)

3.2.1 The Noise Control Ordinance (NCO) is the main piece of legislation controlling environmental noise impact. The NCO ensures enforcement of regulations and Technical Memorandum (TMs), which provide detailed control criteria, measurement procedures and other technical matters. Noise induced during construction phase of the Project is regulated under the following TMs:

- 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)

3.2.2 According to EPD's Plan No. EPD/AN/HKI-01, the Project Site is entirely located within Designated Areas (DA)- Hong Kong Island and Lamma Island, and so the DA-TM is applicable to the Project.

3.2.3 A Construction Noise Permit (CNP) must be obtained by the contractor for any percussive piling at any time. CNP must also be obtained for the use of any Powered Mechanical Equipment (PME) and/or Prescribed Construction Works (PCWs) within restricted hours as defined in the NCO (during 7pm to 7am the next day on any day and at any time on general holidays or Sundays).

3.2.4 In addition to a CNP, any hand-held breakers having a mass of above 10kg and any air compressor capable of supplying compressed air at 500kPa or above for carrying out construction work is controlled by the Noise Control (Hand-held Percussive Breakers) Regulation and the Noise Control (Air Compressors) Regulation of the NCO. Such equipment must be fitted with a Noise Emission Label (NEL) during operation.

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, excluding general holidays). Nevertheless, Professional Persons Environmental Consultative Committee (ProPECC) Practice Note PN1/24 Minimizing Noise from Construction Activities (ProPECC PN1/24) recommends the noise criteria, as shown in **Table 3-1**, as well as guideline to minimise the potential construction noise impact during normal working hours.

Table 3-1 Construction Noise Criteria during Normal Working Hours

NOISE SENSITIVE USES	$L_{EQ\ (30\ MIN)}$ NOISE CRITERIA BETWEEN 0700 AND 1900 ON ANY DAY NOT BEING A SUNDAY OR GENERAL HOLIDAY
All Domestic Premises Temporary Housing Accommodation Hostels Convalescences Homes Homes for the Aged	75 dB(A)
Places of Public Worship Courts of Law Hospitals and Medical Clinics	70 dB(A)
Educational Institutions (including kindergartens and nurseries)	70 dB(A) (or 65 dB(A) during examination)

3.3 Identification of Noise Sensitive Receivers

3.3.1 The Project Site is sitting in the quiet and rural area with cable landing stations and low-density residential buildings in the vicinity. Two representative noise sensitive receivers (NSRs) within 300m study area were identified for this noise impact assessment, as listed in **Table 3-2**. The locations of the representative NSRs are shown on **Figure 3-1.**

Table 3-2 Representative Noise Sensitive Receivers (NSRs)

NSR ID	ADDRESS	USE	SHORTEST DITANCE FROM THE PROJECT SITE BOUNDARY, m
NSR 1	26F, Cape Road, Chung Hom Kok	Residential	247
NSR 2	76, Chung Hom Kok Road, Chung Hom Kok	Residential	253

3.4 Potential Noise Impacts

Construction Phase

3.4.1 For the construction of the proposed installation, most of the works will be carried out manually with hand tools while there will be some sections, for example trenching along the vehicular road, requiring the use of PME, would be the major noise sources. As advised by the Applicant, the tentative inventory of the PME is listed below for reference:

Table 3-3 Inventory of PME for Construction Works

PME	QUANTITY	CONSTRUCTION ACTIVITIES
12-tonne backhoe	1	Site clearance and reinstatement
5-tonne backhoe	1	Trenching works
Power rammer	1	Reinstatement
Chain-block/Hoist	1	Loading and unloading materials
Dump truck	1	Loading and unloading materials
Air compressor	1	General works

PME	QUANTITY	CONSTRUCTION ACTIVITIES
Generator	1	General works

3.4.2 Construction activities will be conducted during normal working hours, i.e. 7am to 7pm from Monday to Saturday, excluding general holidays, that noise nuisance during evening and nighttime, and public holidays would not be expected.

3.4.3 Moreover, considering the small scale of works and limited use of powered mechanical equipment, adverse noise impacts arising from the construction works for the proposed installation on the NSRs locating more than 200m away from the Project Site is not anticipated.

Operation Phase

3.4.4 During operation, the proposed installation only consists of the installed cable landing ducts with draw pits, and two beach manholes for future submarine cable landing, there will be no noise source from the proposed installation and adverse noise impact is not expected.

3.5 Mitigation Measures

3.5.1 Construction activities shall be carried out during non-restricted hours as far as practicable. Noise mitigation measures recommended in EPD's website about the Good Practices on Mitigating Construction Noise and ProPECC PN1/24 shall be reviewed and be implemented where practicable. To minimise the potential construction noise impacts to the NSRs during daytime, the following measures and good site practice are recommended to be implemented:

- For concrete removal/breaking, bursting system, high pressure water jetting or hand-held concrete crusher or other quieter construction method would be used for concrete breaking to replace the traditional breaker, if practicable.
- Quieter construction equipment with QPME Label should be adopted as far as practicable.
- The Contractor shall devise and arrange methods of working, and carrying out the works in such a manner so as to minimise noise impacts on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented.
- Idling equipment should be avoided, equipment should be switched off when it is not in operation.
- Muffler or silencer for equipment should be adopted if applicable.
- Noisy equipment and activities should be located as far away from the NSRs as is practical.
- PME should be kept to a minimum to reduce the potential noise impact to the NSRs. Also, parallel use of noisy equipment should be avoided.
- Noise barriers or enclosure for the PME should be erected if needed.
- Regular maintenance to the PME should be implemented.

3.5.2 In the circumstances that the use of PME will be required during restricted hours for the construction works, a CNP shall be applied and obtained according to the requirements stipulated in the NCO and with reference to GW-TM and DA-TM.

3.5.3 Moreover, to ensure the aforementioned mitigation measures will be duly implemented, quieter construction equipment and methods could be specified in the construction contract as an administrative control mechanism. The contractor shall submit a construction noise management plan for agreement from the Applicant prior to commencement of the construction works.

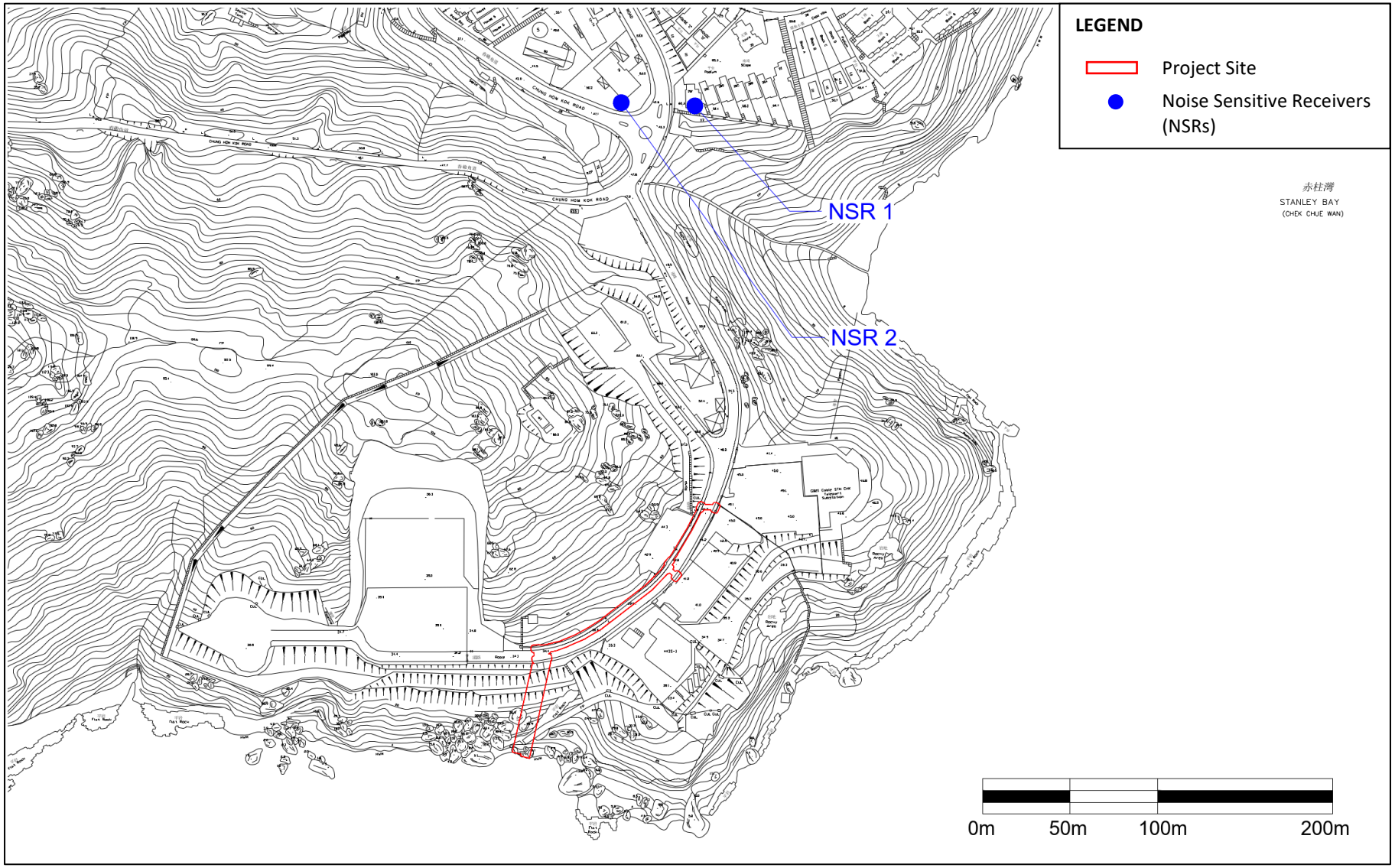
3.6 Conclusion

3.6.1 During the construction phase, adverse noise impact is not anticipated with the implementation of the proposed mitigation measures including good site practice.

3.6.2 During the operation phase, there will be no noise source from the proposed installation and adverse noise impact is not anticipated.

3.6.3 Therefore, no adverse noise impact is expected during both construction and operation phases of the proposed installation.

Figure 3-1 Locations of Representative NSRs



4 WATER QUALITY

4.1 Introduction

4.1.1 This section comprises an assessment of the potential water quality impact related to the construction and operation of the proposed installation. Recommendation of water pollution control measures are made, where necessary, to ensure compliance with the Water Pollution Control Ordinance (WPCO) and its Technical Memorandum at the Project Site.

4.2 Legislation and Standards

Water Pollution Control Ordinance (Cap. 358)

4.2.1 An amendment to the *Water Pollution Control Ordinance* (WPCO) was issued in 1990 to establish a mechanism for setting effluent standards which are included in the *Technical Memorandum Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters* (WPCO Cap 358, S.21). All discharges into government sewerage systems, marine and inland waters are required to meet the standards according to the Technical Memorandum.

Construction Site Drainage, ProPECC PN2/23

4.2.2 *ProPECC Practice Note PN2/23 Construction Site Drainage* (ProPECC PN2/23) provides various guidelines for the handling and disposal of construction site discharges. The guidelines comprise the use of sediment traps, wheel washing facilities for vehicles leaving the Project Site, avoiding flooding and overflow through regular and proper maintenance of drainage systems, sewage collection and treatment, and adequate waste management procedures.

4.3 Potential Impacts

Identification of Water Sensitive Receiver ("WSR")

4.3.1 With reference to Annex 14 of the *Technical Memorandum on Environmental Impact Assessment* Process ("EIAO-TM"), water bodies within the 500m study area, including natural streams running to Chung Hom Kok Beach and to Sha Shek Tan, Stanley Bay and Chung Hom Kok Beach, were identified as WSRs, as shown **Figure 4-1**. Potential water quality impacts during construction and operation phase are discussed below.

Construction Phase

4.3.2 As marine works are not required, potential water pollution sources during construction phase would originate from the land-based works. Major potential sources of water quality impacts during construction phase include construction site runoff, sewage generated from on-site construction workers and general construction activities. These sources of water quality impact have to be adequately controlled, otherwise, water quality of waterbodies adjacent to the Project Site could be adversely affected as the concentration of suspended solids (SS) and pH value would be increased while sewage generation workforce may result in high levels of 5-day biochemical oxygen demand (BOD_5), ammonia and E. coli.

4.3.3 The potential release of pollutants into the stormwater drainage system and coastal marine water can be minimised by the adoption of good site practices and relevant guidelines for construction runoff. Sand bag barriers or earth bunds would be provided to direct the construction site runoff for proper disposal. To properly control the sewage generated from construction workers, temporary sanitary facilities, such as portable toilets shall be provided.

4.3.4 For construction site discharges, a Discharge Licence shall be obtained from the EPD in accordance with the WPCO and all the discharges shall comply with the effluent standards stipulated in the Discharge Licence. Also, good construction and site management practices, such as site drainage and waste disposal, would be implemented. With the implementation of mitigation measures and good site practices outlined in **Section 4.4**, the land-based works are not anticipated to result in adverse water quality impact to WSRs.

Operation Phase

4.3.5 During operation, the proposed installation only consists of the installed cable landing ducts with draw pits, and two beach manholes for future submarine cable landing, there will be no water pollution source from the proposed installation and adverse water quality impact is not expected.

4.4 Mitigation Measures

4.4.1 Portable toilets for construction workers are recommended to provide during the construction phase. These will be supplied, maintained and emptied (at a sewage treatment facility) by a specialist contractor.

4.4.2 The construction shall follow good site practice. The contractor shall implement the mitigation measures as far as practicable during design construction, operation and maintenance as specified in ProPECC PN 2/23:

- Surface runoff from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand, 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.
- For the purpose of preventing soil erosion, temporarily exposed slope surfaces shall be covered e.g. by tarpaulin, and temporary access roads shall be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels shall be provided (e.g. along the crest/edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements shall always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.
- Earthworks final surfaces shall be well compacted and the subsequent permanent work or surface protection shall be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels shall be provided where necessary.
- Measures shall be taken to minimise the ingress of rainwater into trenches. Rainwater pumped out from trenches shall be discharged into storm drains via silt removal facilities.
- Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites shall be covered with tarpaulin or similar fabric during rainstorms. Measures shall be

taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.

- Manholes (including newly constructed ones) shall 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 runoff from getting into foul sewers.
- Discharge of surface runoff into foul sewers shall always be prevented in order not to unduly overload the foul sewerage system.
- Portable toilets will be provided for constructions workers on site.

4.4.3 As the proposed installation will be conducted above HWM, no marine works will be involved, no adverse water quality impact from the land-based works is anticipated with the implementation of the proposed mitigation measures.

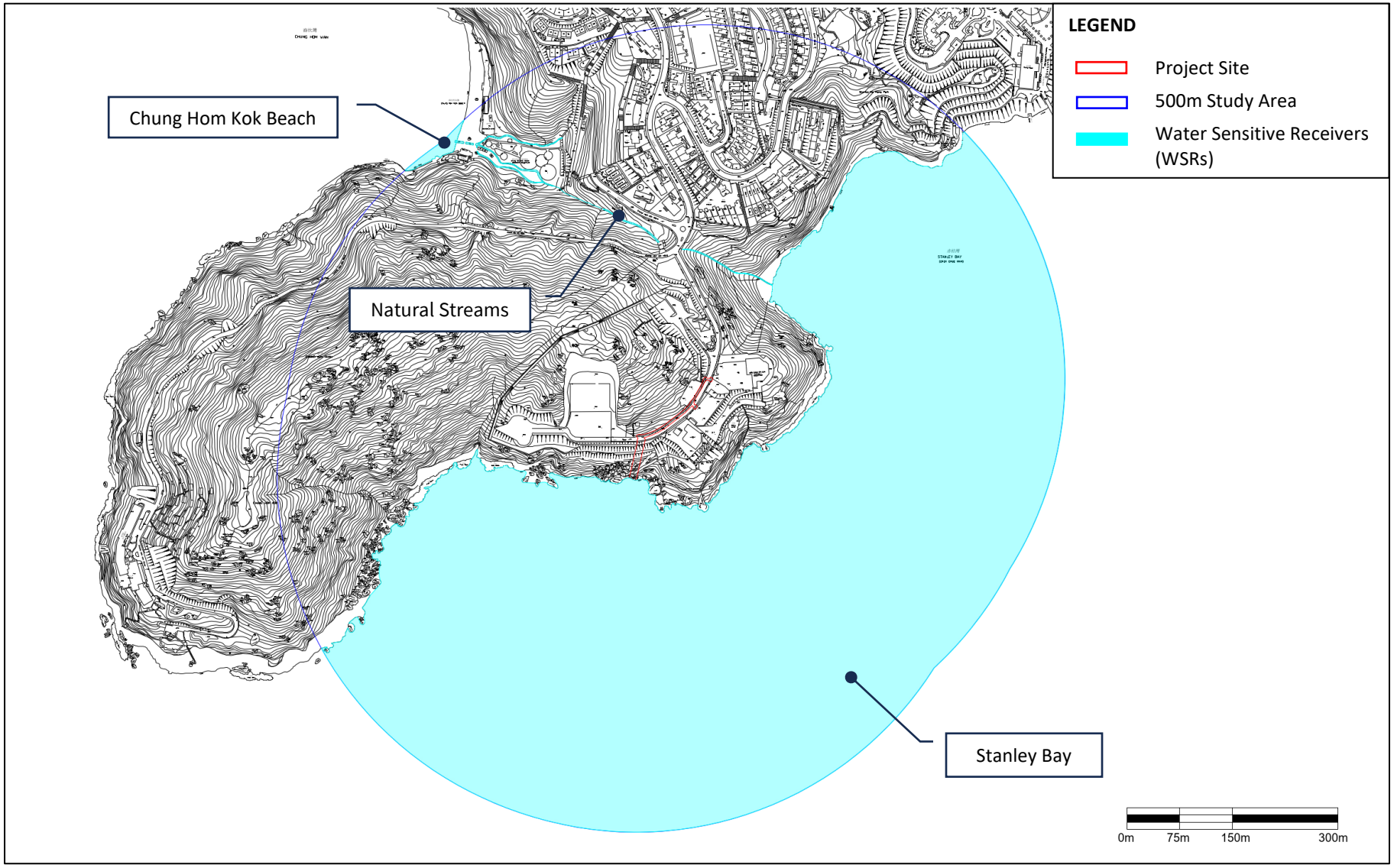
4.5 Conclusion

4.5.1 During the construction phase, adverse water quality impact on the WSRs is not anticipated with the implementation of the proposed mitigation measures including good site practice.

4.5.2 During the operation phase, there will be no water pollution source from the proposed installation and therefore adverse water quality impact is not anticipated.

4.5.3 Therefore, no adverse water quality impact is expected during both construction and operation phases of the proposed installation.

Figure 4-1 Locations of Representative WSRs



5 WASTE MANAGEMENT

5.1 Introduction

5.1.1 This section comprises an assessment of the potential waste impact related to the proposed installation. The types of waste that may be generated during the construction and operation phase of the proposed installation were described in this section. Appropriate waste management mitigation measures were recommended, where necessary, for proper waste handling, storage, transportation and disposal.

5.2 Legislation and Standards

5.2.1 The *Waste Disposal Ordinance* (Cap. 354) (WDO) stipulates requirements for storage, handling and transportation of all types of wastes, and set outs subsidiary legislation such as the *Waste Disposal (Charges for Disposal of Construction Waste) Regulation* and the *Waste Disposal (Chemical Waste) (General) Regulation*. Besides, the following documents are applicable to waste management and disposal for the proposed installation:

- Waste Disposal (Chemical Waste) (General) Regulation (Cap.354C)
- Waste Disposal (Charges for Disposal of Chemical Waste) Regulation (Cap. 354J)
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap.354N)
- Land (Miscellaneous Provisions) Ordinance (Cap.28)
- Public Health and Municipal Services Ordinance (Cap.132BK) – Public Cleansing and Prevention of Nuisances Regulation
- Building Department Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP No. ADV-19) Construction and Demolition Waste
- Building Department Practice Notes for Registered Contractors (PNRC 17), Control of Environmental Nuisance from Construction

5.3 Construction Phase

5.3.1 Major sources of waste from construction works would comprise the following:

- Inert Construction and Demolition (C&D) materials, such as soil and bricks
- Non-inert C&D Materials (or C&D waste), such as wood and plastics, and general refuse from workers at site
- Chemical wastes, such as spent lubricants and used batteries

5.3.2 The construction period of the proposed installation is expected to be approximately six (6) months. During the construction phase, waste disposal shall adhere to the trip ticket system and meet all legal requirements, such as:

- Application and set-up of a billing account in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation under WDO.

- Register as a Chemical Waste Producer and ensure proper handling, storage, transportation and disposal of the chemical waste in accordance with the Waste Disposal (Chemical Waste) (General) Regulation under WDO.

C&D Materials

5.3.3 Sources of C&D materials from construction activities include site clearance, excavation and concrete works. Generated C&D materials shall be sorted into inert C&D materials and C&D waste.

5.3.4 Inert C&D materials such as concrete, earth and rubble could be used for land reclamation as they do not decompose. And C&D waste are those which can decompose such as leaves, vegetation, packaging waste and other organic material which makes them unsuitable for land reclamation.

5.3.5 The C&D materials may be mainly the excavated soils and broken concrete generated from the excavation works carried out for the duct section along the pedestrian walkways. As advised by the Applicant, the estimated total volume of excavated materials within the whole Project Site is about 340m^3, including both inert C&D materials and C&D waste.

5.3.6 With reference to Plate 2.12 of *EPD's Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2022*, 92% of construction wastes was either reused on-site or sent to the public fill reception facilities, implying that such construction wastes should be inert C&D materials. Therefore, it is assumed that the excavated materials comprise 313m^3 (i.e. 92% x 340m^3) inert C&D materials and 27m^3 (i.e. 8% x 340m^3) C&D waste.

Inert C&D Materials

5.3.7 It is assumed that 70% of inert C&D materials will be temporarily stockpiled and backfilled in-situ after installation of the cable landing ducts, draw pits and beach manholes. Surplus 94m^3 (313m^3 x 30%) inert C&D materials should be reused on-site or recycled off-site as far as practicable according to the good site practices and mitigation measures recommended in **Section 5.5**. If there will still be any remaining materials, they should be delivered to public fill reception facilities, Fill Bank at Tuen Mun Area 38 and Fill Bank at Tseung Kwan O Area.

C&D Waste

5.3.8 Regarding 27m^3 of C&D waste, they would be sorted and recycled as far as possible and landfill disposal should only be adopted as the last resort.

5.3.9 In conclusion, about 94m^3 or 169 tonnes (assuming the density of inert C&D materials is 1,800kg/m^3) of inert C&D materials, and 27m^3 or 43 tonnes (assuming the density of C&D wastes 1,600kg/m^3) of non-inert C&D materials will be generated and disposed off-site during the construction phase, respectively.

General Refuse

5.3.10 General refuse from site workers including packaging and organic materials, is similar to domestic waste. The number of workers will depend on the contractor and the construction methods employed. Given the scale the proposed installation is small, the number of construction workers should be no more than 10 per day.

5.3.11 According to Plate 2.7 of EPD's *Monitoring of Solid Waste in Hong Kong – Waste Statistics for 2022*, the per capita domestic waste disposal rate in 2022 was 0.93kg/person/day. Although the per worker generation rate of general refuse will likely be less than this, this per capita domestic waste disposal rate has been adopted for general refuse generation by construction workers as a conservative approach.

5.3.12 The daily generation rate of general effuse would be 9.3kg/day (0.93kg/worker/day x 10 workers). As mentioned in **paragraph 5.3.2**, the construction period of the proposed installation is expected to be around six months, total amount of general refuse would be approx. 1.3 tonnes (9.3kg/day x 6 days/week x 4 weeks/month x 6 months).

5.3.13 General refuse shall be stored in designated areas before being collected and disposed of. The storage areas shall be regularly cleaned to maintain good hygiene. General refuse generated by the workers should be sorted on site. Recyclables such as metals, paper and plastics shall be collected by local recyclers for recycling. General refuse should be recycled as far as practicable and landfill disposal should only be considered as a last resort.

5.3.14 According to Plate 3.2 of *Waste Statistics for 2022*, the recovery rate of domestic waste is approx. 20%. It is therefore assumed that 20% of general refuse, i.e., approx. 0.3 tonnes (1.3 tonnes x 20%) general refuse, would be reused and recycled by the recyclers. The surplus general refuse of 1.0 tonnes (i.e. 1.3 tonnes x 80%) in average would be disposed of at landfill.

5.3.15 Given the above, no adverse waste impact from the handling, transportation or disposal of general refuse from workforce during construction of the Indicative Development Scheme is anticipated.

Chemical Waste

5.3.16 Chemical waste such as waste batteries and lubricating oil might be generated during the construction phase of the proposed installation. Given the small scale of the works and limited used of equipment and machinery, only a limited amount which is expected to be less than 1 tonne of these chemical wastes may be generated.

5.3.17 Chemical waste arising from the construction process could pose a number of environmental impacts, as well as potential risks of health and safety if not properly handled, stored and disposed of properly. These risks include:

- Toxic effects to workers.
- Adverse impacts on water quality from spillage/leakage.
- Fire hazards.

5.3.18 The Contractor shall register as a Chemical Waste Producer according to the WDO. All chemical waste shall be stored in a well-designed chemical waste storage area within the Project Site as required under EPD's Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. The quantity of chemical waste generated from the Project Site during construction works will be small. A licensed collector shall be engaged for handling and disposing of all chemical wastes, such as disposing of at the Chemical Waste Treatment Centre (CWTC) in Tsing Yi or other EPD's approved facility.

Summary

5.3.19 The type of waste and their estimated quantities generated during the construction phase are summarised in **Table 5-1**.

Table 5-1 Estimation of Waste Generation During Construction Phase

WASTE TYPE	ESTIMATED QUANTITY (TONNES)	SOURCES OF WASTE	TREATMENT
Inert C&D Materials	169	Site preparation; Excavation works	• Off-site reuse/recycle • Disposal of at public fill reception facilities
C&D Waste	43	Vegetation clearance	• On-site sorting for reuse/recycle • Disposal of at landfill
General Refuse	1.3	Construction workers	• On-site sorting for reuse/recycle • Disposal of at landfill
Chemical Waste	<1	Waste batteries, lubricating oil and etc.	• All to be collected by the licensed chemical waste collector and treated in the CWTC.

5.4 Operation Phase

5.4.1 Since the proposed installation will only involve the installed cable landing ducts with draw pits, and two beach manholes for future submarine cable landing during operation, there will be no generation of waste from the proposed installation during operation phase.

5.5 Mitigation Measures

Construction Phase

5.5.1 Waste management during the construction phase shall follows the contractual and statutory requirements.

5.5.2 Prior to the commencement of any construction works, the Contractor should prepare the Waste Management Plan (WMP) based on the requirement of Building Department's *Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers: No. ADV-19 Construction and Demolition Waste* and submit to Architect/Engineer for approval. The WMP should include the identification of any potential environmental impacts due to the generation of waste at the Project Site; appropriate recommendation of waste handling, collection, sorting, disposal and recycling measures; and categorisation and permit segregation of C&D materials where practicable (i.e. inert C&D materials/non-inert C&D materials) for treatment and disposal.

5.5.3 Good housekeeping practices should be implemented according to the WMP, including carried out waste segregation, effective collection of site wastes, proper zoning for waste segregation and storage area and well maintenance of waste storage area.

5.5.4 Effective site waste collection is required to prevent waste materials being blown around by wind, flushed or leached into nearby water body, or creating odour nuisance or pest and vermin problems.

5.5.5 Mitigation measures listed in Practice Note for Registered Contractors No. 17 Control of Environmental Nuisance from Construction Sites shall be adopted. The C&D materials shall be delivered to the appropriate designated outlets by dump trucks fitted with covered box type dump bed in order to minimize/ prevent the potential nuisance during transportation. Refuse pending removal should be stored in receptacles provided with close fitting covers to prevent waste materials be flushed or leached to nearby, particularly to sensitive receivers under heavy rainfall.

5.5.6 For chemical waste, the Contractor should follow the 'trip-ticket' system of which the arrangement of production, collection and disposal in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*.

5.5.7 Reuse and recycling should be implemented as far as practicable for recyclable construction materials (i.e. bricks, plastics and metals) and the amount of disposed waste should be minimised. Inert non-recyclable materials (i.e. concrete, asphalt, etc.) should be disposed to public fill. Surplus non-inert C&D materials and non-recyclable wastes should be disposed at designated landfill site.

5.5.8 Recycle bins for different types of recyclable wastes should be provided together with a general refuse bin. Recycle wastes should be collected by recycling companies. General refuse should be treated/ collected separately from C&D materials. General refuse should be collected by reputable waste collector which employed by the construction contractor. An enclosed/ covered waste storage area is preferred to be provided to reduce the occurrence of "wind-blown" materials.

5.6 Conclusion

5.6.1 During the construction phase, adverse impact due to waste management is not anticipated with the development of WMP and implementation of the good site practice. During the operation phase, there will be no generation of waste.

5.6.2 Therefore, no adverse impact of waste is expected during both construction and operation phases of the proposed installation.

6 LAND CONTAMINATION

6.1 Introduction

6.1.1 This section evaluates the potential land contamination related to the proposed installation during the construction and operation phases; and mitigation measures are recommended as needed.

6.2 Environmental Legislation and Standards

6.2.1 The following legislation, standards and guidelines were taken reference to for conducting the land contamination assessment:

- EPD Guidance Note for Contaminated Land Assessment and Remediation.
- EPD Practice Guide for Investigation and Remediation of Contaminated Land.
- Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management.

6.3 Assessment Methodology

6.3.1 Land contamination assessment was done according to EPD's Practice Guide. Typically, before a complete land contamination assessment, a site appraisal would be conducted to determine whether there is any potential for land contamination in the Site.

6.3.2 In the case that potential land contamination issues are identified, a complete land contamination assessment with the following steps should be undertaken:

1. Design a site investigation ("SI") strategy and prepare a Contamination Assessment Plan ("CAP") for EPD's approval
2. Upon EPD's approval of the CAP, conduct SI according to the approved CAP
3. Upon completion of SI, interpret the results and prepare a Contamination Assessment Report ("CAR") for EPD's approval
4. Plan and design remediation strategy and prepare a Remediation Assessment Plan ("RAP") for EPD's approval
5. Carry out remediation works according to the approved RAP
6. Prepare a Remediation Report ("RR") for EPD's endorsement

6.4 Site Appraisal

6.4.1 Historical land uses review and site walk over are conducted to identify any potential issues on land contamination from past and present land use activities at the Site.

Review of Historical Land Uses

6.4.2 Historical aerial photos obtained from Survey and Mapping Office ("SMO") of Lands Department have been reviewed. It revealed that the entire Project Site was a part of natural terrain with vegetation in the 1960s. In 1976, it was found that partial area of the Project Site was becoming footpath, which was then widened into an access road which shall be the

existing vehicular road. In the 1980s, construction activities were observed at the east of Chung Hom Kok Peninsula. After completion of the construction activities, some building blocks were erected in the vicinity of the Site, which are the existing telecommunication buildings at east of Chung Hom Kok Peninsula. The bare slope previously affected by the construction activities had returned to vegetation. No stressed vegetation was observed.

6.4.3 Thereafter, no major change on the land use was observed. The historical land uses of the Project Site based on the aerial photographic records is summarised in **Table 6-1** and aerial photographs are provided in **A**.

Table 6-1 Historical Land Uses of the Project Site

PHOTO ID	HISTORICAL LAND USES
1963_6678	Natural Terrain with vegetation
1976_15582	Natural terrain and footpath
1979_26480	Natural terrain and access road
1980_32660	Construction site and access road
1990_A20570	Natural terrain and pedestrian walkway
2001_A51676	No major change on the land use
2011_CW89363	No major change on the land use
2023_E200528C	No major change on the land use

Site Walkover

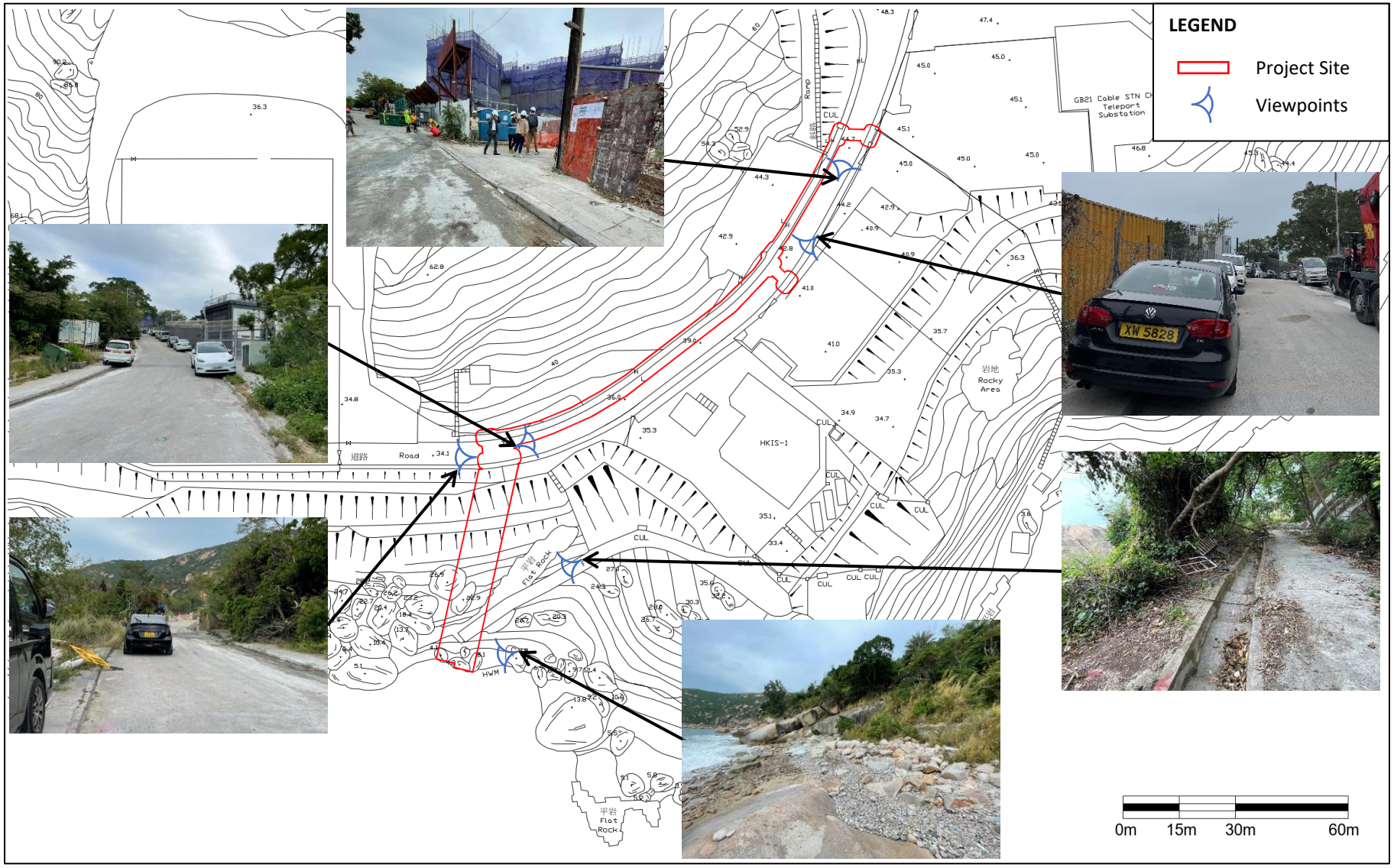
6.4.4 Besides, a site walkover was conducted on 29 November 2023 to understand the existing conditions of the Project Site and the adjacent areas. The site walkover checklist is provided in **Appendix B**.

6.4.5 As observed during the site inspection, the Project Site is partly a paved pedestrian and vehicular road while the rest are natural terrain and vegetation (see **Figure 6-1**). No stains, stressed vegetation and land contamination activities on the Site were observed. Therefore, there is no potential land contamination as per site appraisal.

6.5 Conclusion

6.5.1 A detailed investigation of the past and present land-use of the Site was carried out. Based on historical records and the site walkover, no potential land contamination issue from the past and existing land use activities was identified. As such, steps 1 to 6 of **paragraph 6.3.2** are not required. Hence, further site investigation is considered not necessary.

Figure 6-1 Existing Site Conditions



7 CONCLUSIONS AND RECOMMENDATIONS

7.1.1 This EA report has been prepared to assess the potential environmental impacts arising from the proposed installation of a cable landing ducts with draw pits, two beach manholes and shore-end part of the feed-in submarine cables on Government land near RBL No. 1220 and 1221, Chung Hom Kok, Hong Kong Island.

7.1.2 According to the assessment results, with the implementation of all the recommended mitigation measures including good site practice, there will be no adverse environmental impacts during the construction and operation phases of the proposed installation.

7.1.3 In general, the proposed installation is not expected to cause unacceptable environmental impacts during construction and operation phases. The following summarizes findings of the assessments regarding air quality, noise, water quality and waste management:

Air Quality

7.1.4 During the construction phase, generation of fugitive dusts from these small-scale works are regarded as minimal. The proposed mitigation measures including good site practice shall be implemented to further minimize the generation of dust. Adverse air quality impact is therefore not anticipated.

7.1.5 During the operation phase, the proposed installation only consists of the installed cable landing ducts with draw pits and two beach manholes for future submarine cable landing, there will be no air pollution source from the proposed installation and adverse air quality impact is not expected.

7.1.6 Therefore, no adverse air quality impact is expected during both the construction and operation phases of the proposed installation.

Noise

7.1.7 During the construction phase, adverse noise impact is not anticipated with the implementation of the proposed construction noise mitigation measures and good site practice.

7.1.8 During the operation phase, as the proposed installation only consists of the installed cable landing ducts with draw pits and two beach manholes for future submarine cable landing, there will be no noise source from the proposed installation and adverse noise impact is not expected.

7.1.9 Therefore, no adverse noise impact is expected during both the construction and operation phases of the proposed installation.

Water Quality

7.1.10 During the construction phase, adverse water quality impact is not anticipated with the implementation of the proposed mitigation measures including good site practice. The contractor shall apply for a Discharge Licence from EPD under the WPCO. All site discharges should be treated as necessary in accordance with the Discharge License.

7.1.11 During the operation phase, as the proposed installation only consists of the installed cable landing ducts with draw pits and two beach manholes for future submarine cable landing, there will be no water pollution source from the proposed installation and adverse water quality impact is not expected.

7.1.12 Therefore, no adverse water quality impact is expected during both construction and operation phases of the proposed installation.

Waste Management

7.1.13 During the construction phase, adverse water quality impact is not anticipated with the development of a WMP and implementation of good site practice.

7.1.14 During the operation phase, there will be no generation of waste.

7.1.15 Therefore, no adverse impact of waste is expected during both the construction and operation phases of the proposed installation.

Land Contamination Review

7.1.16 A detailed investigation of the past and present land-use of the Site was carried out. Based on historical records and the site walkover, no potential source of land contamination was identified in the past and no existing land contamination issue was identified. Hence, further site investigation is considered not necessary.

Appendix A HISTORICAL AERIAL PHOTOS

Figure A-1 Aerial Photo in Year 1963 (Photo ID: 1963_6678)

Figure A-2 Aerial Photo in Year 1976 (Photo ID: 1973_15582)

Figure A-3 Aerial Photo in Year 1979 (Photo ID: 1979_26480)

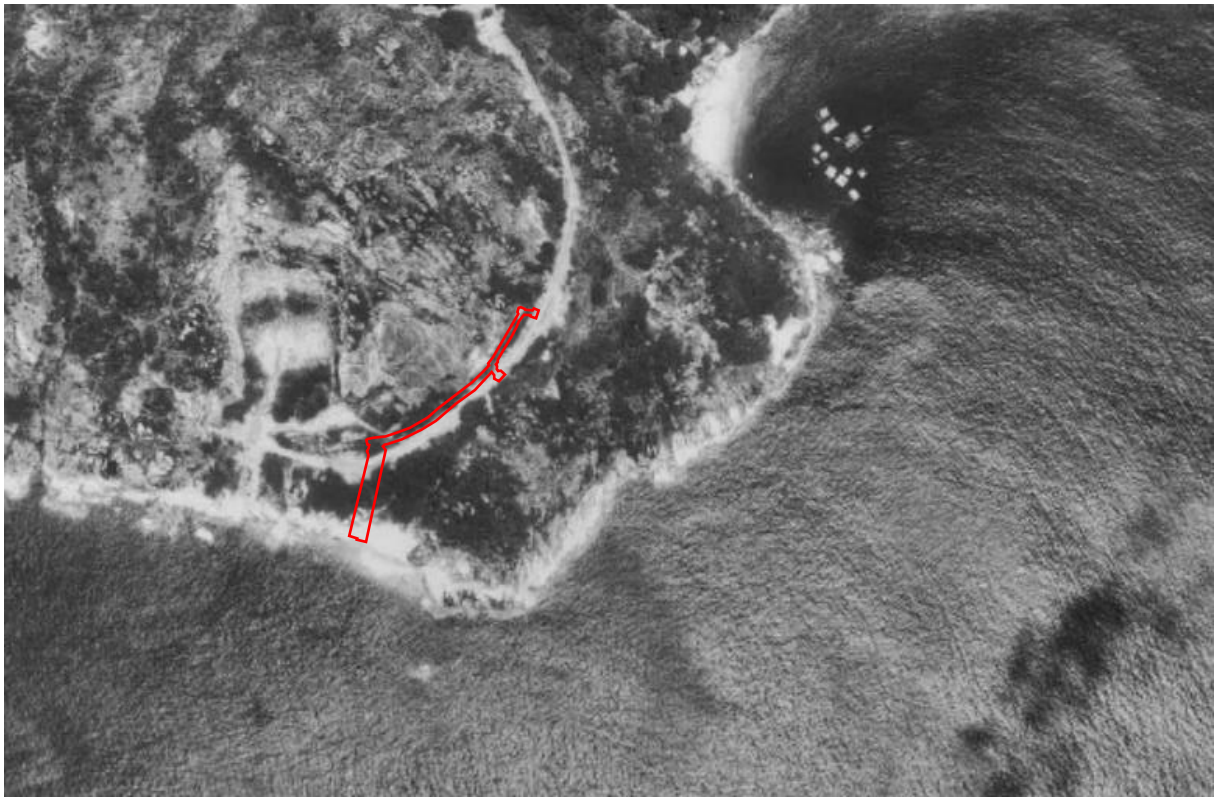


Figure A-4 Aerial Photo in Year 1980 (Photo ID: 1980_32660)

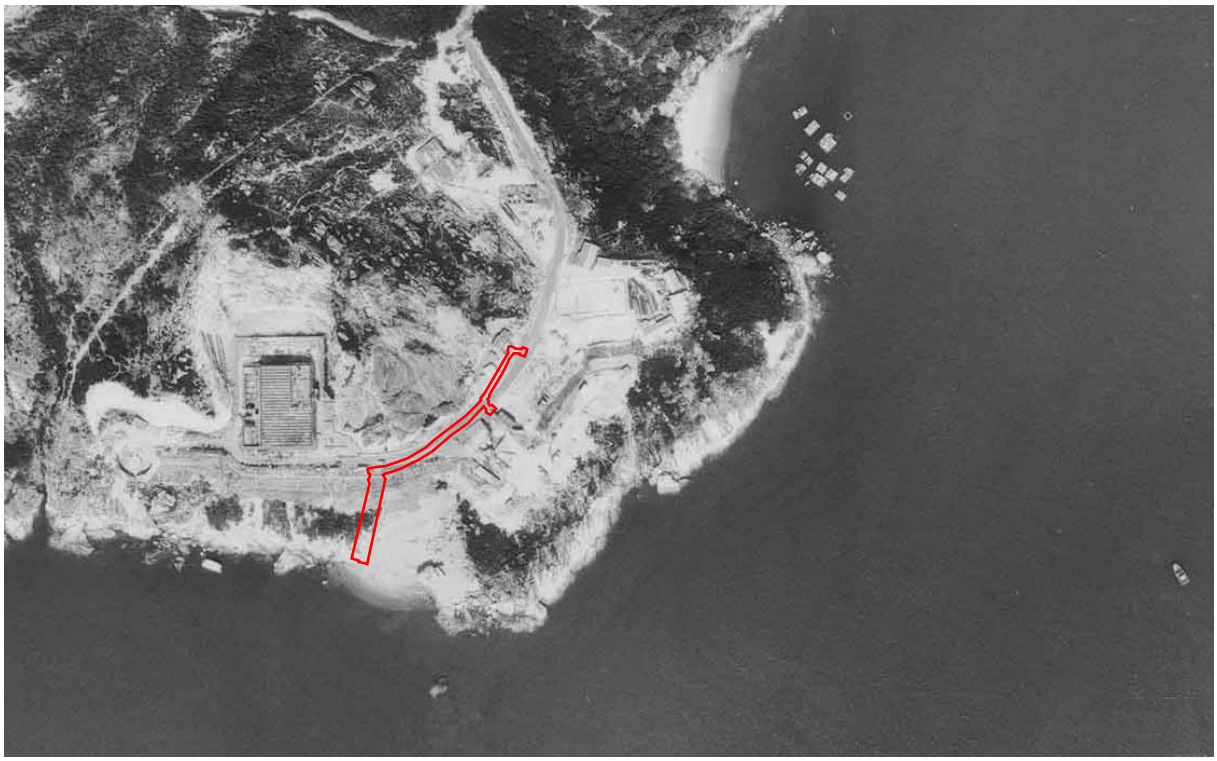


Figure A-5 Aerial Photo in Year 1990 (Photo ID: 1990_A20570)

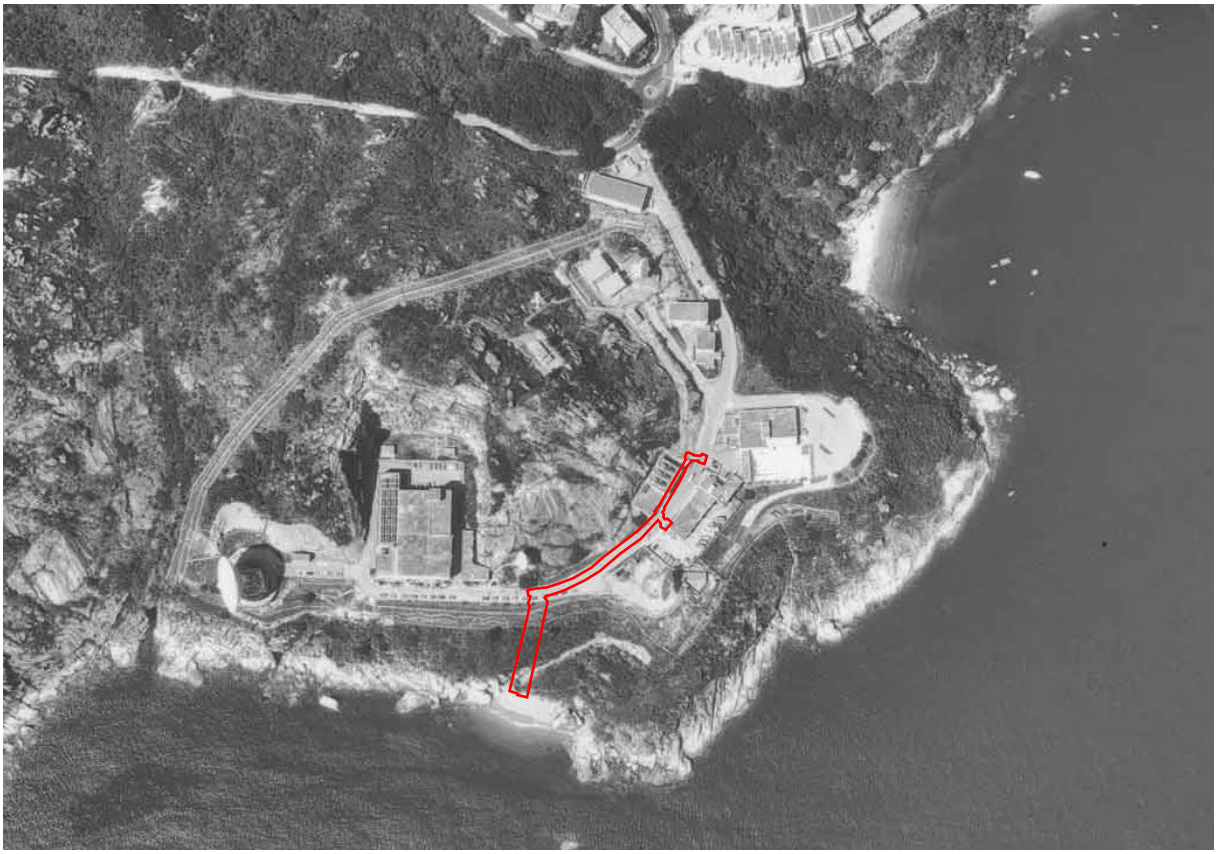


Figure A-6 Aerial Photo in Year 2001 (Photo ID: 2001_A51676)

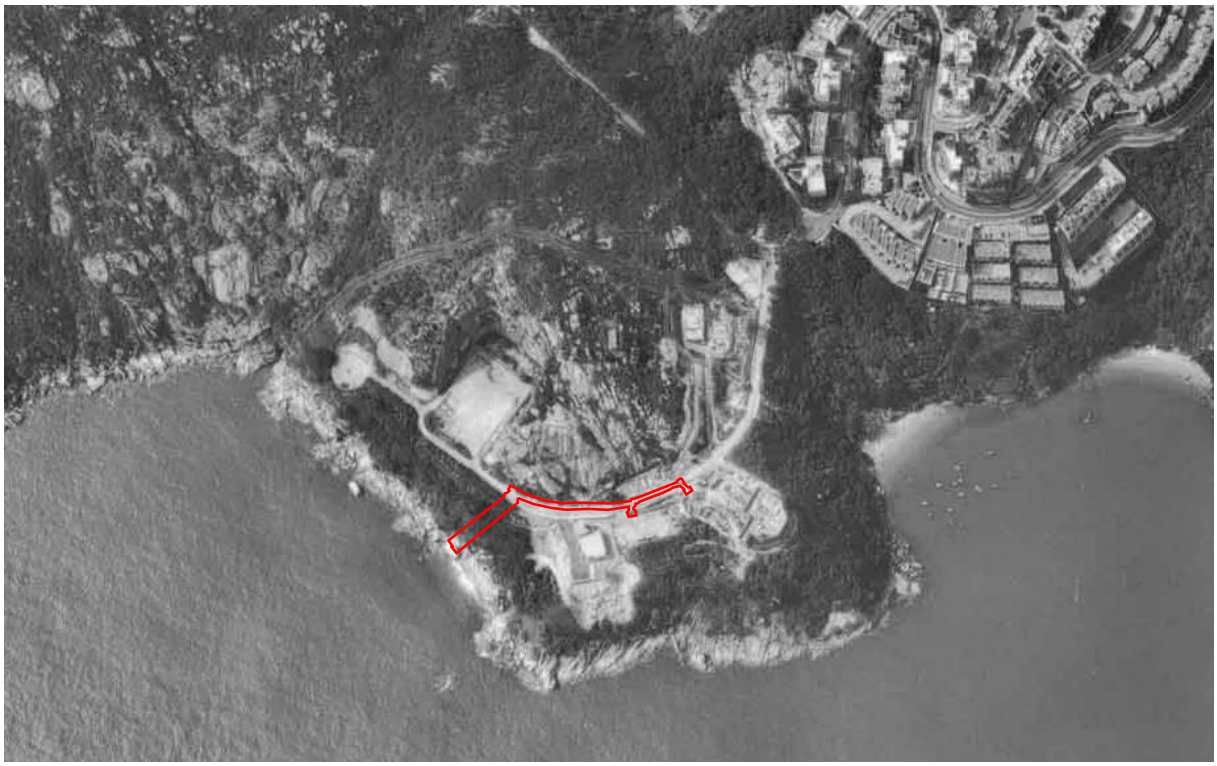
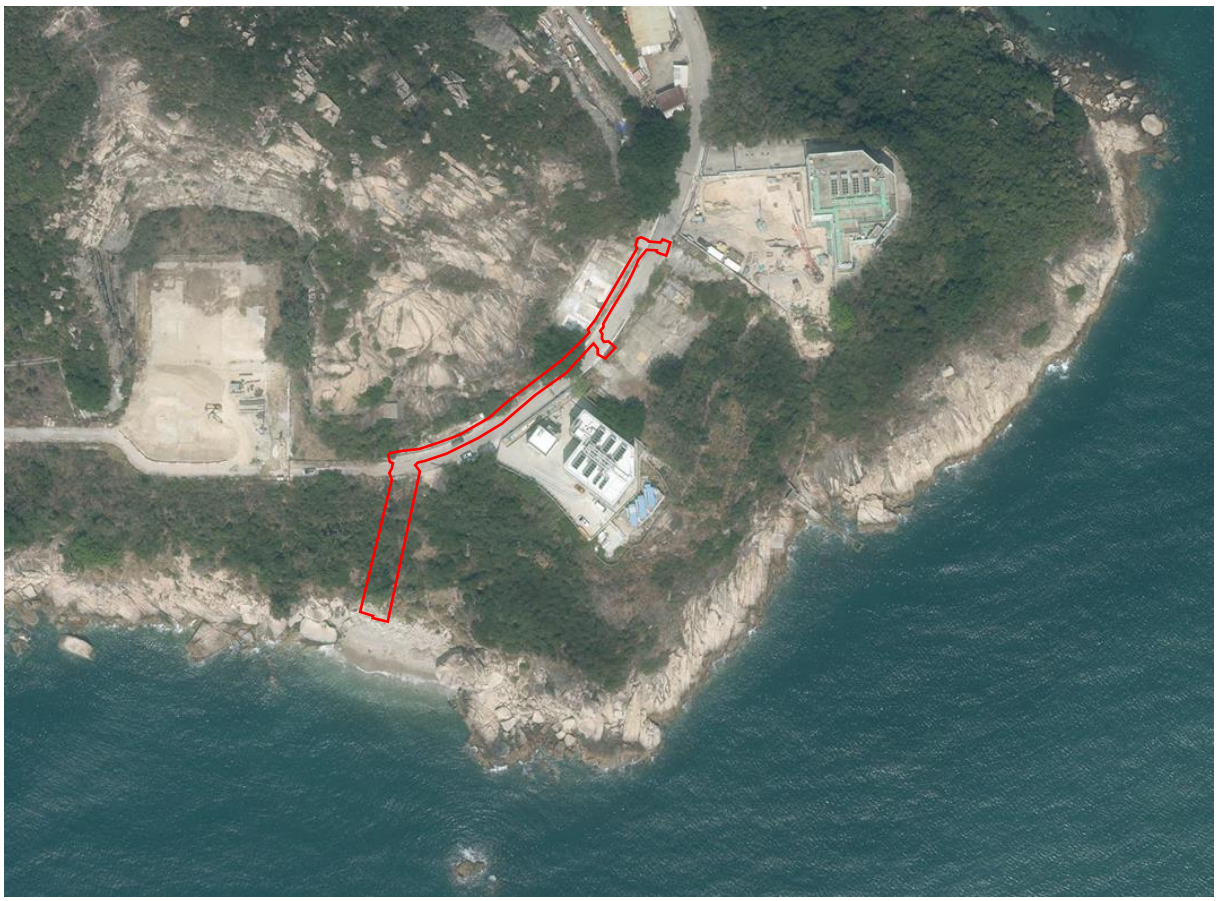


Figure A-7 Aerial Photo in Year 2011 (Photo ID: 2011_CW89363)

Figure A-8 Aerial Photo in Year 2023 (Photo ID: 2023_E200528C)



Appendix B SITE WALKOVER CHECKLIST

Annex C1
Site Walkover Checklist

GENERAL SITE DETAILS

SITE OWNER/CLIENT: Government Land

PROPERTY ADDRESS: Government Land adjoining Rural Building Lot (RBL) No. 1220, Chung Hom Kok, Hong Kong

PERSON CONDUCTING THE QUESTIONNAIRE

NAME: Roy LI

POSITION: Assistant Consultant

AUTHORIZED OWNER/CLIENT REPRESENTATIVE (IF APPLICABLE)

NAME: N/A

POSITION: N/A

TELEPHONE: N/A

SITE ACTIVITIES

~~Briefly describe activities carried out on site, including types of products/chemicals/materials handled.~~
Obtain a flow schematic if possible.

Number of employees:
- Full-time:
- Part-time:
- Temporary/Seasonal:

Maximum no. of people on site at any time: N/A

Typical hours of operation:

Number of shifts:

Days per week:

Weeks per year:

~~Scheduled plant shut-down:~~

Detail the main sources of energy at the site:

Gas	~~Yes~~/No
Electricity	~~Yes~~/No
Coal	~~Yes~~/No
Oil	~~Yes~~/No
Other	~~Yes~~/No

SITE DESCRIPTION

This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.

What is the total site area: 1,243 m^2

What area of the site is covered by buildings (%): 0%

Please list all current and previous owners/occupiers if possible. N/A

Is a site plan available? If yes, please attach. ~~Yes~~/No

Are there any other parties on site as tenants or sub-tenants? ~~Yes~~/No

If yes, identify those parties: _____

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.

North: Natural terrain

South: Sea, coastline

East: Telecommunication facilities

West: Natural terrain

Annex C1
Site Walkover Checklist

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

Natural rocky slope along the coastline of Chung Hom Kok Peninsula

State the size and location of the nearest residential communities.

The nearest small-size residential communities are located more than 250m to the northeast of the Site.

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

The Project Site encroaches Coastal Protection Area (CPA).

Questionnaire with Existing/Previous Site Owner or Occupier
(No interview with site owner or occupier was conducted)

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

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

Annex C1
Site Walkover Checklist

Observations

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

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Accountability

We understand the importance of being accountable to each other and our clients.

Passion

We are completely passionate about providing practical solutions and outcomes that deliver for our clients.

Insight

We work in an environment that encourages and values insight as a critical quality which informs our decisions and our clients and supports practical solutions and project delivery.

Integrity

We behave with respect and honesty toward each other, our clients and our stakeholders.