MOTT MACDONALD

Expansion of Hong Kong International Airport into a Three-Runway System

Construction Phase Monthly EM&A
Report No. 95
(For November 2023)

December 2023

Mott MacDonald
3/F Manulife Place
348 Kwun Tong Road
Kwun Tong
Kowloon
Hong Kong

T +852 2828 5757
mottmac.hk

Expansion of Hong Kong International Airport into a Three-Runway System

Construction Phase Monthly EM&A Report No. 95 (For November 2023)

December 2023

Mott MacDonald Hong Kong Limited
registered in Hong Kong no. 236497

Airport Authority Hong Kong

This Monthly EM&A Report No. 95 has been reviewed and certified by the Environmental Team Leader (ETL) in accordance with Condition 3.5 of Environmental Permit No. EP-489/2014.

Certified by: 

Terence Kong
Environmental Team Leader (ETL)
Mott MacDonald Hong Kong Limited

Date 14 December 2023

AECOM
12/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, Hong Kong
香港新界沙田鄉事會路 138 號新城市中央廣場第 2 座 12 樓
www.aecom.com

+852 3922 9000 tel
+852 3922 9797 fax

Our Ref : 60440482/C/RMKY231214

By Email

Airport Authority Hong Kong
HKIA Tower, 1 Sky Plaza Road
Hong Kong International Airport
Lantau, Hong Kong

Attn: Mr. Lawrence Tsui, Principal Manager, Environmental Compliance

14 December 2023

Dear Sir,

Contract No. 3102
3RS Independent Environmental Checker Consultancy Services

Submission of Monthly EM&A Report No. 95 (November 2023)

Reference is made to the Environmental Team's submission of the Monthly EM&A Report No. 95 under Condition 3.5 of the Environmental Permit No. EP-489/2014 certified by the ET Leader on 14 December 2023.

We would like to inform you that we have no adverse comment and verify the captioned submission in accordance with the requirement stipulated in Condition 3.5 of EP-489/2014.

Should you have any query, please feel free to contact the undersigned at 3922 9141.

Yours faithfully,
AECOM Asia Co. Ltd.

Roy Man
Independent Environmental Checker

Contents

Tables

Figures

Appendices

Abbreviations

3RS	Three-Runway System
AAHK	Airport Authority Hong Kong
AECOM	AECOM Asia Company Limited
AFCD	Agriculture, Fisheries and Conservation Department
AIS	Automatic Information System
ANI	Encounter Rate of Number of Dolphins
APM	Automated People Mover
AW	Airport West
BHS	Baggage Handling System
C&D	Construction and Demolition
CAP	Contamination Assessment Plan
CAR	Contamination Assessment Report
CTCC	Construction Traffic Control Centre
CWD	Chinese White Dolphin
DCM	Deep Cement Mixing
DEZ	Dolphin Exclusion Zone
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring & Audit
EP	Environmental Permit
EPD	Environmental Protection Department
EPSS	Emergency Power Supply Systems
ET	Environmental Team
FCZ	Fish Culture Zone
HKBCF	Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities
HKIA	Hong Kong International Airport
HOKLAS	Hong Kong Laboratory Accreditation Scheme
HSF	High Speed Ferry
HVS	High Volume Sampler
IEC	Independent Environmental Checker
LKC	Lung Kwu Chau
MMHK	Mott MacDonald Hong Kong Limited
MMWP	Marine Mammal Watching Plan
MSS	Maritime Surveillance System
MTRMP-CAV	Marine Travel Routes and Management Plan for Construction and Associated Vessel
NEL	Northeast Lantau
NWL	Northwest Lantau
PAM	Passive Acoustic Monitoring
PM	Project Manager
SC	Sha Chau
SCZ	Speed Control Zone
SCLKCMP	Sha Chau and Lung Kwu Chau Marine Park
SS	Suspended Solids
SSSI	Site of Special Scientific Interest
STG	Encounter Rate of Number of Dolphin Sightings

SWL	Southwest Lantau
T2	Terminal 2
The Project	The Expansion of Hong Kong International Airport into a Three-Runway System
The SkyPier Plan	Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier
The Manual	The Updated EM&A Manual
TSP	Total Suspended Particulates
WL	West Lantau
WMP	Waste Management Plan

Executive summary

The "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) serves to meet the future air traffic demands at Hong Kong International Airport (HKIA). On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the Project was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual).

This is the 95th Construction Phase Monthly EM&A Report for the Project which summarises the monitoring results and audit findings of the EM&A programme during the reporting period from 1 to 30 November 2023.

Key Activities in the Reporting Period

The key activities of the Project carried out in the reporting period are located in reclamation areas and existing airport island respectively. Works in the reclamation areas included rock armour laying works, land improvement works and filling works, pavement works, concourse superstructure works, tunnel work for Automated People Mover (APM) and Baggage Handling System (BHS) and associated works. Land-based works on existing airport island involved Terminal 2 expansion works, modification and tunnel work for APM and BHS, utilities works, road and drainage works, demolition, piling, excavation works, and 132kV cable laying works.

EM&A Activities Conducted in the Reporting Period

The monthly EM&A programme was undertaken in accordance with the Manual of the Project. Summary of the monitoring activities during this reporting period is presented as below:

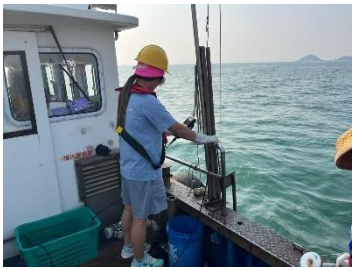
Monitoring Activities	Number of Sessions
1-hour Total Suspended Particulates (TSP) air quality monitoring	30
Noise monitoring	16
Post-construction phase water quality monitoring	8
Vessel line-transect surveys for Chinese White Dolphin (CWD) monitoring	2
Land-based theodolite tracking survey effort for CWD monitoring	2

Environmental auditing works, including weekly site inspections of construction works conducted by the ET and bi-weekly site inspections conducted by the Independent Environmental Checker (IEC), audit of SkyPier High Speed Ferries (HSF), audit of construction and associated vessels, and audit of implementation of Dolphin Exclusion Zone (DEZ) Plan, were conducted in the reporting period. Based on the information including ET's observations, records of Maritime Surveillance System (MSS), and contractors' site records, it is noted that environmental pollution control and mitigation measures were properly implemented and construction activities of the Project in the reporting period did not introduce adverse impacts to the sensitive receivers.

With the completion of 3RS land formation works in the first quarter of 2023, termination of the construction phase water quality impact monitoring was proposed to EPD with approval granted on 30 October 2023. The impact water quality monitoring was terminated after 31 October 2023. A post-construction phase water quality monitoring exercise for four weeks was commenced since 14 November 2023, in the same manner as the impact monitoring at all monitoring stations during

construction phase. The post-construction phase water quality monitoring schedule is provided in **Appendix B**. The construction phase CWD monitoring would be continued until the end of December 2023 so as to collect a full-year set of monitoring data to facilitate evaluation of CWD abundance on an annual basis. The post-construction phase CWD monitoring would be commenced in January 2024.

Snapshots of EM&A Activities in the Reporting Period

		
Post-construction Phase Water Quality Monitoring conducted by ET	Automatic Wheel Washing Facilities maintained by Contractor	Noise Impact Monitoring conducted by ET at House No.1, Sha Lo Wan

Results of Impact Monitoring

The monitoring works for construction dust, construction noise, construction waste, landscape & visual, and CWD were conducted during the reporting period in accordance with the Manual.

Monitoring results of construction dust, construction noise, construction waste and CWD did not trigger the corresponding Action and Limit Levels in the reporting period.

Summary of Upcoming Key Issues

Contract 3206 Main Reclamation Works

- Filling materials delivery;
- Backfilling works; and
- Construction of temporary platform.

Airfield Works

Contract 3302 Eastern Vehicular Tunnel Advance Works

- Stormwater drainage diversion works;
- Defect fixing inside tunnel; and
- Utilities and backfilling works.

Contract 3305 Airfield Ground Lighting System

- Enhanced vehicular warning light hardware installation;
- Power supply system installation; and
- Cable containment installation.

Contract 3306 Observation Facility Control System Supporting Interim 2RS and 3RS

- Equipment installation; and
- Structured cabling.

Contract 3308 Foreign Object Debris Detection System

- Construction of foundation; and
- Tower modification works.

Contract 3310 North Runway Modification Works

- Architectural, builder's work and finishing works;

- Pavement works for runway;
- Construction of stormwater drainage;
- Construction of vehicular tunnel;
- Aviation fuel pipe works;
- Construction of box culvert; and
- Land improvement works (Transition layer and backfilling works).

Third Runway Concourse:

Contract 3403 New Integrated Airport Centres Building and Civil Works

- Electrical and mechanical works; and
- Backfilling works.

Contract 3404 Integrated Airport Control System

- System maintenance.

Contract 3405 Third Runway Concourse Foundation and Substructure Works

- Structure works;
- Marine sediment treatment works; and
- Tunnel concreting and backfilling works.

Contract 3408 Third Runway Concourse and Apron Works

- Building services and architectural, builder's work and finishing works;
- Fuel pipe installation works;
- Utilities works;
- Marine sediment treatment works;
- Erection works for concrete batching plant;
- Excavation and reinforced concrete works; and
- Cable Laying Works.

Terminal 2 Expansion:

Contract 3508 Terminal 2 Expansion Works

- Pier and deck construction;
- Drainage construction;
- Roof works;
- Crossroad duct laying works;
- Construction of beams and columns;
- Electrical and mechanical works;
- Pump station and electrical station works; and
- Architectural, builder's work and finishing works.

Automated People Mover (APM) and Baggage Handling System (BHS):

Contract 3601 New Automated People Mover System (TRC Line)

- Guide beam installation.

Contract 3602 Existing APM System Modification Works

- Concrete plinth construction.

Contract 3603 Baggage Handling System (BHS)

- BHS installation; and
- Steel work installation.

Airport Support Infrastructure:

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Backfilling works;
- Road reinstatement works;
- Erection of formworks; and
- Casted walkway structure.

Contract 3802 APM and BHS Tunnels and Related Works

- Excavation and lateral supports;
- Box culvert construction and superstructure works; and
- APM and BHS Tunnel construction.

Contract 3804 East and Landside Fire Stations

- Site setup and formation works;
- Bored pile works;
- Raft foundation, footing and superstructure works;
- Tower crane footing and erection works; and
- Pile cap construction works and precast erection works.

Contract 3805 New Airport District Police Operational Base

- Bored pile works.

Construction Support (Services / Licences):

Contract 3901A Concrete Batching Facility

- Operation of concrete batching plant and material conveyor belt.

Contract 3901B Concrete Batching Facility

- Operation of concrete batching plant and material conveyor belt.

Contract 3908 Quay Management Services

- Provision of services of site management and logistic control of 3RS quays; and
- Provision of flat top barge and vehicle delivery services between the launching point in Hong Kong and 3RS quays.

Contract 3913 Asphalt Batching Plant

- Operation of asphalt batching plant.

Utilities:

132kV Cable

- Cable trenching and cable layering;
- Duct installation and cable duct mandrill test;
- Backfilling; and
- Draw pit opening.

Summary Table

The following table summarises the key findings of the EM&A programme during the reporting period:

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Breach of Limit Level^		√	No breach of Limit Level was recorded.	Nil

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
Breach of Action Level^		√	No breach of Action Level was recorded.	Nil
Complaint Received	√		In the previous reporting period, a complaint regarding dust nuisance at Northeast Quay (NE Quay) was received on 9 October 2023.	ET requested the relevant contractors to provide information regarding the complaint and the replies indicated dust suppression measures such as water spraying and wheel washing were provided at NE Quay. During the ET's site inspections, no dust nuisance was observed. Having said that, the relevant contractors were reminded to properly implement and enhance dust measures at NE Quay. Hence, the case was considered closed.
			In the previous reporting period, a complaint regarding noise and dust nuisance at Sky Plaza Road was received on 16 October 2023.	ET requested the relevant contractor to provide information regarding the complaint and reply indicated dust suppression measures and noise control measures were implemented at the related works area. Although no dust and noise nuisance issues were recorded during ET's site inspection, as an enhanced mitigation measure, the relevant contractor erected an additional layer of noise insulation materials to enclose the boundary of the works area and also adjusted the works schedule to start later in the morning to minimize noise and dust nuisance to the public. The relevant contractor was reminded to keep on review and continuously implement their enhanced dust and noise mitigation measures. Hence, the case was considered closed.
			In the previous reporting period, a complaint regarding sand and gravel at South Perimeter Road was received on 20 October 2023.	ET requested the relevant contractors to provide information regarding the complaint and replies indicated the automatic wheel washing facility and provision of water spraying on vehicle wheels were both operating in normal condition. Despite no sand and gravel issue was recorded during ET's site inspections, the relevant contractors deployed water trucks to spray the ground at the concerned area, reminded all drivers to go through the wheel washing arrangement before exiting to public road and provided refresher training on manual wheel washing for their frontline workers. The relevant contractors were reminded to keep review and continuously provide proper wheel washing efforts and implement their enhanced mitigation measures. Hence, the case was considered closed.
			In the previous reporting period, a complaint regarding	ET requested the relevant contractors to provide information regarding the complaint and replies indicated they

	Yes	No	Details	Analysis / Recommendation / Remedial Actions
			dust nuisance from sand barge near Castle Peak Bay was received on 30 October 2023.	had delivery barges moored at Marine Department's Designated Tuen Mun Immigration Anchorage Area during this period in which dust mitigation measures including water spraying were implemented on the barges. ET's checking in the Maritime Surveillance System indicated no barges under 3RS were moored near the Castle Peak Bay during the period of the complaint. Having said that, the relevant contractors were reminded to continuously and properly implement dust mitigation measures on their delivery barges. Hence, the case was considered closed.
			A complaint regarding dust nuisance at South Perimeter Road was received on 21 November 2023.	The complaints are under investigation. Findings will be reported in the next Monthly EM&A Report.
			Another complaint regarding dust nuisance at South Perimeter Road was received on 21 November 2023.	
			A complaint regarding sand and gravel issue at South Perimeter Road was received on 21 November 2023.	
			A complaint regarding sand and gravel issue at South Perimeter Road was received on 27 November 2023.	
Notification of any summons and status of prosecutions		√	No notification of summons nor prosecution was received.	Nil
Change that affect the EM&A		√	There was no change to the construction works that may affect the EM&A.	Nil

Note:
^ Only triggering of Action or Limit Level found related to Project works is counted as Breach of Action or Limit Level.

1 Introduction

1.1 Background

On 7 November 2014, the Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-185/2014) for the "Expansion of Hong Kong International Airport into a Three-Runway System" (the Project) was approved and an Environmental Permit (EP) (Permit No.: EP-489/2014) was issued for the construction and operation of the Project.

Airport Authority Hong Kong (AAHK) commissioned Mott MacDonald Hong Kong Limited (MMHK) to undertake the role of Environmental Team (ET) for carrying out the Environmental Monitoring & Audit (EM&A) works during the construction phase of the Project in accordance with the Updated EM&A Manual (the Manual) submitted under EP Condition 3.1[1]. AECOM Asia Company Limited (AECOM) was employed by AAHK as the Independent Environmental Checker (IEC) for the Project.

The Project covers the expansion of the existing airport into a three-runway system (3RS) with key project components comprising land formation of about 650 ha and all associated facilities and infrastructure including taxiways, aprons, aircraft stands, a passenger concourse, an expanded Terminal 2, all related airside and landside works and associated ancillary and supporting facilities. The submarine aviation fuel pipelines and submarine power cables also require diversion as part of the works.

Construction of the Project is to proceed in the general order of diversion of the submarine aviation fuel pipelines, diversion of the submarine power cables, land formation, and construction of infrastructure, followed by construction of superstructures.

The summary of construction works programme can be referred to **Section 1.4**.

1.2 Scope of this Report

This is the 95th Construction Phase Monthly EM&A Report for the Project which summarises the key findings of the EM&A programme during the reporting period from 1 to 30 November 2023.

1.3 Project Organisation

The Project's organisation structure presented in Appendix B of the Construction Phase Monthly EM&A Report No.1 remained unchanged during the reporting period. Contact details of the key personnel are presented in **Table 1.1**.

Table 1.1: Contact Information of Key Personnel

Party	Position	Name	Telephone
Project Manager's Representative (Airport Authority Hong Kong)	Principal Manager, Environmental Compliance, Sustainability	Lawrence Tsui	2183 2734
Environmental Team (ET) (Mott MacDonald Hong Kong Limited)	Environmental Team Leader	Terence Kong	2828 5919
	Deputy Environmental Team Leaders	Heidi Yu	2828 5704
		Ken Wong	2828 5817

[1] The Manual is available on the Project's dedicated website (accessible at: http://env.threerunwaysystem.com/en/index.html).

Party	Position	Name	Telephone
Independent Environmental Checker (IEC) (AECOM Asia Company Limited)	Independent Environmental Checker	Roy Man	3922 9141
	Deputy Independent Environmental Checker	Jackel Law	3922 9376

Reclamation Works:

Party	Position	Name	Telephone
Contract 3206 Main Reclamation Works (ZHEC-CCCC-CDC Joint Venture)	Project Manager	Alan Mong	3763 1352
	Environmental Officer	Zhang Bin Wang	3763 1525

Airfield Works:

Party	Position	Name	Telephone
Contract 3302 Eastern Vehicular Tunnel Advance Works (China Road and Bridge Corporation)	Project Manager	Dickey Yau	5699 4503
	Environmental Officer	Dennis Ho	5645 0563
Contract 3305 Airfield Ground Lighting System (ADB Safegate Hong Kong Limited)	Project Manager	Allam Al-Turk	2944 9725
	Environmental Officer	Ivan Ting	9222 9490
Contract 3306 Observation Facility Control System Supporting Interim 2RS and 3RS (Chinney Alliance Engineering Limited)	Project Director	Dennis Yam	9551 9920
	Environmental Officer	Richard Liu	9216 8990
Contract 3307 Fire Training Facility (Paul Y. Construction Company Limited)	Project Manager	Ken Tang	9640 5397
	Environmental Officer	Ferddy Leung	5585 6746
Contract 3308 Foreign Object Debris Detection System (DAS Aviation Services Group)	Project Manager	Jeffrey Yau	9873 7422
Contract 3310 North Runway Modification Works (China State Construction Engineering (Hong Kong) Ltd.)	Project Manager	Kingsley Chiang	9424 8437
	Environmental Officer	Federick Wong	9842 2703

Third Runway Concourse:

Party	Position	Name	Telephone
Contract 3402 New Integrated Airport Centres Enabling Works (Wing Hing Construction Co., Ltd.)	Project Manager	Wyman Lau	6112 9753
	Health Safety Environmental Manager	Mike Leung	6625 2550

Party	Position	Name	Telephone
Contract 3403 New Integrated Airport Centres Building and Civil Works (Sun Fook Kong Construction Limited)	Project Manager	Alice Leung	9220 3162
	Environmental Officer	Ray Cheung	9785 1566
Contract 3404 Integrated Airport Control System (Shun Hing Systems Integration Co., Ltd.)	Project Manager	Andy Ng	9102 2739
	Safety and Environmental Manager	Josephine Chang	9383 7705
Contract 3405 Third Runway Concourse Foundation and Substructure Works (China Road and Bridge Corporation – Bachy Soletanche Group Limited – LT Sambo Co., Ltd. Joint Venture)	Project Manager	Francis Choi	9423 3469
	Environmental Officer	Jacky Lai	9028 8975
Contract 3408 Third Runway Concourse and Apron Works (Beijing Urban Construction Group Company Limited and Chevalier (Construction) Company Limited Joint Venture)	Senior HSE Manager	Qian Zhang	5377 7976
	Environmental Officer	Malcolm Leung	7073 7559

Terminal 2 (T2) Expansion:

Party	Position	Name	Telephone
Contract 3508 Terminal 2 Expansion Works (Gammon Engineering & Construction Company Limited)	Project Director	Richard Ellis	6201 5637
	Environmental Officer	Endy Tse	6228 7768

Automated People Mover (APM) and Baggage Handling System (BHS):

Party	Position	Name	Telephone
Contract 3601 New Automated People Mover System (TRC Line) (CRRC Puzhen Bombardier Transportation Systems Limited and CRRC Nanjing Puzhen Co., Ltd. Joint Venture)	Project Manager	Hongdan Wei	158 6180 9450
	Environmental Officer	H Y Yue	9185 8186
Contract 3602 Existing APM System Modification Works (Niigata Transys Co., Ltd.)	Project Manager	Xia Bo	6586 4950
	Environmental Officer	Y M Tong	5316 9801
Contract 3603 3RS Baggage Handling System (VISH Consortium)	Project Manager	K C Ho	9272 9626
	Environmental Officer	Richard Ng	9802 9577

Construction Support (Facilities):

Party	Position	Name	Telephone
Contract 3721 Construction Support Infrastructure Works (China State Construction Engineering (Hong Kong) Ltd.)	Senior Project Manager	Thomas Lui	9011 5340
	Environmental Officer	John Mak	6273 8703
Contract 3728 Minor Site Works (Shun Yuen Construction Company Limited)	Contract Manager	C K Liu	9194 8739
	Environmental Officer	Dan Leung	6856 5899
Contract 3733 Emergency Repair Service (Wing Hing Construction Co., Ltd.)	Project Manager	Michael Kan	9206 0550
	Safety Health Environmental Manager	Mike Leung	6625 2550

Airport Support Infrastructure:

Party	Position	Name	Telephone
Contract 3801 APM and BHS Tunnels on Existing Airport Island (China State Construction Engineering (Hong Kong) Ltd.)	Project Manager	Kingsley Chiang	9424 8437
	Environmental Officer	Eunice Kwok	9243 1331
Contract 3802 APM and BHS Tunnels and Related Works (Gammon Engineering & Construction Company Limited)	Project Director	John Adams	6111 6989
	Environmental Officer	Ruby Hui	6218 6408
Contract 3804 East and Landside Fire Stations (Beijing Urban Construction Group Company Limited - Beijing Urban Construction International Company Limited - Kin Shing (Leung's) General Contractors Ltd Joint Venture)	Project Manager	Mr. Zhang Xianda	4661 6818
	Environmental Officer	Ms. Kimberly Wong	5542 1669
Contract 3805 New Airport District Police Operational Base (Chinney Construction Co., Ltd.)	Project Manager	Cheuk Wing Wai	9339 8321
	Environmental Officer	Mike Li	6306 8547

Construction Support (Services / Licences):

Party	Position	Name	Telephone
Contract 3901A Concrete Batching Facility (K. Wah Concrete Company Limited)	Project Manager	Benedict Wong	9553 2806
	Environmental Officer	C P Fung	9874 2872

Party	Position	Name	Telephone
Contract 3901B Concrete Batching Facility (Gammon Construction Limited)	General Manager	Gabriel Chan	2435 3260
	Environmental Officer	Rex Wong	2695 6319
Contract 3908 Quay Management Services (Gitanes – Crown Asia Joint Venture)	Project Manager	Mr. Ian Li	9750 6438
	Environmental Officer	Mr. Tang Kai Fun	9406 3526
Contract 3913 Asphalt Batching Plant (SPR Joint Venture)	Project Manager	Xie Yi Sheng	6580 6005
	Environmental Officer	Kenneth Chan	9300 2182

Utilities:

Party	Position	Name	Telephone
132 kV Cable (CLP Power Hong Kong Limited / Kum Shing (K.F.) Construction Company Limited)	Engineer	Ken Fung	6391 9087
	Project Engineer	Ivan Shek	9822 5836

1.4 Summary of Construction Works

The key activities of the Project carried out in the reporting period are located in reclamation areas and existing airport island respectively. Works in the reclamation areas included rock armour laying works, land improvement works and filling works, pavement works, concourse superstructure works, tunnel work for Automated People Mover (APM) and Baggage Handling System (BHS) and associated works. Land-based works on existing airport island involved Terminal 2 expansion works, modification and tunnel work for APM and BHS, utilities works, road and drainage works, demolition, piling, excavation works, and 132kV cable laying.

The locations of key construction activities are presented in **Figure 1.1**.

1.5 Summary of EM&A Programme Requirements

The status for all environmental aspects are presented in **Table 1.2**. The EM&A requirements remained unchanged during the reporting period.

Table 1.2: Summary of Status of All Environmental Aspects under the Updated EM&A Manual

Parameters	EM&A Requirements	Status
Air Quality		
Baseline Monitoring	At least 14 consecutive days before commencement of construction work	The baseline air quality monitoring result was reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	At least 3 times every 6 days	On-going
Noise		
Baseline Monitoring	Daily for a period of at least two weeks prior to the commencement of construction works	The baseline noise monitoring result was reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.

Parameters	EM&A Requirements	Status
Impact Monitoring	Weekly	On-going
Water Quality		
General Baseline Water Quality Monitoring for reclamation, water jetting and field joint works	Three days per week, at mid-flood and mid-ebb tides, for at least four weeks prior to the commencement of marine works.	The baseline water quality monitoring result was reported in Baseline Water Quality Monitoring Report and submitted to EPD under EP Condition 3.4.
General Impact Water Quality Monitoring for reclamation, water jetting and field joint works	Three days per week, at mid-flood and mid-ebb tides.	General impact water quality monitoring for water jetting works was completed on 23 May 2017. The impact water quality monitoring was completed on 31 October 2023.
Initial Intensive Deep Cement Mixing (DCM) Water Quality Monitoring	At least four weeks	The Initial Intensive DCM Monitoring Report was submitted and approved by EPD in accordance with the Detailed Plan on DCM.
Regular DCM Water Quality Monitoring	Three times per week until completion of DCM works.	Due to the completion of all marine-based DCM works within April 2022, regular DCM monitoring was ceased at all monitoring stations starting from 28 April 2022 and would be resumed if there are marine-based DCM works in the coming future.
Post-construction phase water quality monitoring	Three days per week, at mid-flood and mid-ebb tides for four weeks	The four-week post-construction phase water quality monitoring exercise has been commenced since 14 November 2023.
Sewerage and Sewage Treatment		
Methodology for carrying out annual sewage flow monitoring for concerned gravity sewer	Methodology to be prepared and submitted to EPD one year before the scheduled commencement of operation of the proposed third runway	The proposed methodology of the annual sewage flow monitoring was approved by EPD. The annual flow monitoring was started from June 2021 and completed in 2022.
Details of the routine H_2S monitoring system for the sewerage system of 3RS	Details to be prepared and submitted to EPD at least one year before commencement of the operation of 3RS	The H_2S monitoring proposal was accepted by EPD in Jun 2023.
Waste Management		
Waste Monitoring	At least weekly	On-going
Land Contamination		
Supplementary Contamination Assessment Plan (CAP)	At least 3 months before commencement of any soil remediation works.	The Supplementary CAP was submitted and approved by EPD under EP Condition 2.20.
Site Re-appraisal Report for Fire Training Facility	Site Re-appraisal Report for Fire Training Facility	Site Re-appraisal Report for Fire Training Facility was submitted to EPD.
Contamination Assessment Report (CAR) for Golf Course	CAR to be submitted for golf course	The CAR for Golf Course was submitted and accepted by EPD.
Contamination Assessment Reports (CAR) for Terminal 2 Emergency Power Supply Systems	CAR to be submitted for Terminal 2 Emergency Power Supply Systems	The CARs for Terminal 2 Emergency Power Supply Systems were submitted and accepted by EPD.
Terrestrial Ecology		

Parameters	EM&A Requirements	Status
Pre-construction Egretry Survey Plan	Once per month in the breeding season between April and July, prior to the commencement of HDD drilling works.	The Egretry Survey Plan was submitted and approved by EPD under EP Condition 2.14.
Ecological Monitoring	Monthly monitoring during the HDD construction works period from August to March.	The terrestrial ecological monitoring at Sheung Sha Chau was completed in January 2019.
Marine Ecology		
Pre-Construction Phase Coral Dive Survey	Prior to marine construction works	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12.
Coral Translocation	-	The coral translocation was completed.
Post-Translocation Coral Monitoring	As per an enhanced monitoring programme based on the Coral Translocation Plan	The post-translocation monitoring programme according to the Coral Translocation Plan was completed in April 2018.
Chinese White Dolphins (CWD)		
Baseline Monitoring	6 months of baseline surveys before the commencement of land formation related construction works. Vessel line transect surveys: Two full surveys per month; Land-based theodolite tracking surveys: Two days per month at the Sha Chau station and two days per month at the Lung Kwu Chau station; and Passive Acoustic Monitoring (PAM): For the whole duration of baseline period.	Baseline CWD results were reported in the CWD Baseline Monitoring Report and submitted to EPD in accordance with EP Condition 3.4.
Impact Monitoring	Vessel line transect surveys: Two full surveys per month; Land-based theodolite tracking surveys: One day per month at the Sha Chau station and one day per month at the Lung Kwu Chau station; and PAM: For the whole duration for land formation related construction works.	On-going The construction phase CWD monitoring will be continued until the end of December 2023 so as to collect a full-year set of monitoring data to facilitate evaluation of CWD abundance on an annual basis.
Landscape & Visual		
Landscape & Visual Plan	At least 3 months before the commencement of construction works on the formed land of the Project.	The Landscape & Visual Plan was submitted and approved by EPD under EP Condition 2.18
Baseline Monitoring	One-off survey within the Project site boundary prior to commencement of any construction works	The baseline landscape & visual monitoring result was reported in Baseline Monitoring Report and submitted to EPD under EP Condition 3.4.
Impact Monitoring	Weekly	On-going
Establishment Works Monitoring	Bi-monthly	On-going
Long Term Management (10 years) Monitoring	Annually	On-going
Environmental Auditing		
Regular site inspection	Weekly	On-going
Marine Mammal Watching Plan (MMWP) implementation measures	Monitor and check	No Marine Mammal Watching Plan (MMWP) implementation measures during this reporting period.

Parameters	EM&A Requirements	Status
Dolphin Exclusion Zone (DEZ) Plan implementation measures	Monitor and check	On-going
SkyPier High Speed Ferries (HSF) implementation measures	Monitor and check	On-going
Construction and Associated Vessels Implementation measures	Monitor and check	On-going
Silt Curtain Deployment Plan implementation measures	Monitor and check	No Silt Curtain Deployment Plan implementation measures during this reporting period.
Spill Response Plan implementation measures	Monitor and check	On-going
Complaint Hotline and Email channel	Construction phase	On-going
Environmental Log Book	Construction phase	On-going

Taking into account the construction works in this reporting period, impact monitoring of air quality, noise, waste management, landscape & visual, and CWD were carried out in the reporting period.

The EM&A programme also involved weekly site inspections and related auditing conducted by the ET for checking the implementation of the required environmental mitigation measures recommended in the approved EIA Report. To promote the environmental awareness and enhance the environmental performance of the contractors, regular environmental management meetings were conducted during the reporting period, which are summarised as below:

- Seventeen environmental management meetings for EM&A review with works contracts: 8, 9, 14, 16, 22, 23, 24, 29 & 30 November 2023.

The EM&A programme has been following the recommendations presented in the approved EIA Report and the Manual. A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix A**.

2 Air Quality Monitoring

Air quality monitoring of 1-hour Total Suspended Particulates (TSP) was conducted three times every six days at two representative monitoring stations in the vicinity of air sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Table 2.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 2.1: Locations of Impact Air Quality Monitoring Stations

Monitoring Station	Location
AR1A	Man Tung Road Park
AR2	Village House at Tin Sum

2.1 Action and Limit Levels

In accordance with the Manual, baseline air quality monitoring of 1-hour TSP levels at the two air quality monitoring stations were established as presented in the Baseline Monitoring Report. The Action and Limit Levels of the air quality monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 2.2**.

Table 2.2: Action and Limit Levels of Air Quality Monitoring

Monitoring Station	Action Level (mg/m^3)	Limit Level (mg/m^3)
AR1A	306	500
AR2	298	

2.2 Monitoring Equipment

Portable direct reading dust meter was used to carry out the air quality monitoring. Details of equipment used in the reporting period are given in **Table 2.3**.

Table 2.3: Air Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Portable direct reading dust meter (Laser dust monitor)	SIBATA LD-3B-2 (Serial No. 296098)	18 Sep 2023	Appendix E of Monthly EM&A Report No. 94

2.3 Monitoring Methodology

2.3.1 Measuring Procedure

The measurement procedures involved in the impact air quality monitoring can be summarised as follows:

a. The portable direct reading dust meter was mounted on a tripod at a height of 1.2m above the ground.
b. Prior to the measurement, the equipment was set up for 1 minute span check and 6 second background check.
c. The one hour dust measurement was started. Site conditions and dust sources at the nearby area were recorded on a record sheet.

d. When the measurement completed, the “Count” reading per hour was recorded for result calculation.

2.3.2 Maintenance and Calibration

The portable direct reading dust meter is calibrated every year against high volume sampler (HVS) to check the validity and accuracy of the results measured by direct reading method. The calibration record of the HVS provided in Appendix E of the Monthly EM&A Report No. 94 and the calibration certificates of portable direct reading dust meters listed in **Table 2.3** are valid in the reporting period.

2.4 Summary of Monitoring Results

The air quality monitoring schedule of the reporting period is provided in **Appendix B**.

The air quality monitoring results in the reporting period are summarised in **Table 2.4**. Detailed impact monitoring results are presented in **Appendix C**.

Table 2.4: Summary of Air Quality Monitoring Results

Monitoring Station	1-hr TSP Concentration Range (mg/m^3)	Action Level (mg/m^3)	Limit Level (mg/m^3)
AR1A	33 - 117	306	500
AR2	33 - 84	298	

The monitoring results were within the corresponding Action and Limit Levels at all monitoring stations in the reporting period.

General meteorological conditions throughout the impact monitoring period were recorded. Wind data including wind speed and wind direction for each monitoring day were collected from the Chek Lap Kok Wind Station.

2.5 Conclusion

No dust emission source was observed at the monitoring stations during the monitoring sessions. As the sensitive receivers were far away from the construction activities, with the implementation of dust control measures, there was no adverse impact at the sensitive receivers attributable to the works of the Project.

3 Noise Monitoring

Noise monitoring in the form of 30-minute measurements of L_{eq}, L_{10}, and L_{90} levels was conducted once per week between 0700 and 1900 on normal weekdays at four representative monitoring stations in the vicinity of noise sensitive receivers in Tung Chung and villages in North Lantau in accordance with the Manual. **Table 3.1** describes the details of the monitoring stations. **Figure 2.1** shows the locations of the monitoring stations.

Table 3.1: Locations of Impact Noise Monitoring Stations

Monitoring Station	Location	Type of measurement
NM1A	Man Tung Road Park	Free field
NM2(1)	Tung Chung West Development	To be determined
NM3A(2)	Site Office	Facade
NM4	Ching Chung Hau Po Woon Primary School	Free field
NM5	Village House in Tin Sum	Free field
NM6	House No. 1, Sha Lo Wan	Free field

Notes:
(1) As described in Section 4.3.3 of the Manual, noise monitoring at NM2 will only commence after occupation of the future Tung Chung West Development.

(2) According to Section 4.3.3 of the Manual, the noise monitoring at NM3A was temporarily suspended starting from 1 September 2018 and would be resumed with the completion of the Tung Chung East Development.

3.1 Action and Limit Levels

In accordance with the Manual, baseline noise levels at the noise monitoring stations were established as presented in the Baseline Monitoring Report. The Action and Limit Levels of the noise monitoring stipulated in the EM&A programme for triggering the relevant investigation and follow-up procedures under the programme are provided in **Table 3.2**.

Table 3.2: Action and Limit Levels for Noise Monitoring

Monitoring Stations	Time Period	Action Level	Limit Level, $L_{eq(30mins)}$ dB(A)
NM1A, NM2, NM3A, NM4, NM5 and NM6	0700-1900 hours on normal weekdays	When one valid documented complaint is received from any one of the sensitive receivers	75dB(A)(1)

Note:
(1) The Limit Level for NM4 is reduced to 70dB(A) for being an educational institution. During school examination period, the Limit Level is further reduced to 65dB(A).

3.2 Monitoring Equipment

Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was used to check the sound level meters by a known sound pressure level for field measurement. Details of equipment used in the reporting period are given in **Table 3.3**.

Table 3.3: Noise Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Integrated Sound Level Meter	Rion NL-52 (Serial No. 00998505)	19 Mar 2023	Appendix D of Monthly EM&A Report No.87
Integrated Sound Level Meter	Rion NL-52 (Serial No. 01287679)	22 Oct 2023	**Appendix D**
Acoustic Calibrator	Castle GA607 (Serial No. 040162)	19 Mar 2023	Appendix D of Monthly EM&A Report No.87
Acoustic Calibrator	Casella CEL-120 (Serial No. 2383737)	18 Jun 2023	Appendix D of Monthly EM&A Report No.91

3.3 Monitoring Methodology

3.3.1 Monitoring Procedure

The monitoring procedures involved in the noise monitoring can be summarised as follows:

a. The sound level meter was set on a tripod at least a height of 1.2m above the ground for free-field measurements at monitoring stations NM1A, NM4, NM5 and NM6. A correction of +3dB(A) was applied to the free field measurements.
b. Façade measurements were made at the monitoring station NM3A.
c. Parameters such as frequency weighting, time weighting and measurement time were set.
d. Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator. If the difference in the calibration level before and after measurement was more than 1dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
e. During the monitoring period, L_{eq}, L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a record sheet.
f. Noise measurement results, when higher than the baseline monitoring levels, were corrected with reference to the baseline monitoring levels.
g. Observations were recorded when high intrusive noise (e.g. dog barking, helicopter noise) was observed during the monitoring.

3.3.2 Maintenance and Calibration

The maintenance and calibration procedures are summarised below:

a. The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
b. The meter and calibrator were sent to the supplier or laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) to check and calibrate at yearly intervals.

Calibration certificates of the sound level meters and acoustic calibrators used in the noise monitoring listed in **Table 3.3** are valid in the reporting period.

3.4 Summary of Monitoring Results

The noise monitoring schedule of reporting period is provided in **Appendix B**.

The noise monitoring results in the reporting period are summarised in **Table 3.4**. Detailed impact monitoring results are presented in **Appendix C**.

Table 3.4: Summary of Construction Noise Monitoring Results

Monitoring Station	Noise Level Range, dB(A) $L_{eq\ (30mins)}$	Limit Level, dB(A) $L_{eq\ (30mins)}$
NM1A[(1)]	61 - 65	75
NM4[(1) (3)]	63 - 65	70[(2)]
NM5[(1) (3)]	56 - 59	75
NM6[(1) (3)]	62 - 68	75

Notes:

(1) +3dB(A) Façade correction included;

(2) The limit level will be reduced to 65dB(A) during school examination periods at NM4. No school examination took place during this reporting period.

(3) Some of the noise measurement results were higher than the baseline monitoring levels. In order to reduce the influence of non-Project related noise on the monitoring results, these measurement results were corrected with reference to the baseline monitoring results.

No complaints were received from any sensitive receiver as listed in **Table 3.1** that triggered the Action Level. All monitoring results were within the corresponding Limit Levels at all monitoring stations in the reporting period.

3.5 Conclusion

As the construction activities were far away from the monitoring stations, major sources of noise dominating the monitoring stations observed during the construction noise impact monitoring were traffic noise near NM1A, school activities near NM4 and aircraft noise near NM6 during this reporting period. It is considered that the monitoring work during the reporting period was effective and there was no adverse impact attributable to the Project activities.

4 Water Quality Monitoring

With the completion of land formation works in the first quarter of 2023, termination of the construction phase water quality impact monitoring was proposed to EPD with approval granted on 30 October 2023. The water quality impact monitoring was terminated after 31 October 2023. A post-construction phase water quality monitoring exercise would be carried out for four weeks according to Section 5.1.10.1 of the Updated EM&A Manual, in the same manner as the impact monitoring during construction phase. The post-construction phase water quality monitoring has been commenced on 14 November 2023. The post-construction phase water quality monitoring schedule is provided in **Appendix B**.

Post-construction phase water quality monitoring of DO, pH, temperature, salinity, turbidity, and suspended solids (SS), total alkalinity, chromium, and nickel has been conducted three days per week, at mid-ebb and mid-flood tides, at a total of 23 water quality monitoring stations, comprising 12 impact (IM) stations, 8 sensitive receiver (SR) stations and 3 control (C) stations in the vicinity of water quality sensitive receivers around the airport island in accordance with the Manual. **Table 4.1** describes the details of the monitoring stations and the control and impact stations during ebb tide and flood tide for post-construction phase water quality monitoring are presented in **Table 4.2**. **Figure 4.1** shows the locations of the monitoring stations.

Table 4.1: Monitoring Locations of Post-construction Phase Water Quality Monitoring

Monitoring Station	Description	Coordinates		Parameters
		Easting	Northing	
C1	Control Station	804247	815620	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS DCM Parameters Total Alkalinity, Heavy Metals
C2	Control Station	806945	825682	
C3(2)	Control Station	817803	822109	
IM1	Impact Station	806458	818351	
IM2	Impact Station	806193	818852	
IM3	Impact Station	806019	819411	
IM4	Impact Station	805039	819570	
IM5	Impact Station	804924	820564	
IM6	Impact Station	805828	821060	
IM7	Impact Station	806835	821349	
IM8	Impact Station	807838	821695	
IM9	Impact Station	808811	822094	
IM10	Impact Station	809838	822240	
IM11	Impact Station	810545	821501	
IM12	Impact Station	811519	821162	
SR1A(1)	Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities (HKBCF) Seawater Intake for cooling	812660	819977	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS
SR2	Planned marine park / hard corals at The Brothers / Tai Mo To	814166	821463	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS DCM Parameters

Monitoring Station	Description	Coordinates		Parameters
				Total Alkalinity, Heavy Metals
SR3	Sha Chau and Lung Kwu Chau Marine Park / fishing and spawning grounds in North Lantau	807571	822147	General Parameters DO, pH, Temperature, Salinity, Turbidity, SS
SR4A	Sha Lo Wan	807810	817189	
SR5A	San Tau Beach SSSI	810696	816593	
SR6(4)	Tai Ho Bay, Near Tai Ho Stream SSSI	814663	817899	
SR7	Ma Wan Fish Culture Zone (FCZ)	823742	823636	
SR8(3)	Seawater Intake for cooling at Hong Kong International Airport (East)	811623	820390	

Notes:

(1) With the operation of HKBCF, water quality monitoring at SR1A station was commenced on 25 October 2018. To better reflect the water quality in the immediate vicinity of the intake, the monitoring location of SR1A has been shifted closer to the intake starting from 5 January 2019.
(2) According to the Baseline Water Quality Monitoring Report, C3 station is not adequately representative as a control station of impact/ SR stations during the flood tide. The control reference has been changed from C3 to SR2 from 1 September 2016 onwards.
(3) The monitoring location for SR8 is subject to further changes due to silt curtain arrangements and the progressive relocation of this seawater intake.
(4) Since construction activities and temporary structures for Tung Chung New Town Extension no longer exist, SR6 is adopted according to the Baseline Water Quality Monitoring Report.

Table 4.2: The Control and Impact Stations during Flood Tide and Ebb Tide for Post-construction Phase Water Quality Monitoring

Control Station	Impact Stations
Flood Tide	
C1	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, SR3
SR2(1)	IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR3, SR4A, SR5A, SR6, SR8
Ebb Tide	
C1	SR4A, SR5A, SR6
C2	IM1, IM2, IM3, IM4, IM5, IM6, IM7, IM8, IM9, IM10, IM11, IM12, SR1A, SR2, SR3, SR7, SR8

Note:

(1) As per findings of Baseline Water Quality Monitoring Report, the control reference has been changed from C3 to SR2 from 1 September 2016 onwards.

4.1 Monitoring Equipment

Table 4.3: summarises the equipment used in the reporting period for monitoring of specific water quality parameters under the water quality monitoring programme.

Table 4.3: Water Quality Monitoring Equipment

Equipment	Brand and Model	Last Calibration Date	Calibration Certificate Provided in
Multifunctional Meter (measurement of DO, pH, temperature, salinity and turbidity)	YSI ProDSS (Serial No. 16H104233)	15 Sep 2023	Appendix D of Monthly EM&A Report No. 93
	YSI ProDSS (Serial No. 21K101468)	15 Sep 2023	Appendix D of Monthly EM&A Report No. 93
Digital Titrator (measurement of total alkalinity)	Titrette Bottle-top Burette, 50ml (Serial No. 10N60623)	7 Nov 2023	**Appendix D**

Other equipment used as part of the impact water quality monitoring programme are listed in **Table 4.4**.

Table 4.4: Other Monitoring Equipment

Equipment	Brand and Model
Water Sampler	Van Dorn Water Sampler
Positioning Device (measurement of GPS)	Garmin eTrex Vista HCx
Current Meter (measurement of current speed and direction, and water depth)	Sontek HydroSurveyor

4.2 Monitoring Methodology

4.2.1 Measuring Procedure

Water quality monitoring samples were taken at three depths (at 1m below surface, at mid-depth, and at 1m above bottom) for locations with water depth >6m. For locations with water depth between 3m and 6m, water samples were taken at two depths (surface and bottom). For locations with water depth <3m, only the mid-depth was taken. Duplicate water samples were taken and analysed.

The water samples for all monitoring parameters were collected, stored, preserved and analysed according to the Standard Methods, APHA 22nd ed. and/or other methods as agreed by the EPD. In-situ measurements at monitoring locations including temperature, pH, DO, turbidity, salinity, alkalinity and water depth were collected by equipment listed in **Table 4.3** and **Table 4.4**. Water samples for heavy metals and SS analysis were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4ºC without being frozen), delivered to the laboratory within 24 hours of collection.

4.2.2 Maintenance and Calibration

Calibration of In-situ Instruments

All in-situ monitoring instrument was checked, calibrated and certified by a laboratory accredited under HOKLAS before use. Responses of sensors and electrodes were checked with certified standard solutions before each use.

Wet bulb calibration for a DO meter was carried out before commencement of monitoring and after completion of all measurements each day. Calibration was not conducted at each monitoring location as daily calibration is adequate for the type of DO meter employed. A zero check in distilled water was performed with the turbidity probe at least once per monitoring day. The probe was then calibrated with a solution of known NTU. In addition, the turbidity probe was calibrated at least twice per month to establish the relationship between turbidity readings (in NTU) and levels of SS (in mg/l). Accuracy check of the digital titrator was performed at least once per monitoring day.

Calibration certificates of the monitoring equipment used in the reporting period are listed in **Table 4.3**.

4.2.3 Laboratory Measurement / Analysis

Analysis of SS and heavy metals have been carried out by a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (Reg. No. HOKLAS 066). Sufficient water samples were collected at all the monitoring stations for carrying out the laboratory SS and heavy metals determination. The SS and heavy metals determination works were started within 24 hours after collection of the water samples. The analysis of SS and heavy metals have followed the standard methods summarised in **Table 4.5**. The QA/QC procedures for laboratory measurement/ analysis of SS

and heavy metals were presented in Appendix F of the Construction Phase Monthly EM&A Report No.8.

Table 4.5: Laboratory Measurement/ Analysis of SS and Heavy Metals

Parameters	Instrumentation	Analytical Method	Reporting Limit
SS	Analytical Balance	APHA 2540D	2mg/l
Heavy Metals			
Chromium (Cr)	ICP-MS	USEPA 6020A	0.2µg/l
Nickel (Ni)	ICP-MS	USEPA 6020A	0.2µg/l

4.3 Summary of Monitoring Results

The post-construction phase water quality monitoring schedule is provided in **Appendix B**. To collect a complete set of water quality monitoring data to facilitate evaluation of post-construction phase water quality, the complete set of post-construction phase water quality monitoring results will be reported in the next monthly EM&A report.

4.4 Conclusion

With the completion of land formation works in the first quarter of 2023, the water quality impact monitoring was terminated after 31 October 2023. A post-construction phase water quality monitoring exercise would be carried out for four weeks according to Section 5.1.10.1 of the Updated EM&A Manual, in the same manner as the impact monitoring at all monitoring stations as listed in **Table 4.1** during construction phase. The post-construction phase water quality monitoring was commenced on 14 November 2023 and the monitoring results would be reported in the next monthly EM&A report.

5 Waste Management

In accordance with the Manual, the waste generated from construction activities was audited once per week to determine if wastes are being managed in accordance with the Waste Management Plan (WMP) prepared for the Project, contract-specific WMP, and any statutory and contractual requirements. All aspects of waste management including waste generation, storage, transportation and disposal were assessed during the audits.

5.1 Action and Limit Levels

The Action and Limit Levels of the construction waste are provided in **Table 5.1**.

Table 5.1: Action and Limit Levels for Construction Waste

Monitoring Stations	Action Level	Limit Level
Construction Area	When one valid documented complaint is received	Non-compliance of the WMP, contract-specific WMPs, any statutory and contractual requirements

5.2 Waste Management Status

Weekly monitoring on all works contracts were carried out by the ET to check and monitor the implementation of proper waste management practices during the construction phase.

Recommendations made included provision and maintenance of proper chemical waste storage area, as well as handling, segregation, and regular disposal of general refuse. The contractors have taken actions to implement the recommended measures. Waste management audits were carried out by ET according to the requirement of the Waste Management Plan, Updated EM&A Manual and the implementation schedule of the waste management mitigation measures in **Appendix A**.

Based on updated contractors' information, construction waste generated in the reporting period is summarised in **Table 5.2**. The ET and IEC have carried out site audits regularly and reviewed the trip ticket system. Dedicated areas for sorting of materials are established on site. Recyclable materials such as steel bar, metal strip, aluminium, paper and plastic are sorted on-site and transported off-site for recycling during this reporting period.

Table 5.2: Construction Waste Statistics

	C&D Material Stockpiled for Reuse or Recycle[1] (m3)	C&D Material Reused in the Project (m3)	C&D Material Reused in other Projects (m3)	C&D Material Transferred to Public Fill (m3)	Chemical Waste (kg)	Chemical Waste (l)	General Refuse (tonne)
Oct 2023[2]	0	2,440	64	6,865	0	0	3,958
Nov 2023[3]	0	161	0	7,708	1,200	2,200	5,029

Notes:

(1) C&D refers to Construction and Demolition.
(2) Updated figures were provided by contractors.
(3) The data was based on the information provided by contractors up to the submission date of this Monthly EM&A Report and might be updated in the forthcoming Monthly EM&A Report.

There were no complaints, non-compliance of the WMP, contract-specific WMPs, statutory and contractual requirements that triggered Action and Limit Levels in the reporting period.

5.3 Marine Sediment Management

Marine sediment is managed according to the EIA Report, Updated EM&A Manual, Waste Management Plan and the proposal of Further Development on Treatment Level / Details and the Reuse Mode for Marine Sediment (hereinafter referred to as “Further Development Proposal”) of the Project. The sampling process, storage conditions of the excavated marine sediment, treatment process, final backfilling location as well as associated records were inspected and checked by ET and verified by IEC to ensure they were in compliance with the requirements as stipulated in the Waste Management Plan and Further Development Proposal.

Backfilling works for treated marine sediment were conducted during the reporting period.

6 Chinese White Dolphin Monitoring

In accordance with the Manual, CWD monitoring by small vessel line-transect survey supplemented by land-based theodolite tracking survey and passive acoustic monitoring should be conducted during construction phase.

The small vessel line-transect survey should be conducted at a frequency of two full surveys per month, while land-based theodolite tracking survey should be conducted at a frequency of one day per month per station at Sha Chau (SC) and Lung Kwu Chau (LKC) during the construction phase as stipulated in the Manual.

6.1 Action and Limit Levels

The Action and Limit Levels for CWD monitoring were formulated by the action response approach using the running quarterly dolphin encounter rates STG and ANI derived from the baseline monitoring data, as presented in the CWD Baseline Monitoring Report. The derived values of Action and Limit Levels for CWD monitoring were summarised in **Table 6.1**.

Table 6.1: Derived Values of Action and Limit Levels for Chinese White Dolphin Monitoring

	NEL, NWL, AW, WL and SWL as a Whole
Action Level[3]	Running quarterly[1] STG < 1.86 & ANI < 9.35
Limit Level[3]	Two consecutive running quarterly[2] (3-month) STG < 1.86 & ANI < 9.35

Notes: (referring to the baseline monitoring report)

(1) Action Level – running quarterly encounter rates STG & ANI of this month will be calculated from the reporting period and the two preceding survey months.

(2) Limit Level – two consecutive running quarters mean both the running quarterly encounter rates of the preceding month and the running quarterly encounter rates of this month.

(3) Action Level and/or Limit Level will be triggered if both STG and ANI fall below the criteria.

6.2 CWD Monitoring Transects and Stations

6.2.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys were conducted along the transects covering Northeast Lantau (NEL), Northwest Lantau (NWL), Airport West (AW), West Lantau (WL) and Southwest Lantau (SWL) areas as proposed in the Manual, which are consistent with the Agriculture, Fisheries and Conservation Department (AFCD) long-term monitoring programme (except the addition of AW). The AW transect has not been previously surveyed in the AFCD programme due to the restrictions of HKIA Approach Area, nevertheless, this transect was established during the EIA of the 3RS Project and refined in the Manual with the aim to collect project specific baseline information within the HKIA Approach Area to fill the data gap that was not covered by the AFCD programme. This also provided a larger sample size for estimating the density, abundance and patterns of movements in the broader study area of the project.

The planned vessel survey transect lines following the waypoints set for construction phase monitoring as proposed in the Manual are depicted in **Figure 6.1** with the waypoint coordinates of all transect lines given in **Table 6.2**, which are subject to on-site refinement based on the actual survey conditions and constraints.

Table 6.2: Coordinates of Transect Lines in NEL, NWL, AW, WL and SWL Survey Areas

Waypoint	Easting	Northing	Waypoint	Easting	Northing
NEL					
1S	813525	820900	6N	818568	824433
1N	813525	824657	7S	819532	821420
2S	814556	818449	7N	819532	824209
2N	814559	824768	8S	820451	822125
3S	815542	818807	8N	820451	823671
3N	815542	824882	9S	821504	822371
4S	816506	819480	9N	821504	823761
4N	816506	824859	10S	822513	823268
5S	817537	820220	10N	822513	824321
5N	817537	824613	11S	823477	823402
6S	818568	820735	11N	823477	824613
NWL					
1S	804671	814577	5S	808504	821735
1N	804671	831404	5N	808504	828602
2Sb	805475	815457	6S	809490	822075
2Nb	805476	818571	6N	809490	825352
2Sa	805476	820770	7S	810499	822323
2Na	805476	830562	7N	810499	824613
3S	806464	821033	8S	811508	821839
3N	806464	829598	8N	811508	824254
4S	807518	821395	9S	812516	821356
4N	807518	829230	9N	812516	824254
AW					
1W	804733	818205	2W	805045	816912
1E	806708	818017	2E	805960	816633
WL					
1W	800600	805450	7W	800400	811450
1E	801760	805450	7E	802400	811450
2W	800300	806450	8W	800800	812450
2E	801750	806450	8E	802900	812450
3W	799600	807450	9W	801500	813550
3E	801500	807450	9E	803120	813550
4W	799400	808450	10W	801880	814500
4E	801430	808450	10E	803700	814500
5W	799500	809450	11W	802860	815500
5E	801300	809450	12S/11E	803750	815500
6W	799800	810450	12N	803750	818500
6E	801400	810450			
SWL					
1S	802494	803961	6S	807467	801137
1N	802494	806174	6N	807467	808458
2S	803489	803280	7S	808553	800329
2N	803489	806720	7N	808553	807377
3S	804484	802509	8S	809547	800338
3N	804484	807048	8N	809547	807396
4S	805478	802105	9S	810542	800423
4N	805478	807556	9N	810542	807462
5S	806473	801250	10S	811446	801335
5N	806473	808458	10N	811446	809436

6.2.2 Land-based Theodolite Tracking Survey

Land-based theodolite tracking survey stations were set up at two locations, one facing east/south/west on the southern slopes of Sha Chau (SC), and the other facing north/northeast/northwest at Lung Kwu Chau (LKC). The stations (D and E) are depicted in **Figure 6.2** and shown in **Table 6.3** with position coordinates, height of station and approximate distance of consistent theodolite tracking capabilities for CWD.

Table 6.3: Land-based Theodolite Survey Station Details

Stations	Location	Geographical Coordinates	Station Height (m)	Approximate Tracking Distance (km)
D	Sha Chau (SC)	22° 20' 43.5" N 113° 53' 24.66" E	45.66	2
E	Lung Kwu Chau (LKC)	22° 22' 44.83" N 113° 53' 0.2" E	70.40	3

6.3 CWD Monitoring Methodology

6.3.1 Small Vessel Line-transect Survey

Small vessel line-transect surveys provided data for density and abundance estimation and other assessments using distance-sampling methodologies, specifically, line-transect methods.

The surveys involved small vessel line-transect data collection and have been designed to be similar to, and consistent with, previous surveys for the AFCD for their long-term monitoring of small cetaceans in Hong Kong. The survey was designed to provide systematic, quantitative measurements of density, abundance and habitat use.

As mentioned in **Section 6.2.1**, the transects covered NEL, NWL, AW, WL and SWL areas as proposed in the Manual, which are consistent with the AFCD long-term monitoring programme (except AW). There are two types of transect lines:

- Primary transect lines: the parallel and zigzag transect lines as shown in **Figure 6.1**; and
- Secondary transect lines: transect lines connecting between the primary transect lines and going around islands.

All data collected on both primary and secondary transect lines were used for analysis of sighting distribution, group size, activities including association with fishing boat, and mother-calf pairs. Only on-effort data collected under favourable conditions of Beaufort 0-3 and visibility of approximately 1200 m or beyond were used for analysis of the CWD encounter rates.

A 15-20m vessel with a flying bridge observation platform about 4 to 5m above water level and unobstructed forward view, and a team of three to four observers were deployed to undertake the surveys. Two observers were on search effort at all times when following the transect lines with a constant speed of 7 to 8 knots (i.e. 13 to 15 km per hour), one using 7X handheld binoculars and the other using unaided eyes and recording data.

During on-effort survey periods, the survey team recorded effort data including time, position (waypoints), weather conditions (Beaufort sea state and visibility) and distance travelled in each series with assistance of a handheld GPS device. The GPS device also continuously and automatically logged data including time, position (latitude and longitude) and vessel speed throughout the entire survey.

When CWDs were seen, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+

telephoto lens), then followed until they were lost from view. At that point, the boat returned (off effort) to the survey line at the closest point after obtaining photo records of the dolphin group and began to survey on effort again.

Focal follows of dolphins would be used for providing supplementary information only where practicable (i.e. when individual dolphins or small stable groups of dolphins with at least one member that could be readily identifiable with unaided eyes during observations and weather conditions are favourable). These would involve the boat following (at an appropriate distance to minimise disturbance) an identifiable individual dolphin for an extended period of time, and collecting detailed data on its location, behaviour, response to vessels, and associates.

6.3.2 Photo Identification

CWDs can be identified by their unique features like presence of scratches, nick marks, cuts, wounds, deformities of their dorsal fin and distinguished colouration and spotting patterns.

When CWDs were observed, the survey team was taken off-effort, the dolphins were approached and photographed for photo-ID information (using a Canon 7D [or similar] camera and long 300 mm+ telephoto lens). The survey team attempted to photograph both sides of every single dolphin in the group as the colouration and spotting pattern on both sides may not be identical. The photos were taken at the highest available resolution and stored on Compact Flash memory cards for transferring into a computer.

All photos taken were initially examined to sort out those containing potentially identifiable individuals. These sorted-out images would then be examined in detail and compared to the CWD photo-identification catalogue established for 3RS Project during the baseline monitoring stage.

6.3.3 Land-based Theodolite Tracking Survey

Land-based theodolite tracking survey obtains fine-scale information on the time of day and movement patterns of the CWDs. A digital theodolite (Sokkia/Sokkisha Model DT5 or similar equipment) with 30-power magnification and 5-s precision was used to obtain the vertical and horizontal angle of each dolphin and vessel position. Angles were converted to geographic coordinates (latitude and longitude) and data were recorded using *Pythagoras* software, Version 1.2. This method delivers precise positions of multiple spatially distant targets in a short period of time. The technique is fully non-invasive, and allows for time and cost-effective descriptions of dolphin habitat use patterns at all times of daylight.

Three surveyors (one theodolite operator, one computer operator, and one observer) were involved in each survey. Observers searched for dolphins using unaided eyes and handheld binoculars (7X50). Theodolite tracking sessions were initiated whenever an individual CWD or group of CWDs was located. Where possible, a distinguishable individual was selected, based on colouration, within the group. The focal individual was then continuously tracked via the theodolite, with a position recorded each time the dolphin surfaced. In case an individual could not be positively distinguished from other members, the group was tracked by recording positions based on a central point within the group whenever the CWD surfaced. Tracking continued until animals were lost from view; moved beyond the range of reliable visibility (>1-3km, depending on station height); or environmental conditions obstructed visibility (e.g., intense haze, Beaufort sea state >4, or sunset), at which time the research effort was terminated. In addition to the tracking of CWD, all vessels that moved within 2-3km of the station were tracked, with effort made to obtain at least two positions for each vessel.

Theodolite tracking included focal follows of CWD groups and vessels. Priority was given to tracking individual or groups of CWD. The survey team also attempted to track all vessels moving within 1 km of the focal CWD.

6.4 Monitoring Results and Observations

6.4.1 Small Vessel Line-transect Survey

Survey Effort

Within this reporting period, two complete sets of small vessel line-transect surveys were conducted on the 6, 7, 9, 13, 14, 15, 16 and 20 November 2023 November 2023 covering all transects in NEL, NWL, AW, WL and SWL survey areas for twice.

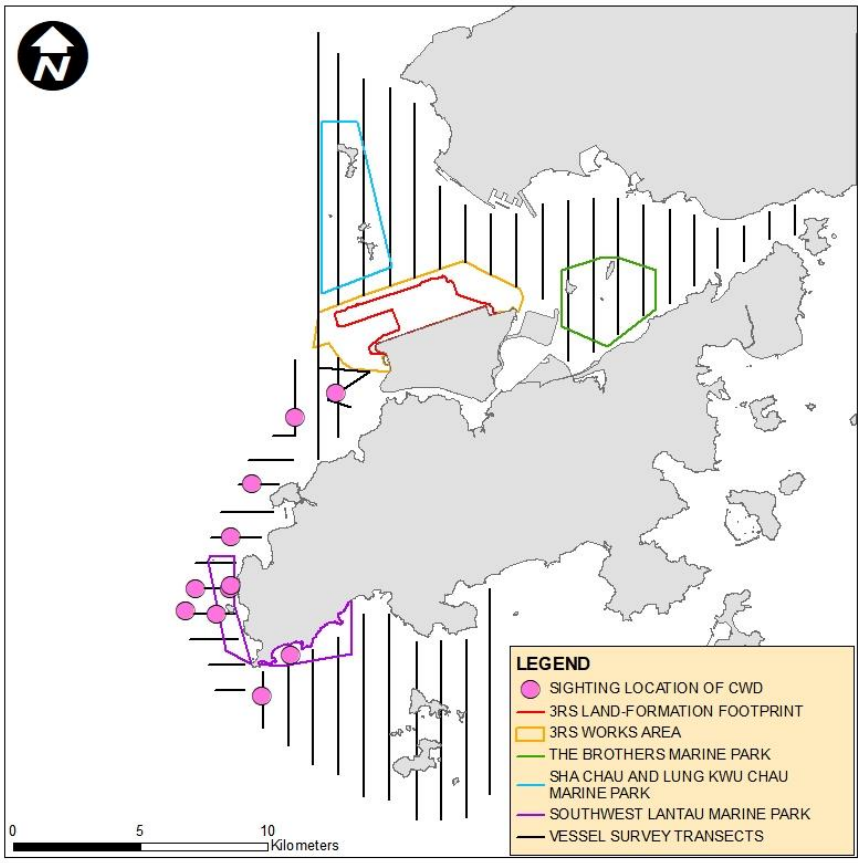
A total of around 450.30 km of survey effort was collected from these surveys and around 429.75 km survey effort was being conducted under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of the survey effort are given in **Appendix C**.

Sighting Distribution

In the current reporting period, 11 sightings with 48 dolphins were sighted. All these sightings were on-effort records under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility). Details of dolphin sightings are presented in **Appendix C**.

Distribution of all CWD sightings recorded in the current reporting period is illustrated in **Figure 6.3**. In NWL, there was one sighting recorded on Airport West transect. In WL, most of the CWD sightings were scattered at the waters between Tai O and Peaked Hill. In SWL, two CWD sightings were recorded in water near Fan Lau. There was no CWD sighting recorded in NEL survey areas during the reporting period.

Figure 6.3: Sightings Distribution of Chinese White Dolphins



Remarks: (1) Please note that there are 11 pink circles on the map indicating the sighting locations of CWDs. Some of them were very close to each other and therefore may appear overlapped on this distribution map. (2) Marine park excludes land area and the landward boundary generally follows the high water mark along the coastline.

Encounter Rate

Two types of dolphin encounter rates were calculated based on the vessel survey data. They included the number of dolphin sightings per 100 km survey effort (STG) and total number of dolphins per 100 km survey effort (ANI) in the whole survey area (i.e. NEL, NWL, AW, WL and SWL). In the calculation of dolphin encounter rates, only survey data collected under favourable weather condition (i.e. Beaufort Sea State 3 or below with favourable visibility) were used. The formulae used for calculation of the encounter rates are shown below:

Encounter Rate by Number of Dolphin Sightings (STG)

$$STG = \frac{Total\ No.of\ \ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

Encounter Rate by Number of Dolphins (ANI)

$$ANI = \frac{Total\ No.of\ Dolphins\ from\ On-effort\ Sightings}{Total\ Amount\ of\ Survey\ Effort\ (km)}\ x\ 100$$

(Notes: Only data collected under Beaufort 3 or below condition were used)

In this reporting period, a total of around 429.75 km of survey effort was conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 11 on-effort sightings with 48 dolphins were sighted under such condition. Calculation of the encounter rates for the month are shown in **Appendix C**.

For the running quarter of the reporting period (i.e., from September to November 2023), a total of around 1313.85 km of survey effort was conducted under Beaufort Sea State 3 or below with favourable visibility, whilst a total number of 31 on-effort sightings and a total number of 100 dolphins from on-effort sightings were obtained under such condition. Calculation of the running quarterly encounter rates are shown in **Appendix C**.

The STG and ANI of CWD in the whole survey area (i.e., NEL, NWL, AW, WL and SWL) during the reporting period and during the running quarter are presented in **Table 6.4** below and compared with the Action Level. Although the running quarterly encounter rate ANI fall below the Action Level, the Action Level is not triggered as the running quarterly STG remain above the Action Level.

Table 6.4: Comparison of CWD Encounter Rates of the Whole Survey Area with Action Levels

	Encounter Rate (STG)	Encounter Rate (ANI)
November 2023	2.56	11.17
Running Quarter from September to November 2023(1)	2.36	7.61
Action Level	Running quarterly(1) STG < 1.86 & ANI < 9.35	

Note: (1) Running quarterly encounter rates STG & ANI were calculated from data collected in the reporting period and the two preceding survey months, containing six sets of transect surveys for all monitoring areas. Action Level will be triggered if both STG and ANI fall below the criteria.

Group Size

In the current reporting period, 11 groups of 48 dolphins in total were sighted, and the average group size of CWDs was 4.4 dolphins per group. The majority of the CWD sightings was having medium group size (i.e. 2-9 dolphins). There was one CWD sighting with large group size (i.e. 10 or more dolphins) recorded in SWL.

Activities and Association with Fishing Boats

There were seven CWD sightings recorded engaging in foraging activities in the current reporting period in WL and SWL survey areas. One of the sightings in WL was observed in association with operating shrimp trawler.

Mother-calf Pair

In this reporting period, there were two sightings with the presence of mother-and-unspotted juvenile pair and one sighting with the presence of mother-and-unspotted calf pair recorded in WL.

6.4.2 Photo Identification

In the current reporting period, a total number of 21 different CWD individuals were identified for totally 27 times. A summary of photo identification works is presented in **Table 6.5**. Representative photos of these individuals are given in **Appendix C**.

Table 6.5: Summary of Photo Identification

Individual ID	Date of Sighting (dd-mmm-yy)	Sighting Group No.	Area
NLMM001	15-Nov-23	2	WL
NLMM023	06-Nov-23	8	SWL
NLMM058	06-Nov-23	8	SWL
SLMM003	06-Nov-23	8	SWL
	13-Nov-23	1	WL
		2	WL
SLMM010	13-Nov-23	1	WL
SLMM022	15-Nov-23	5	WL
SLMM034	06-Nov-23	7	SWL
		8	SWL
SLMM044	13-Nov-23	1	WL
SLMM055	06-Nov-23	7	SWL
SLMM070	15-Nov-23	5	WL
WLMM001	06-Nov-23	8	SWL

Individual ID	Date of Sighting (dd-mmm-yy)	Sighting Group No.	Area
WLMM003	13-Nov-23	1	WL
WLMM007	06-Nov-23	8	SWL
	13-Nov-23	1	WL
WLMM056	06-Nov-23	7	SWL
	13-Nov-23	1	WL
WLMM065	06-Nov-23	7	SWL
		8	SWL
WLMM071	15-Nov-23	1	AW
WLMM079	13-Nov-23	2	WL
WLMM118	06-Nov-23	8	SWL
WLMM150	06-Nov-23	8	SWL
WLMM168	06-Nov-23	8	SWL
WLMM193	15-Nov-23	1	AW

6.4.3 Land-based Theodolite Tracking Survey

Survey Effort

Land-based theodolite tracking surveys were conducted at LKC on 13 November 2023 and at SC on 16 November 2023, with a total of two days of land-based theodolite tracking survey effort accomplished in this reporting period. No CWD were tracked off at LKC and SC stations during the reporting period. Information of survey effort and CWD groups are presented in **Table 6.6**. Details of the survey effort are presented in **Appendix C**.

Table 6.6: Summary of Survey Effort and CWD Group of Land-based Theodolite Tracking

Land-based Station	No. of Survey Sessions	Survey Effort (hh:mm)	No. of CWD Groups Sighted	CWD Group Sighting per Survey Hour
Lung Kwu Chau (LKC)	1	6:00	0	0
Sha Chau (SC)	1	6:00	0	0
TOTAL	**2**	**12:00**	**0**	**0**

6.5 Progress Update on Passive Acoustic Monitoring

Underwater acoustic monitoring using Passive Acoustic Monitoring (PAM) should be undertaken during land formation related construction works. Both C-POD and F-POD are considered as effective PAM devices in detecting CWD occurrence, and F-POD was the main PAM device deployed where feasible. During this reporting period, the F-POD was retrieved on 1 November 2023 and subsequently re-deployed and positioned at south of Sha Chau Island inside the SCLKCMP (**Figure 6.4**). Acoustic data would be reviewed to give an indication of CWD occurrence patterns and anthropogenic noise information. Analysis would involve use of proprietary software for objective automated data analyses and experienced analysts to perform visual validation for assessment of dolphin detection. As the period of data collection and analysis takes about four months, PAM results could not be reported in monthly intervals but report for supplementing the annual CWD monitoring analysis.

6.6 Site Audit for CWD-related Mitigation Measures

During the reporting period, four dolphin observation stations and teams of at least two dolphin observers were deployed by the contractor for continuous monitoring of the DEZ for rock armour laying works in accordance with the DEZ Plan. No trainings for the proposed dolphin observers on the implementation of DEZ monitoring were provided by the ET during this reporting period, with a cumulative total of 705 individuals being trained and the training records kept by the ET. From the contractors' records, no dolphin or other marine mammals were observed during this reporting month. These contractors' records were also audited by the ET during site inspection.

Audits of SkyPier high speed ferries route diversion and speed control and construction vessel management are presented in **Section 7.4** and **Section 7.5** respectively.

6.7 Timing of reporting CWD Monitoring Results

Detailed analysis of CWD monitoring results collected by small vessel line-transect survey will be provided in future quarterly reports. Detailed analysis of CWD monitoring results collected by land-based theodolite tracking survey and PAM will be provided in future annual reports after a larger sample size of data has been collected.

6.8 Summary of CWD Monitoring

Monitoring of CWD was conducted with two complete sets of small vessel line-transect surveys and two days of land-based theodolite tracking survey effort. The running quarterly encounter rates STG and ANI in the reporting period did not trigger the Action Level for CWD monitoring.

Although the 3RS land formation works were completed in the first quarter of 2023, the construction phase CWD monitoring will be continued until the end of December 2023 so as to collect a full-year set of monitoring data to facilitate evaluation of CWD abundance on an annual basis. The post-construction phase CWD monitoring will be commenced in January 2024.

7 Environmental Site Inspection and Audit

7.1 Environmental Site Inspection

Site inspections of the construction works to audit the implementation of proper environmental pollution control and mitigation measures for the Project were conducted by ET and IEC on a weekly and bi-weekly basis, respectively. The weekly site inspection schedule of the construction works is provided in **Appendix B**. Besides, ad-hoc site inspections were also conducted by ET and IEC if environmental problems were identified, or subsequent to receipt of an environmental complaint, or as part of the investigation work. These site inspections provided a direct means to reinforce the specified environmental protection requirements and pollution control measures in construction sites.

During site inspections, environmental situation, status of implementation of pollution control and mitigation measures were observed. Environmental documents and site records, including waste disposal record, maintenance record of environmental equipment, and relevant environmental permit and licences, were also checked on site. Observations were recorded in the site inspection checklist and passed to the contractor together with the recommended mitigation measures where necessary in order to advise contractors on environmental improvement, awareness and on-site enhancement measures. The observations were made with reference to the following information during the site inspections:

- The EIA and EM&A requirements;
- Relevant environmental protection laws, guidelines, and practice notes;
- The EP conditions and other submissions under the EP;
- Monitoring results of EM&A programme;
- Works progress and programme;
- Proposal of individual works;
- Contract specifications on environmental protection; and
- Previous site inspection results.

Good site practices were observed in site inspections during the reporting period. Advice was given when necessary to ensure the construction workforce were familiar with relevant procedures, and to maintain good environmental performance on site. Regular toolbox talks on environmental issues were organised for the construction workforce by the contractors to ensure understanding and proper implementation of environmental protection and pollution control mitigation measures.

A summary of implementation status of the environmental mitigation measures for the construction phase of the Project during the reporting period is provided in **Appendix A**.

7.2 Landscape and Visual Mitigation Measures

Implementation of applicable landscape and visual mitigation measures (reference to the environmental protection measures CM1 – CM10 and OM7 in **Appendix A**) was monitored in accordance with the Manual. All measures undertaken by both the contractor and the landscape contractor during the construction phase and first year of the operation phase shall be audited by a landscape architect, as a member of the ET, on a regular basis to ensure compliance with the intended aims of the measures. Site inspections shall be undertaken at least once every two months during the operation phase.

The implementation status of the environmental protection measures is summarized below in **Table 7.1**. Examples of landscape and visual mitigation measures are shown in **Table 7.2**. The monitoring programme for detailed design, construction, establishment works and long term management (10 years) stages is presented in **Table 7.3**. Event and Action Plan for Landscape and Visual impacts is stated in **Table 7.4**.

Table 7.1: Landscape and Visual – Construction Phase Audit Summary

Landscape and Visual Mitigation Measures during Construction	Implementation Status	Relevant Contract(s) in the Reporting Period
CM1- The construction area and contractor's temporary works areas shall be minimised to avoid impacts on adjacent landscape.	The implementation of mitigation measures was checked by ET during weekly site inspection and reported by the Contractors during the monthly Environmental Management Meetings. Implementation of the measures CM5, CM6 and CM7 by Contractors was observed.	All works contracts
CM2 – Reduction of construction period to practical minimum		
CM3 – Phasing of the construction stage to reduce visual impacts during the construction phase.		
CM4 – Construction traffic (land and sea) including construction plants, construction vessels and barges shall be kept to a practical minimum.		
CM5 – Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.		
CM6 – Avoidance of excessive height and bulk of site buildings and structures		
CM7 – Control of night-time lighting by hooding all lights and through minimisation of night working periods		
CM8 – All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas	Tree Protection Specifications were provided in the relevant Contract Specifications respectively for implementation by the Contractors under the Project. The Contractors' performance on the implementation of the tree maintenance and protection measures were observed and checked by the ET weekly during construction period.	3508, 3801

Landscape and Visual Mitigation Measures during Construction	Implementation Status	Relevant Contract(s) in the Reporting Period
CM9 – Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme	Tree Transplanting Specifications were provided in the relevant Contract Specifications respectively for implementation by the Contractors under the Project where trees would unavoidably be affected by the construction works. The Contractors were required to submit Method Statements for tree transplanting prior to the transplanting works. Tree inspections were conducted by ET to check the tree transplanting works implemented by the Contractors on site. The Contractors' performance on the implementation of trees maintenance and protection measures on transplanted trees were observed and checked by the ET bi-monthly during the 12-month establishment period after the completion of each batch of transplanting works. Long term management of the transplanted trees was currently monitored by ET annually.	3508, 3801
CM10 – Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical	The advanced hydroseeding works around taxiways and runways were partially completed at this stage and would resume in next phase.	To be implemented
OM7- Compensatory tree planting for all felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under the relevant technical circulars.(1)	The first batch of compensatory tree was planted and the first bi-monthly site inspection for the 12-month establishment period was undertaken in June 2023. Bi-monthly site inspection was conducted in October 2023. A photo showing the general view of compensatory planting was shown in **Table 7.2**. The next bi-monthly site inspection will be conducted in December 2023.	3RS Project contracts

Note:
(1) AAHK is the management and maintenance agency of the compensatory trees. Tree Felling Application is not required for 3RS project.

Table 7.2: Examples of Landscape and Visual Mitigation Measures in the Reporting Periods

		
Erection of site hoardings around works area in unobtrusive colours (CM5)	Avoidance of excessive height and bulk of site buildings (CM6)	Control of night-time lighting using light hooding and minimisation of night working period (CM7)

		
General view of tree protection zone for retained tree (CM8)	General view of transplanted trees (CM9)	General view of compensatory tree planting (OM7)

In accordance with the Updated EM&A Manual, all existing trees shall be protected carefully during construction. Trees unavoidably affected by the works shall be transplanted where practical. In this reporting period, the cumulative total number of retained trees and transplanted trees under the Project remained unchanged (i.e. 37 and 26 respectively) comparing to the previous reporting period.

Details of the retained trees, transplanted trees and to-be-transplanted trees under the Project are summarized in **Table 7.5**. Details of the retained trees are to be discussed in the Quarterly EM&A reports.

For the compensatory tree monitoring, the bi-monthly site inspection for the 12-month establishment period will be conducted in December 2023.

Table 7.3: Monitoring Programme for Landscape and Visual

Stage	Monitoring Task	Monitoring Report	Form of Approval	Frequency
Detailed Design	Checking of design works against the recommendations of the landscape and visual impact assessments within the EIA shall be undertaken during detailed design and tender stage, to ensure that they fulfil the intention of the mitigation measures. Any changes to the design, including design changes on site shall also be checked.	Report by AAHK / PM confirming that the design conforms to requirements of EP.	Approved by Client	At the end of the Detailed Design Phase
Construction	Checking of the contractor's operations during the construction period.	Report on Contractor's compliance, by ET	Counter signature of report by IEC	Weekly
Establishment Works	Checking of the planting works during the twelve-month Establishment Period after completion of each batch of transplanting works.	Report on Contractor's compliance, by ET	Counter signature of report by IEC	Every two months
Long Term Management (10 year)	Monitoring of the long-term management of the planting works in the period up to 10	Report on compliance by ET or maintenance	Counter signature of report by	Annually

Stage	Monitoring Task	Monitoring Report	Form of Approval	Frequency
	years after completion of each batch of transplanting works.	Agency as appropriate	Management Agency	

Table 7.4: Event and Action Plan for Landscape and Visual

Event Action Level	Action			
	ET	IEC	AAHK / PM	Contractor
Design Check	Check final design conforms to the requirements of EP and prepare report.	Check report. Recommend remedial design if necessary.	Undertake remedial design if necessary.	
Non-conformity on one occasion	Identify source. Inform IEC and AAHK / PM. Discuss remedial actions with IEC, AAHK / PM and Contractor. Monitor remedial actions until rectification has been completed.	Check report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise AAHK / PM on effectiveness of proposed remedial measures. Check implementation of remedial measures.	Notify Contractor. Ensure remedial measures are properly implemented.	Amend working methods to prevent recurrence of non-conformity. Rectify damage and undertake additional action necessary.
Repeated Non-conformity	Identify source. Inform IEC and AAHK / PM. Increase monitoring frequency. Discuss remedial actions with IEC, AAHK / PM and Contractor. Monitor remedial actions until rectification has been completed. If non-conformity stops, cease additional monitoring.	Check monitoring report. Check Contractor's working method. Discuss with ET and Contractor on possible remedial measures. Advise AAHK / PM on effectiveness of proposed remedial measures. Supervise implementation of remedial measures.	Notify Contractor. Ensure remedial measures area properly implemented.	Amend working methods to prevent recurrence of non-conformity. Rectify damage and undertake additional action necessary.

Table 7.5: Summary of the Number of Retained, Transplanted and To-be-transplanted Trees in the Reporting Period

Contract No.	Retain (nos.)	Transplanted (nos.)		To-be-transplanted (nos.)
		Establishment Period	Maintenance Period	
3503(1)	0	0	9	0
3508	34	0	12	0
3801	3	0	5	0
Grand Total	**37**	**0**	**26**	**0**

Note:
(1) Contract 3503 is completed, the 9 transplanted trees have been handed over to AAHK.

Summary of the updated transplanted trees are presented in **Table 7.6**.

Table 7.6: Summary of the Transplanted Trees Updated in the Reporting Period

Tree ID	Transplant Date	Management Stage	Management Agency	Remarks
CT276	3 May 2018	Long Term Management period Jun 2019 – May 2028	Southern Landside Petrol Filling Station	Establishment Period was completed. Next inspection will be conducted in February 2024. Photos of the last inspection in February 2023 can be referred to Table 7.7 of the Construction Phase Monthly EM&A Report No. 86.
CT1253	4 May 2018	Long Term Management period Jun 2019 – May 2028	Southern Landside Petrol Filling Station	
T835	22 Jan 2020	Long Term Management period Feb 2021 – Jan 2030	AAHK	Establishment Period was completed. Next inspection will be conducted in February 2024. Photos of the last inspection in February 2023 can be referred to Table 7.7 of the Construction Phase Monthly EM&A Report No. 86.
T836	13 Dec 2019	Long Term Management period Feb 2021 – Jan 2030	AAHK	
T838	22 Jan 2020	Long Term Management period Feb 2021 – Jan 2030	AAHK	
T812	21 Dec 2020	Long Term Management period Jan 2022 – Dec 2031	AAHK	Establishment Period was completed. Next inspection will be conducted in December 2023. Photos of the last inspection in December 2022 can be referred to Table 7.7 of the Construction Phase Monthly EM&A Report No.84.
T814	20 Dec 2020	Long Term Management period Jan 2022 – Dec 2031	AAHK	
T815	15 Dec 2020	Long Term Management period Jan 2022 – Dec 2031	AAHK	
T829	18 Dec 2020	Long Term Management period Jan 2022 – Dec 2031	AAHK	
T830	14 Dec 2020	Long Term Management period Jan 2022 – Dec 2031	AAHK	
T831	19 Dec 2020	Long Term Management period Jan 2022 – Dec 2031	AAHK	
T1493	6 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	Establishment Period was completed. Next inspection will be conducted in July 2024. Photos of the last inspection in July 2023 can be referred to Table 7.7 of the Construction Phase Monthly EM&A Report No. 91.
T1494	6 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1495	10 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1496	5 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1497	5 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1498	29 Jun 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1499	29 Jun 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1500	30 Jun 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1501	30 Jun 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	

Tree ID	Transplant Date	Management Stage	Management Agency	Remarks
T1502	5 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1503	6 Jul 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
T1504	24 Jun 2021	Long Term Management period Aug 2022 – Jul 2031	Contract 3508	
CT1194	4 May 2018	Long Term Management period Jun 2019 – May 2028	Southern Landside Petrol Filling Station	Establishment Period was completed. Uprooted and collapsed due to Typhoon Higos on 18 August 2020. Tree removal was conducted as recommended by tree specialist of the contractor of Southern Landside Petrol Filing Station.
CT1794	3 May 2018	Long Term Management period Jun 2019 – May 2028	AsiaWorld-Expo	Establishment Period was completed. The tree within the land parcel was acquired by the government for construction of emergency hospital to handle COVID19 pandemic at AsiaWorld-Expo. The tree was felled in late 2020.
CT1795	3 May 2018	Long Term Management period Jun 2019 – May 2028	AsiaWorld-Expo	Establishment Period was completed. The tree within the land parcel was acquired by the government for construction of emergency hospital to handle COVID19 pandemic at AsiaWorld-Expo. The tree was felled in late 2020.

7.3 Land Contamination Assessment

The Supplementary CAP was submitted to EPD pursuant to EP Condition 2.20. The CARs for Golf Course and T2 Emergency Power Supply Systems (EPSS) were submitted to EPD in accordance with EP Condition 1.9 and the Supplementary CAP in which no land contamination issues were identified. EPD issued no further comment for aforesaid CARs. No leakage was found after the removal of underground fuel pipelines of T2 EPSS and all required additional photos have been submitted to EPD.

According to the approved supplementary CAP, there are 3 remaining locations where site re-appraisal / additional site investigation are proposed. Site re-appraisal was conducted at one of the above remaining locations, fire training facilities on 22 August 2023. In view of the relevant information from government departments, facility setup and site survey observations, it is considered that the contamination potential of the kerosene tank and the associated pipes is very unlikely. The site summary re-appraisal report was submitted to EPD during the reporting period. The status of site re-appraisal/ additional site investigation of the 2 remaining locations shall be further updated upon latest development programme is available.

7.4 Audit of SkyPier High Speed Ferries

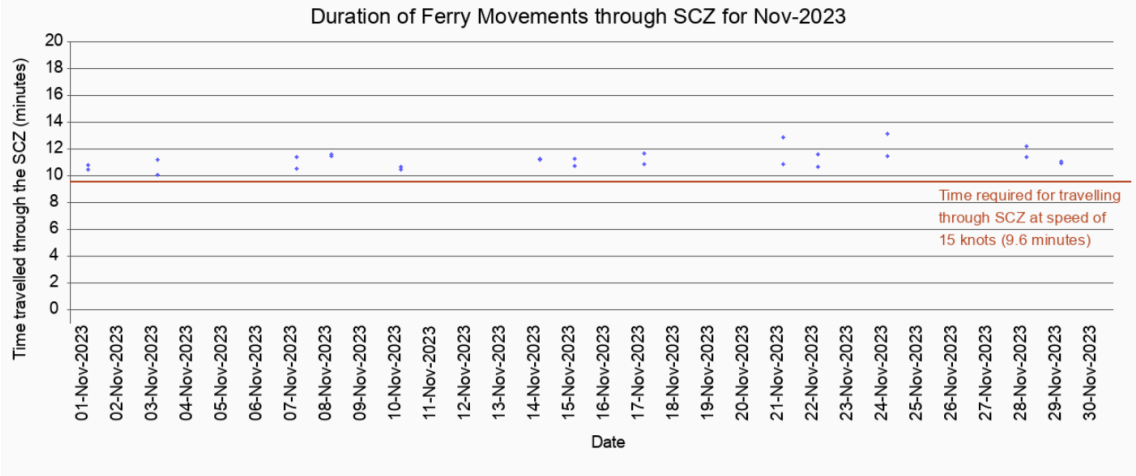
The Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier (the SkyPier Plan) was submitted to the Advisory Council on the Environment for comment and subsequently submitted to and approved by EPD in November 2015 under EP Condition 2.10. The approved SkyPier Plan is available on the dedicated website of the Project. In the SkyPier Plan, AAHK has

committed to implement the mitigation measure of requiring HSFs of SkyPier travelling between HKIA and Zhuhai / Macau to start diverting the route with associated speed control across the area, i.e. Speed Control Zone (SCZ), with high CWD abundance. The route diversion and speed restriction at the SCZ have been implemented since 28 December 2015.

Due to the operational needs, the SkyPier HSF services to/from Zhuhai has been suspended until further notice. Key audit findings for the SkyPier HSF travelling to/from Macau against the requirements of the SkyPier Plan during the reporting period are summarised in **Table 7.7**. The daily movement of all SkyPier HSFs, including those not using the diverted route, in this reporting period (i.e., 49 to 52 daily movements) were within the maximum daily cap of 125 daily movements. Status of compliance with the annual daily average of 99 movements will be further reviewed in the Annual EM&A Report.

In total, 26 ferry movements between HKIA SkyPier and Macau were recorded in November 2023 and the data are presented in **Appendix G**. The time spent by the SkyPier HSF travelling through the SCZ in November 2023 was presented in **Figure 7.1.** It will take 9.6 minutes to travel through the SCZ when the SkyPier HSFs adopt the maximum allowable speed of 15 knots within the SCZ. **Figure 7.1** shows that all the SkyPier HSF spent more than 9.6 minutes to travel through the SCZ.

Figure 7.1: Duration of the SkyPier HSFs travelling through the SCZ for November 2023



Note: Data above the red line indicated that the time spent by the SkyPier HSFs travelling through the SCZ is more than 9.6 minutes, which is in compliance with the SkyPier Plan.

Table 7.7: Summary of Key Audit Findings against the SkyPier Plan

Requirements in the SkyPier Plan	1 to 30 November 2023
Total number of ferry movements recorded and audited for HSF to/from Macau	26
Use diverted route and enter / leave SCZ through Gate Access Points	0 deviation
Speed control in speed control zone	The average speed of all HSFs travelling through the SCZ ranged from 10.6 to 13.5 knots. All HSFs had travelled through the SCZ with average speed under 15 knots in compliance with the SkyPier Plan. The time used by HSFs to travel through SCZ is presented in **Figure 7.1**.
A maximum daily cap of 125 movements for all SkyPier HSFs including those not using diverted route	49 to 52 daily movements

7.5 Audit of Construction and Associated Vessels

The updated MTRMP-CAV was approved by EPD on 31 May 2022 under EP Condition 2.9. The approved Plan is available on the dedicated website of the Project.

ET carried out the following actions during the reporting period:

- Four skipper training sessions were held by contractor's Environmental Officer. Competency tests were subsequently conducted with the trained skippers by ET. The list of all trained skippers was properly recorded and maintained by ET.
- In this reporting period, five skippers were trained by contractors' Environmental Officer. In total, 1894 skippers were trained from August 2016 to November 2023.
- The MSS automatically recorded deviation cases such as speeding, entering no entry zone and not travelling through the designated gate. ET conducted checking to ensure the MSS records deviation cases accurately.
- Deviations such as speeding within the works area, and entering no entry zone were identified. All the concerned contractors were reminded to comply with the requirements of the MTRMP-CAV during the bi-weekly Construction Traffic Control Centre (CTCC) audit.
- Three-month rolling programmes (one month record and three months forecast) for construction vessel activities were received from the contractors in order to help maintain the number of construction and associated vessels on site to a practicable minimal level.

7.6 Implementation of Dolphin Exclusion Zone

The DEZ Plan was submitted in accordance with EP Condition 3.1 (v) requirement and Section 10.3 of the Manual, and approved in April 2016 by EPD. The ET checked the contractors' dolphin sighting record and relevant records to audit the implementation of DEZ and there was no finding.

During the reporting period, there was no dolphin sighting within the DEZ.

7.7 Status of Submissions under Environmental Permits

The current status of submissions under the EP up to the reporting period is presented in **Table 7.8**.

Table 7.8: Status of Submissions under Environmental Permit

EP Condition	Submission	Status
2.1	Complaint Management Plan	Accepted / approved by EPD
2.4	Management Organizations	
2.5	Construction Works Schedule and Location Plans	
2.7	Marine Park Proposal	
2.8	Marine Ecology Conservation Plan	
2.9	Marine Travel Routes and Management Plan for Construction and Associated Vessels	
2.10	Marine Travel Routes and Management Plan for High Speed Ferries of SkyPier	
2.11	Marine Mammal Watching Plan	
2.12	Coral Translocation Plan	
2.13	Fisheries Management Plan	
2.14	Egretry Survey Plan	
2.15	Silt Curtain Deployment Plan	
2.16	Spill Response Plan	

EP Condition	Submission	Status
2.17	Detailed Plan on Deep Cement Mixing	
2.18	Landscape & Visual Plan	
2.19	Waste Management Plan	
2.20	Supplementary Contamination Assessment Plan	
3.1	Updated EM&A Manual	
3.4	Baseline Monitoring Reports	

7.8 Compliance with Other Statutory Environmental Requirements

During the reporting period, environmental related licenses and permits required for the construction activities were checked. No non-compliance with environmental statutory requirements was recorded. The latest statuses of the environmental licenses and permits in the reporting period are presented in **Appendix E**.

7.9 Analysis and Interpretation of Complaints, Notification of Summons and Status of Prosecutions

7.9.1 Complaints

Complaints received in the previous reporting period

A complaint regarding dust nuisance at Northeast Quay (NE Quay) was received on 9 October 2023. ET requested the relevant contractors to provide information regarding the complaint. Contractors replied dust suppression measures such as water spraying and wheel washing were provided at NE Quay. During the ET's site inspections, water spraying was observed at the NE Quay and wheel washing was also provided to all vehicles before the vehicles embark Roro barges. No dust nuisance was observed during the inspections. Having said that, the relevant contractors were reminded to properly implement and enhance dust measures at NE Quay. Hence, the case was considered closed.

A complaint regarding noise and dust nuisance at Sky Plaza Road was received on 16 October 2023. ET requested the relevant contractor to provide information regarding the complaint and reply indicated dust suppression measures and noise control measures were implemented at the related works area. During the ET's site inspections, no dust and noise nuisance issues were recorded. Nevertheless, the relevant contractor erected an additional layer of noise insulation materials to enclose the boundary of the works area and also adjusted the works schedule to start later in the morning to minimize noise and dust nuisance to the public. The relevant contractor was reminded to keep on review and continuously implement their enhanced dust and noise mitigation measures. Hence, the case was considered closed.

A complaint regarding sand and gravel at South Perimeter Road was received on 20 October 2023. ET requested the relevant contractors to provide information regarding the complaint and replies indicated the automatic wheel washing facility and provision of water spraying on vehicles wheels were both operating in normal condition. During the ET's site inspections, no sand and gravel issue was recorded. Nevertheless, the relevant contractors deployed water trucks to spray the ground at the concerned area, reminded all drivers to go through the wheel washing arrangement before exiting to public road and provided refresher training on manual wheel washing for their frontline workers. The relevant contractors were reminded to keep review and continuously provide proper wheel washing efforts and implement their enhanced mitigation measures. Hence, the case was considered closed.

A complaint regarding dust nuisance from sand barge near Castle Peak Bay was received on 30 October 2023. ET requested the relevant contractors to provide information regarding the complaint and replies indicated contractors had delivery barges moored at Marine Department's Designated Tuen Mun Immigration Anchorage Area during the period of the complaint in which dust mitigation measures including water spraying were implemented on the barges. ET's checking in the Maritime Surveillance System indicated no barges under 3RS moored near the Castle Peak Bay during the period of the complaint. Having said that, the relevant contractors were reminded to continuously and properly implement dust mitigation measures on their delivery barges. Hence, the case was considered closed.

Complaints received in this reporting period

Four complaints were received during this reporting period. The cases are under investigation and findings will be reported in the next Monthly EM&A Report.

7.9.2 Notifications of Summons or Status of Prosecution

Neither notification of summons nor prosecution was received during the reporting period.

7.9.3 Cumulative Statistics

Cumulative statistics on complaints, notifications of summons and status of prosecutions are summarised in **Appendix F**.

8 Future Key Issues and Other EIA & EM&A Issues

8.1 Construction Programme for the Coming Reporting Period

Key activities anticipated in the next reporting period for the Project will include the following:

Contract 3206 Main Reclamation Works

- Filling materials delivery;
- Backfilling works; and
- Construction of temporary platform.

Airfield Works

Contract 3302 Eastern Vehicular Tunnel Advance Works

- Stormwater drainage diversion works;
- Defect fixing inside tunnel; and
- Utilities and backfilling works.

Contract 3305 Airfield Ground Lighting System

- Enhanced vehicular warning light hardware installation;
- Power supply system installation; and
- Cable containment installation.

Contract 3306 Observation Facility Control System Supporting Interim 2RS and 3RS

- Equipment installation; and
- Structured cabling.

Contract 3308 Foreign Object Debris Detection System

- Construction of foundation; and
- Tower modification works.

Contract 3310 North Runway Modification Works

- Architectural, builder's work and finishing works;
- Pavement works for runway;
- Construction of stormwater drainage;
- Construction of vehicular tunnel;
- Aviation fuel pipe works;
- Construction of box culvert; and
- Land improvement works (Transition layer and backfilling works).

Third Runway Concourse:

Contract 3403 New Integrated Airport Centres Building and Civil Works

- Electrical and mechanical works; and
- Backfilling works.

Contract 3404 Integrated Airport Control System

- System maintenance.

Contract 3405 Third Runway Concourse Foundation and Substructure Works

- Structure works;

- Marine sediment treatment works; and
- Tunnel concreting and backfilling works.

Contract 3408 Third Runway Concourse and Apron Works

- Building services and architectural, builder's work and finishing works;
- Fuel pipe installation works;
- Utilities works;
- Marine sediment treatment works;
- Erection works for concrete batching plant;
- Excavation and reinforced concrete works; and
- Cable Laying Works.

Terminal 2 Expansion:

Contract 3508 Terminal 2 Expansion Works

- Pier and deck construction;
- Drainage construction;
- Roof works;
- Crossroad duct laying works;
- Construction of beams and columns;
- Electrical and mechanical works;
- Pump station and electrical station works; and
- Architectural, builder's work and finishing works.

Automated People Mover (APM) and Baggage Handling System (BHS):

Contract 3601 New Automated People Mover System (TRC Line)

- Guide beam installation.

Contract 3602 Existing APM System Modification Works

- Concrete plinth construction.

Contract 3603 Baggage Handling System (BHS)

- BHS installation; and
- Steel work installation.

Airport Support Infrastructure:

Contract 3801 APM and BHS Tunnels on Existing Airport Island

- Backfilling works;
- Road reinstatement works;
- Erection of formworks; and
- Casted walkway structure.

Contract 3802 APM and BHS Tunnels and Related Works

- Excavation and lateral supports;
- Box culvert construction and superstructure works; and
- APM and BHS Tunnel construction.

Contract 3804 East and Landside Fire Stations

- Site setup and formation works;
- Bored pile works;
- Raft foundation, footing and superstructure works;
- Tower crane footing and erection works; and

- Pile cap construction works and precast erection works.

Contract 3805 New Airport District Police Operational Base

- Bored pile works.

Construction Support (Services / Licences):

Contract 3901A Concrete Batching Facility

- Operation of concrete batching plant and material conveyor belt.

Contract 3901B Concrete Batching Facility

- Operation of concrete batching plant and material conveyor belt.

Contract 3908 Quay Management Services

- Provision of services of site management and logistic control of 3RS quays; and
- Provision of flat top barge and vehicle delivery services between the launching point in Hong Kong and 3RS quays.

Contract 3913 Asphalt Batching Plant

- Operation of asphalt batching plant.

Utilities:

132kV Cable

- Cable trenching and cable layering;
- Duct installation and cable duct mandrill test;
- Backfilling; and
- Draw pit opening.

8.2 Key Environmental Issues for the Coming Reporting Period

8.2.1 Construction Activities in the Coming Reporting Period

The key environmental issues for the Project in the coming reporting period expected to be associated with the construction activities include:

- Generation of dust from construction works and stockpiles;
- Noise from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- DEZ monitoring for rock armour laying works;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Reuse of treated marine sediments from piling and excavation works; and
- Management of chemicals and avoidance of oil spillage on-site.

The implementation of required mitigation measures by the contractors will be monitored by the ET.

8.2.2 Post-construction Phase Water Quality Monitoring

With the completion of land formation works, the post-construction phase water quality monitoring exercise for four weeks was commenced since 14 November 2023, in the same manner as the impact monitoring at all monitoring stations during construction phase.

8.3 Monitoring Schedule for the Coming Reporting Period

A tentative schedule of the planned environmental monitoring work in the next reporting period and the post-construction phase water quality monitoring schedule are provided in **Appendix B**.

8.4 Review of the Key Assumptions Adopted in the EIA Report

With reference to Appendix E of the Manual, it is noted that the key assumptions adopted in approved EIA report for the construction phase are still valid and no major changes are involved. The environmental mitigation measures recommended in the approved EIA Report remain applicable and shall be implemented in undertaking construction works for the Project.

9 Conclusion and Recommendation

The key activities of the Project carried out in the reporting period are located in reclamation areas and existing airport island respectively. Works in the reclamation areas included rock armour laying works, land improvement works and filling works, pavement works, concourse superstructure works, tunnel work for Automated People Mover (APM) and Baggage Handling System (BHS) and associated works. Land-based works on existing airport island involved Terminal 2 expansion works, modification and tunnel work for APM and BHS, utilities works, road and drainage works, demolition, piling, excavation works, and 132kV cable laying works.

All the monitoring works for construction dust, construction noise, construction waste, landscape & visual, and CWD were conducted during the reporting period in accordance with the Manual.

Monitoring results of construction dust, construction noise, construction waste and CWD did not trigger the corresponding Action and Limit Levels during the reporting period.

With the completion of 3RS land formation works in the first quarter of 2023, termination of the construction phase water quality impact monitoring was proposed to EPD with approval granted on 30 October 2023. The impact water quality monitoring was terminated after 31 October 2023. A post-construction phase water quality monitoring exercise for four weeks was commenced since 14 November 2023, in the same manner as the impact monitoring at all monitoring stations during construction phase. The post-construction phase water quality monitoring schedule is provided in **Appendix B**. The construction phase CWD monitoring would be continued until the end of December 2023 so as to collect a full-year set of monitoring data to facilitate evaluation of CWD abundance on an annual basis. The post-construction phase CWD monitoring would be commenced in January 2024.

Weekly site inspections of the construction works were carried out by the ET to audit the implementation of proper environmental pollution control and mitigation measures for the Project. Bi-weekly site inspections were also conducted by the IEC. Site inspection findings were recorded in the site inspection checklists and provided to the contractors to follow up.

On the implementation of the SkyPier Plan, the daily movements of all SkyPier HSFs in the reporting period, including those not using the diverted route, were in the range of 49 to 52 daily movements, which are within the maximum daily cap of 125 daily movements. A total of 26 HSFs movements under the SkyPier Plan were recorded in the reporting period. The average speed of all HSFs travelling through the SCZ ranged from 10.6 to 13.5 knots. All HSFs travelled through the SCZ with average speed under 15 knots in compliance with the SkyPier Plan. In summary, the ET and IEC audited the HSF movements against the SkyPier Plan and conducted follow up investigations or actions accordingly.

On the implementation of MTRMP-CAV, the MSS automatically recorded the deviation case such as speeding, entering no entry zone and not travelling through the designated gates. ET conducted checking to ensure the MSS records all deviation cases accurately. Deviations including speeding within the works area, entering from non-designated gates and entering no entry zone were reviewed by ET. All the concerned captains were reminded by the contractor's CTCC representative to comply with the requirements of the MTRMP-CAV. The ET reminded contractors that all vessels shall avoid entering the no-entry zone, in particular the Brothers Marine Park and the Sha Chau & Lung Kwu Chau Marine Park. Three-month rolling programmes for construction vessel activities, which ensures the proposed vessels are necessary and minimal through good planning, were also received from contractors.

Figures

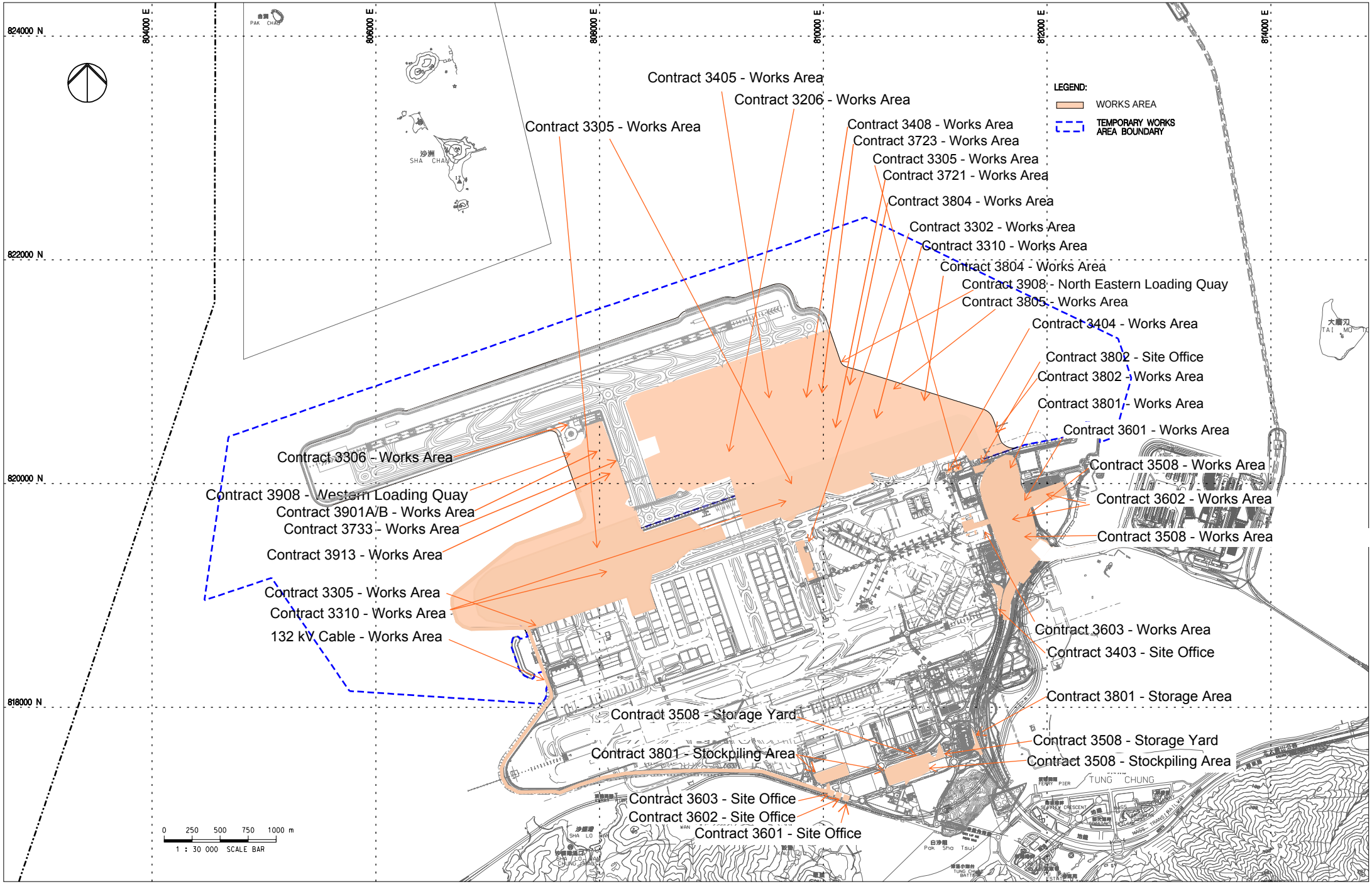
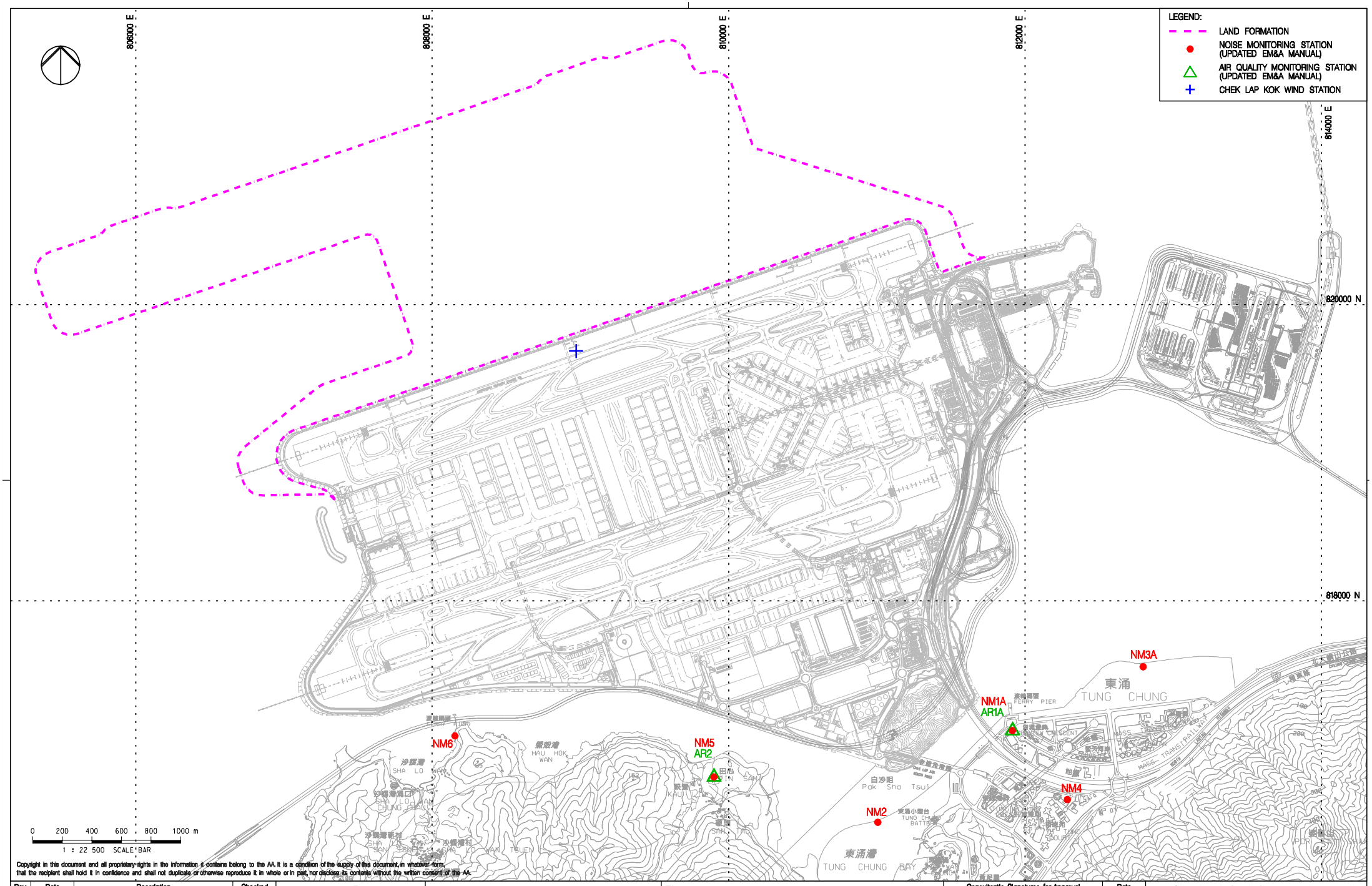


FIGURE 1.1 LOCATIONS OF KEY CONSTRUCTION ACTIVITIES

Note: The locations are for indicative purpose. The actual construction work locations are in accordnace with the construction work programme.



Rev.	Date	Description	Checked
A	06JAN16	FIRST ISSUE	RO
B	29JAN16	GENERAL REVISION	RO
C	11FEB16	GENERAL REVISION	RO
D	29OCT18	GENERAL REVISION	SH

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

MOTT MACDONALD

Title

LOCATIONS OF AIR AND NOISE MONITORING STATIONS AND CHEK LAP KOK WIND STATION

Consultant's Signatures for Approval		Date
Design	TK	29OCT18
Checkers	TK	29OCT18
Approver	EC	29OCT18

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

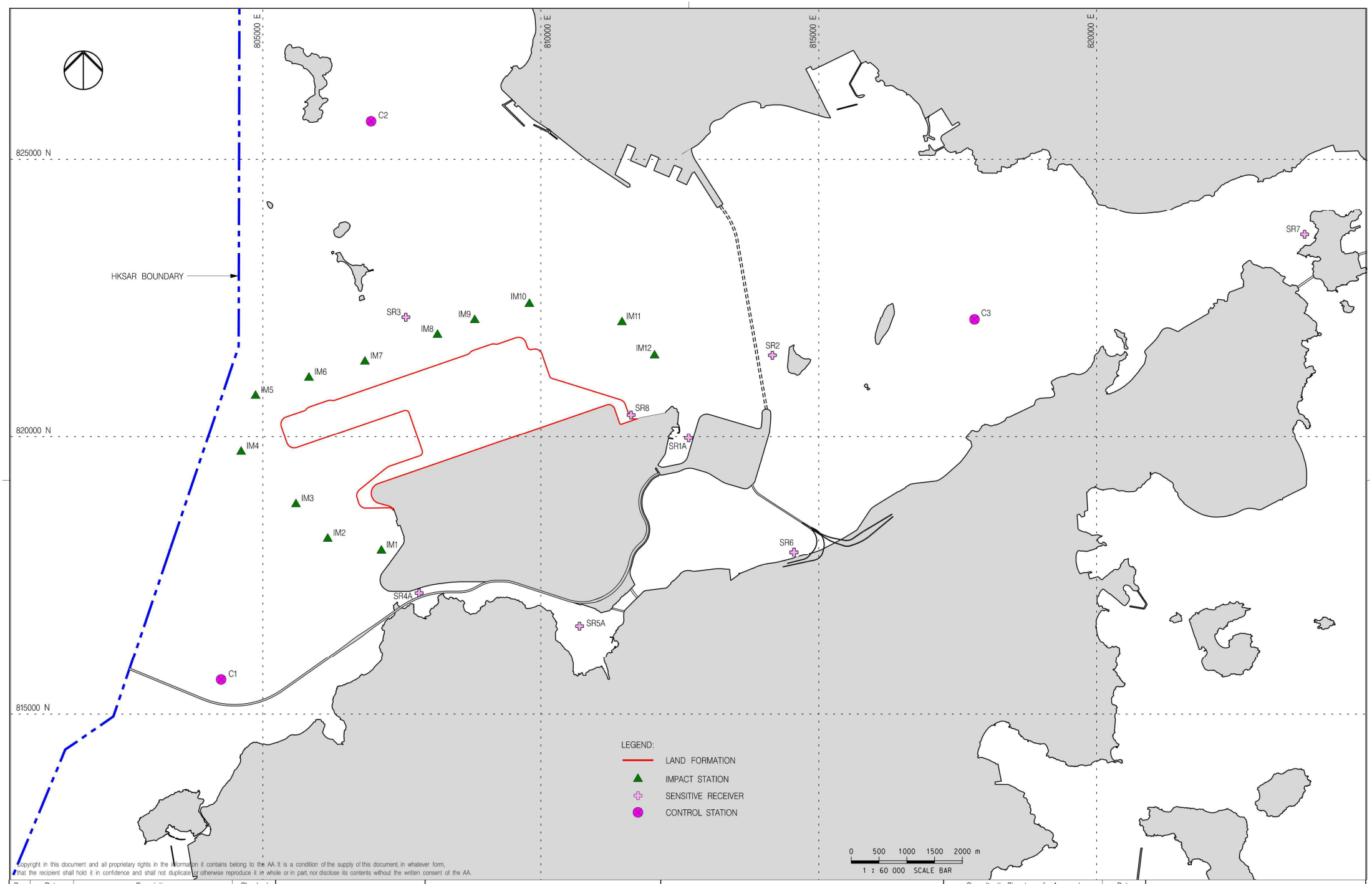
Drawing No.

FIGURE 2.1

Scale at A3 1 : 22500

Rev. D

Filename: J:\355482\REPORT\ENV\EMA\181029\FIG 2.1.dgn



Rev.	Date	Description	Checked
A	21AUG19	FIRST ISSUE	VL

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

Airport Authority HKIA Tower, 1 Sky Plaza Road, Hong Kong International Airport, Lantau, Hong Kong
Tel : (852) 2181 7711 Fax : (852) 2824 0707

MOTT MACDONALD

Title

POST-CONSTRUCTION PHASE
WATER QUALITY MONITORING STATIONS

Consultant's Signatures for Approval		Date
Design	DC	21AUG19
Checkers	DC / TK	21AUG19
Approver	EC	21AUG19

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

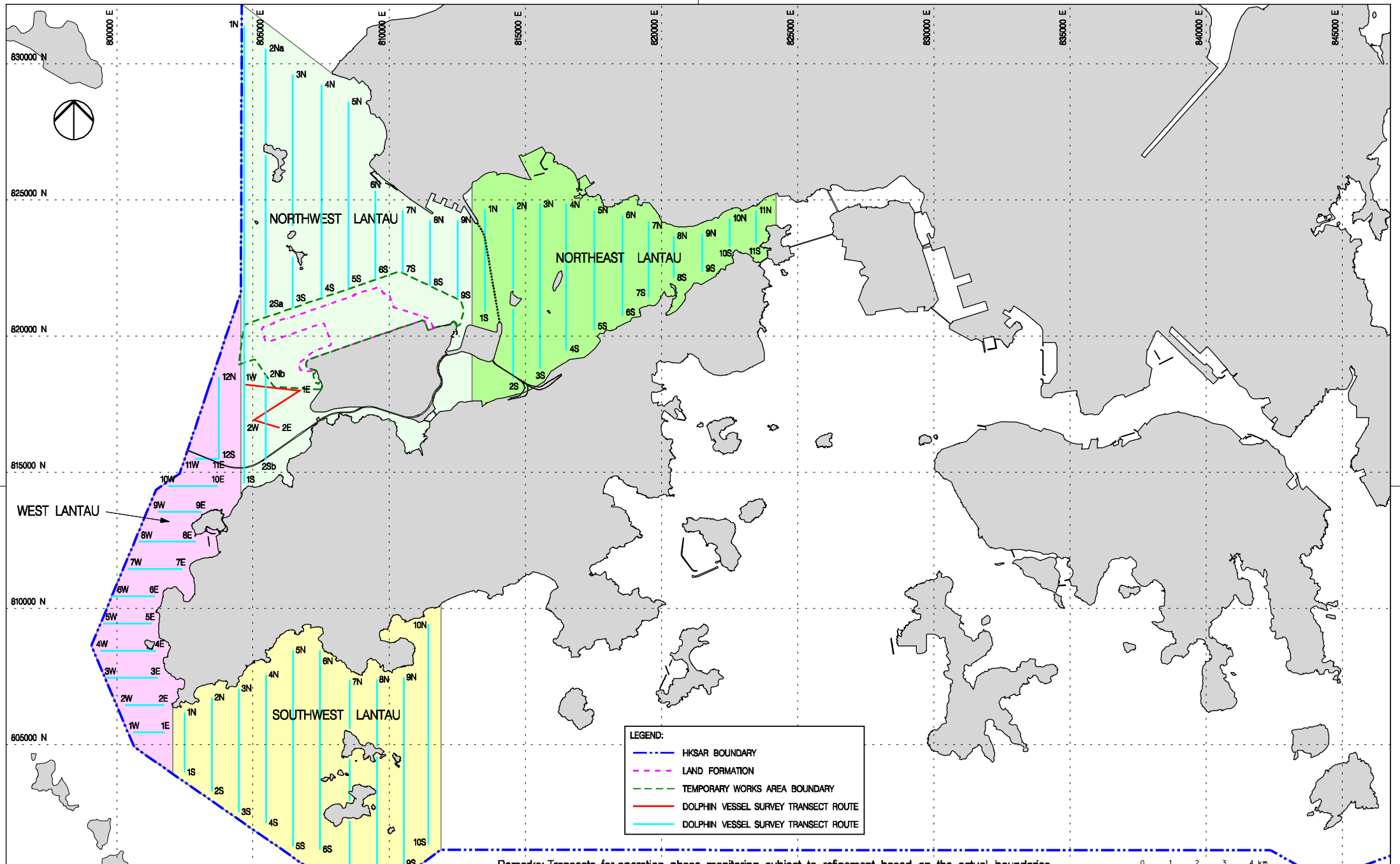
Drawing No.

FIGURE 4.1

Scale at A3 1 : 60000

Rev. A

Filename: J:\355482\REPORT\ENV\EMA\190821\FIG 4.1.dgn



Remarks: Transects for operation phase monitoring subject to refinement based on the actual boundaries for the extension of Hong Kong International Airport Approach Areas (HKIAAA) and 3RS Marine Park

Rev.	Date	Description	Checked
B	27JUL16	GENERAL REVISION	JT
C	06FEB17	GENERAL REVISION	JT
D	01MAR17	GENERAL REVISION	JT
E	29OCT18	GENERAL REVISION	SH
F	04APR19	GENERAL REVISION	SH

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

MOTT MACDONALD

Title

VESSEL BASED DOLPHIN MONITORING TRANSECTS IN CONSTRUCTION, POST-CONSTRUCTION AND OPERATION PHASES

Consultant's Signatures for Approval		Date
Design	JC	04APR19
Checkers	JC / TK	04APR19
Approver	EC	04APR19

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

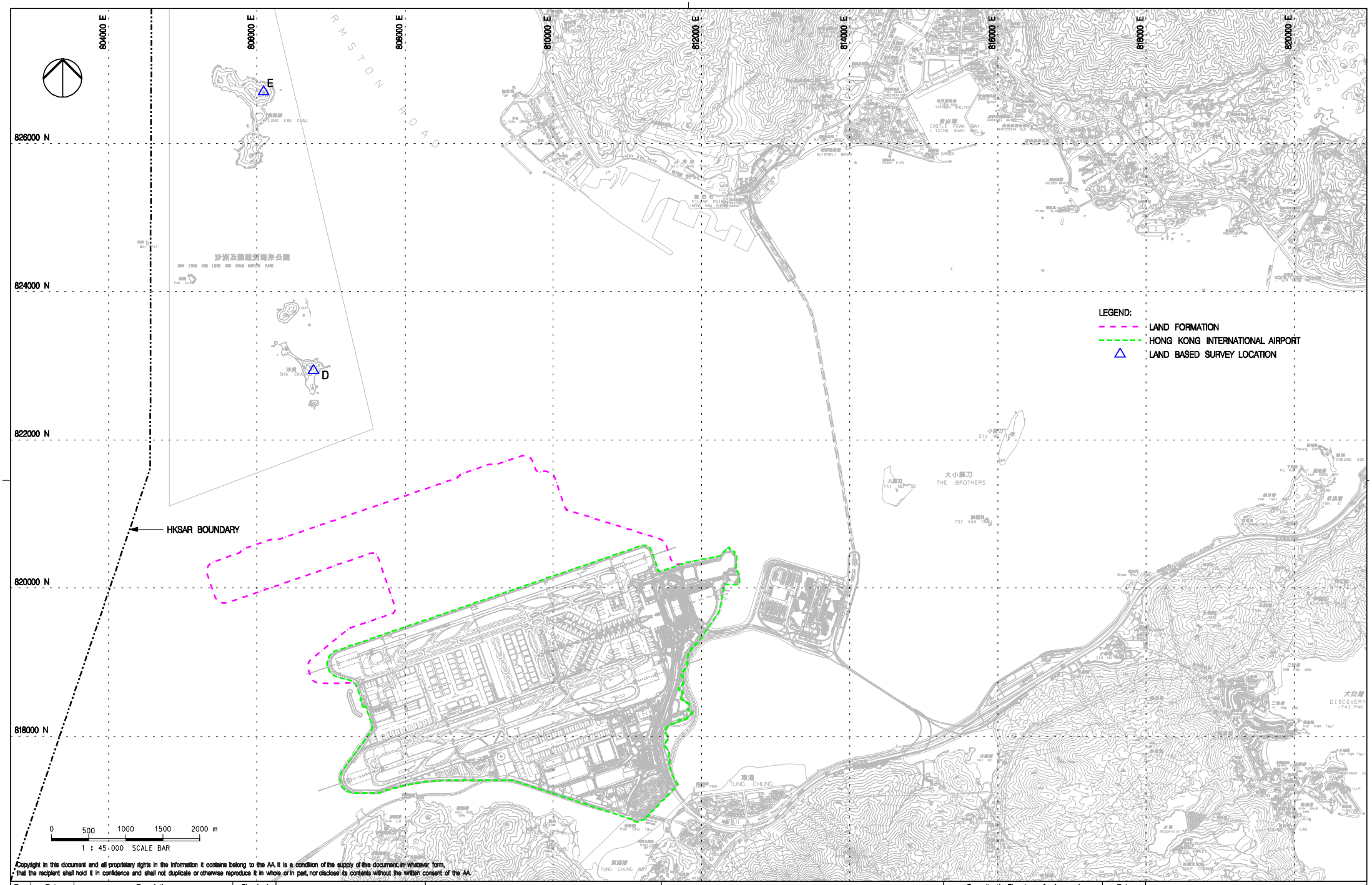
Drawing No.

FIGURE 6.1

Scale at A3 1 : 125000

Rev. F

Filename: J:\355482\REPORT\ENV\EMA\190404\FIG 6.1.dgn



Rev.	Date	Description	Checked
A	02DEC15	FIRST ISSUE	JC
B	06FEB17	GENERAL REVISION	JC
C	29OCT18	GENERAL REVISION	SH

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

MOTT MACDONALD

Title

LAND BASED DOLPHIN MONITORING IN BASELINE AND CONSTRUCTION PHASES

Consultant's Signatures for Approval		Date
Design	JC	29OCT18
Checkers	JC / TK	29OCT18
Approver	EC	29OCT18

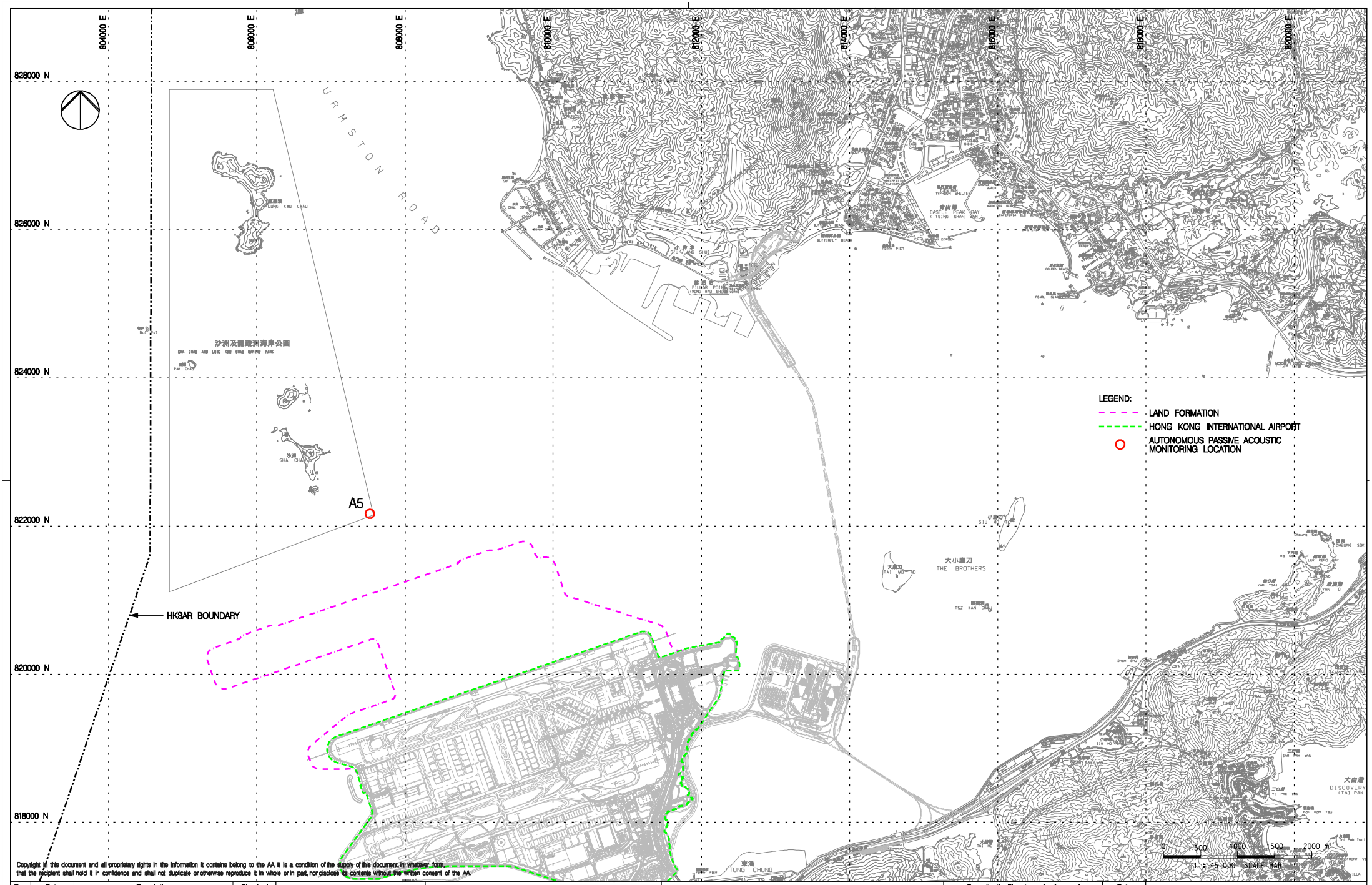
EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

Drawing No. FIGURE 6.2

Scale at A3 1 : 45000

Rev. C

Filename: J:\355482\REPORT\ENV\EMA\181029\FIG 2.5.dgn



Rev.	Date	Description	Checked
A	29AUG17	FIRST ISSUE	JT
B	10OCT17	GENERAL REVISION	PL
C	29OCT18	GENERAL REVISION	SH

香港國際機場 HONG KONG INTERNATIONAL AIRPORT

MOTT MACDONALD

Title

LOCATION FOR AUTONOMOUS PASSIVE ACOUSTIC MONITORING

Consultant's Signatures for Approval		Date
Design	JC	29OCT18
Checkers	JC / TK	29OCT18
Approver	EC	29OCT18

EXPANSION OF HONG KONG INTERNATIONAL AIRPORT INTO A THREE-RUNWAY SYSTEM

Drawing No.

FIGURE 6.4

Scale at A3: 1 : 45000

Rev. C

Filename: J:\355482\REPORT\ENV\EMA\181029\FIG 2.11.dgn

Appendix A. Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

Environmental Mitigation Implementation Schedule (EMIS) for Construction Phase

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Air Quality Impact – Construction Phase		
5.2.6.2	2.1	-	**Dust Control Measures** ▪ Water spraying for 12 times a day or once every two hours for 24-hour working at all active works area.	Within construction site / Duration of the construction phase	I
5.2.6.3	2.1	-	▪ Covering of at least 80% of the stockpiling area by impervious sheets. Water spraying of all dusty materials immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling.	Within construction site / Duration of the construction phase	I
5.2.6.4	2.1	-	Dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation should be adopted. These practices include: Good Site Management ▪ Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning.	Within construction site / Duration of the construction phase	I
			Disturbed Parts of the Roads ▪ Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or ▪ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.	Within construction site / Duration of the construction phase	I
			Exposed Earth ▪ Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies.	Within construction site / Duration of the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			Loading, Unloading or Transfer of Dusty Materials ▪ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet.	Within construction site / Duration of the construction phase	I
			Debris Handling ▪ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides; and ▪ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped.	Within construction site / Duration of the construction phase	I
			Transport of Dusty Materials ▪ Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards.	Within construction site / Duration of the construction phase	I
			Wheel washing ▪ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels.	Within construction site / Duration of the construction phase	I
			Use of vehicles ▪ The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site; ▪ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; and ▪ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle.	Within construction site / Duration of the construction phase	I
			Site hoarding ▪ 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 should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.	Within construction site / Duration of the construction phase	I
5.2.6.5	2.1	-	**Best Practices for Concrete Batching Plant** The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2 as well as in the future Specified Process licence should be adopted. The best practices are recommended to be applied to both the land based and floating concrete batching plants. Best practices include: Cement and other dusty materials	Within Concrete Batching Plant / Duration of the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be carried in a totally enclosed system acceptable to EPD. All dust-laden air or waste gas generated by the process operations shall be properly extracted and vented to fabric filtering system to meet the required emission limit; ▪ Cement, PFA and/or other equally dusty materials shall be stored in storage silo fitted with audible high-level alarms to warn of over-filling. The high-level alarm indicators shall be interlocked with the material filling line such that in the event of the silo approaching an overfilling condition, an audible alarm will operate, and after 1 minute or less the material filling line will be closed; ▪ Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; ▪ Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; and ▪ Seating of pressure relief valves of all silos shall be checked, and the valves re-seated if necessary, before each delivery.		
			Other raw materials ▪ The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rock, sand, stone aggregate, shall be carried out in such a manner to prevent or minimize dust emissions; ▪ The materials shall be adequately wetted prior to and during the loading, unloading and handling operations. Manual or automatic water spraying system shall be provided at all unloading areas, stockpiles and material discharge points; ▪ All receiving hoppers for unloading relevant materials shall be enclosed on three sides up to 3 m above the unloading point. In no case shall these hoppers be used as the material storage devices; ▪ The belt conveyor for handling materials shall be enclosed on top and two sides with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can achieve same performance; ▪ All conveyor transfer points shall be totally enclosed. Openings for the passage of conveyors shall be fitted with adequate flexible seals; ▪ Scrapers shall be provided at the turning points of all conveyors to remove dust adhered to the belt surface; ▪ Conveyors discharged to stockpiles of relevant materials shall be arranged to minimize free fall as far as practicable. All free falling transfer points from conveyors to stockpiles shall be enclosed with chute(s) and water sprayed; ▪ Aggregates with a nominal size less than or equal to 5 mm should be stored in totally enclosed structure such as storage bin and should not be handled in open area. Where there is sufficient buffer area surrounding the concrete batching plant, ground stockpiling may be used;	Within Concrete Batching Plant / Duration of the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side; ▪ Aggregates with a nominal size greater than 5 mm should preferably be stored in a totally enclosed structure. If open stockpiling is used, the stockpile shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping; and ▪ The opening between the storage bin and weighing scale of the materials shall be fully enclosed.		
			Loading of materials for batching ▪ Concrete truck shall be loaded in such a way as to minimise airborne dust emissions. The following control measures shall be implemented: (a) Pre-mixing the materials in a totally enclosed concrete mixer before loading the materials into the concrete truck is recommended. All dust-laden air generated by the pre-mixing process as well as the loading process shall be totally vented to fabric filtering system to meet the required emission limit; and (b) If truck mixing batching or other types of batching method is used, effective dust control measures acceptable to EPD shall be adopted. The dust control measures must have been demonstrated to EPD that they are capable to collect and vent all dust-laden air generated by the material loading/mixing to dust arrestment plant to meet the required emission limit. ▪ The loading bay shall be totally enclosed during the loading process.	Within Concrete Batching Plant / Duration of the construction phase	I
			Vehicles ▪ All practicable measures shall be taken to prevent or minimize the dust emission caused by vehicle movement; and ▪ All access and route roads within the premises shall be paved and adequately wetted.	Within Concrete Batching Plant / Duration of the construction phase	I
			Housekeeping ▪ A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method acceptable to EPD. Any dumping of materials at open area shall be prohibited.	Within Concrete Batching Plant / Duration of the construction phase	I
5.2.6.6	2.1	-	**Best Practices for Asphaltic Concrete Plant** The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Tar and Bitumen Works (Asphaltic Concrete Plant) BPM 15 (94) as well as in the future Specified Process licence should be adopted. These include: Design of Chimney ▪ The chimney shall not be less than 3 metres plus the building height or 8 metres above ground level, whichever is the greater; ▪ The efflux velocity of gases from the main chimney shall not be less than 12 m/s at full load condition;	Within Asphaltic Concrete Plant / Duration of the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ The flue gas exit temperature shall not be less than the acid dew point; and ▪ Release of the chimney shall be directed vertically upwards and not be restricted or deflected.		
			Cold feed side ▪ The aggregates with a nominal size less than or equal to 5 mm shall be stored in totally enclosed structure such as storage bin and shall not be handled in open area; ▪ Where there is sufficient buffer area surrounding the plant, ground stockpiling may be used. The stockpile shall be enclosed at least on top and three sides and with flexible curtain to cover the entrance side. If these aggregates are stored above the feeding hopper, they shall be enclosed at least on top and three sides and be wetted on the surface to prevent wind-whipping; ▪ The aggregates with a nominal size greater than 5 mm should preferably be stored in totally enclosed structure. Aggregates stockpile that is above the feeding hopper shall be enclosed at least on top and three sides. If open stockpiling is used, the stockpiles shall be enclosed on three sides with the enclosure wall sufficiently higher than the top of the stockpile to prevent wind whipping; ▪ Belt conveyors shall be enclosed on top and two sides and provided with a metal board at the bottom to eliminate any dust emission due to the wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can be achieve the same performance; ▪ Scrapers shall be provided at the turning points of all belt conveyors inside the chute of the transfer points to remove dust adhered to the belt surface; ▪ All conveyor transfer points shall be totally enclosed. Openings for the passages of conveyors shall be fitted with adequate flexible seals; and ▪ All materials returned from dust collection system shall be transferred in enclosed system and shall be stored inside bins or enclosures.	Within Asphaltic Concrete Plant / Duration of the construction phase	I
			Hot feed side ▪ The inlet and outlet of the rotary dryer shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter. The particulate and gaseous concentration at the exhaust outlet of the dust collector shall not exceed the required limiting values; ▪ The bucket elevator shall be totally enclosed and the air be extracted and ducted to a dust collection system to meet the required particulates limiting value; ▪ All vibratory screens shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings; ▪ Chutes for carrying hot material shall be rigid and preferably fitted with abrasion resistant plate inside. They shall be inspected daily for leakages; ▪ All hot bins shall be totally enclosed and dust tight with close-fitted access inspection opening. Gaskets shall be installed to seal off any cracks and edges of any inspection openings. The air shall be extracted and ducted to a dust collection system to meet the required particulates limiting value; and	Within Asphaltic Concrete Plant / Duration of the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ Appropriate control measures shall be adopted in order to meet the required bitumen emission limit as well as the ambient odour level (2 odour units).		
			Material transportation ▪ The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rocks, sands, stone aggregates, reject fines, shall be carried out in such a manner as to minimize dust emissions; ▪ Roadways from the entrance of the plant to the product loading points and/or any other working areas where there are regular movements of vehicles shall be paved or hard surfaced; and ▪ Haul roads inside the Works shall be adequately wetted with water and/or chemical suppressants by water trucks or water sprayers.	Within Asphaltic Concrete Plant / Duration of the construction phase	I
			Control of emissions from bitumen decanting ▪ The heating temperature of the particular bitumen type and grade shall not exceed the corresponding temperature limit of the same type listed in Appendix 1 of the Guidance Note; ▪ Tamper-free high temperature cut-off device shall be provided to shut off the fuel supply or electricity in case the upper limit for bitumen temperature is reached; ▪ Proper chimney for the discharge of bitumen fumes shall be provided at high level; ▪ The emission of bitumen fumes shall not exceed the required emission limit; and ▪ The air-to-fuel ratio shall be properly controlled to allow complete combustion of the fuel. The fuel burners, if any, shall be maintained properly and free from carbon deposits in the burner nozzles.	Within Asphaltic Concrete Plant / Duration of the construction phase	I
			Liquid fuel ▪ The receipt, handling and storage of liquid fuel shall be carried out so as to prevent the release of emissions of organic vapours and/or other noxious and offensive emissions to the air.	Within Asphaltic Concrete Plant / Duration of the construction phase	I
			Housekeeping ▪ A high standard of housekeeping shall be maintained. Waste material, spillage and scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared frequently. The minimum clearing frequency is on a weekly basis.	Within Asphaltic Concrete Plant / Duration of the construction phase	I
5.2.6.7	2.1	-	**Best Practices for Rock Crushing Plants** The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plant) BPM 11/1 (95) as well as in the future Specified Process licence should be adopted. These include: Crushers	Within Rock Crushing Plant / Duration of the construction phase	N/A as there was no rock crushing plant at this stage

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ The outlet of all primary crushers, and both inlet and outlet of all secondary and tertiary crushers, if not installed inside a reasonably dust tight housing, shall be enclosed and ducted to a dust extraction and collection system such as a fabric filter; ▪ The inlet hopper of the primary crushers shall be enclosed on top and 3 sides to contain the emissions during dumping of rocks from trucks. The rock while still on the trucks shall be wetted before dumping; ▪ Water sprayers shall be installed and operated in strategic locations at the feeding inlet of crushers; and ▪ Crusher enclosures shall be rigid and be fitted with self-closing doors and close-fitting entrances and exits. Where conveyors pass through the crusher enclosures, flexible covers shall be installed at entries and exits of the conveyors to the enclosure.		
			Vibratory screens and grizzlies ▪ All vibratory screens shall be totally enclosed in a housing. Screenhouses shall be rigid and reasonably dust tight with self-closing doors or close-fitted entrances and exits for access. Where conveyors pass through the screenhouse, flexible covers shall be installed at entries and exits of the conveyors to the housing. Where containment of dust within the screenhouse structure is not successful then a dust extraction and collection system shall be provided; and ▪ All grizzlies shall be enclosed on top and 3 sides and sufficient water sprayers shall be installed at their feeding and outlet areas.	Within Rock Crushing Plant / Duration of the construction phase	N/A as there was no rock crushing plant at this stage
			Belt conveyors ▪ Except for those conveyors which are placed within a totally enclosed structure such as a screenhouse or those erected at the ground level, all conveyors shall be totally enclosed with windshield on top and 2 sides; ▪ Effective belt scraper such as the pre-cleaner blades made by hard wearing materials and provided with pneumatic tensioner, or equivalent device, shall be installed at the head pulley of designated conveyor as required to dislodge fine dust particles that may adhere to the belt surface and to reduce carry-back of fine materials on the return belt. Bottom plates shall also be provided for the conveyor unless it has been demonstrated that the corresponding belt scraper is effective and well maintained to prevent falling material from the return belt; and Except for those transfer points which are placed within a totally enclosed structure such as a screenhouse, all transfer points to and from conveyors shall be enclosed. Where containment of dust within the enclosure is not successful, then water sprayers shall be provided. Openings for any enclosed structure for the passage of conveyors shall be fitted with flexible seals.	Within Rock Crushing Plant / Duration of the construction phase	N/A as there was no rock crushing plant at this stage
			Storage piles and bins ▪ Where practicable, free falling transfer points from conveyors to stockpiles shall be fitted with flexible curtains or be enclosed with chutes designed to minimize the drop height. Water sprays shall also be used where required.	Within Rock Crushing Plant / Duration of the construction phase	N/A as there was no rock crushing plant at this stage

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ The surface of all surge piles and stockpiles of blasted rocks or aggregates shall be kept sufficiently wet by water spraying wherever practicable; ▪ All open stockpiles for aggregates of size in excess of 5 mm shall be kept sufficiently wet by water spraying where practicable; or ▪ The stockpiles of aggregates 5 mm in size or less shall be enclosed on 3 sides or suitably located to minimize wind-whipping. Save for fluctuations in stock or production, the average stockpile shall stay within the enclosure walls and in no case the height of the stockpile shall exceed twice the height of the enclosure walls; and ▪ Scattered piles gathered beneath belt conveyors, inside and around enclosures shall be cleared regularly.		
			Rock drilling equipment ▪ Appropriate dust control equipment such as a dust extraction and collection system shall be used during rock drilling activities.	Within Rock Crushing Plant / Duration of the construction phase	N/A as there was no rock crushing plant at this stage
			Hazard to Human Life – Construction Phase		
Table 6.40	3.2	-	▪ Precautionary measures should be established to request barges to move away during typhoons.	Construction Site / Construction Period	I
Table 6.40	3.2	-	▪ An appropriate marine traffic management system should be established to minimize risk of ship collision.	Construction Site / Construction Period	I
Table 6.40	3.2	-	▪ Location of all existing hydrant networks should be clearly identified prior to any construction works.	Construction Site / Construction Period	I
			Noise Impact – Construction Phase		
7.5.6	4.3	-	**Good Site Practice** Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction: ▪ only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; ▪ machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; ▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; ▪ mobile plant should be sited as far away from NSRs as possible; and ▪ material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities.	Within the Project site / During construction phase / Prior to commencement of operation	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
7.5.6	4.3	-	**Adoption of QPME** ▪ QPME should be adopted as far as applicable.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	**Use of Movable Noise Barriers** ▪ Movable noise barriers should be placed along the active works area and mobile plants to block the direct line of sight between PME and the NSRs.	Within the Project site / During construction phase / Prior to commencement of operation	I
7.5.6	4.3	-	**Use of Noise Enclosure/ Acoustic Shed** ▪ Noise enclosure or acoustic shed should be used to cover stationary PME such as air compressor and generator.	Within the Project site / During construction phase / Prior to commencement of operation	I
			Water Quality Impact – Construction Phase		
8.8.1.2 and 8.8.1.3	5.1	2.26	**Marine Construction Activities** <u>General Measures to be Applied to All Works Areas</u> ▪ Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation; ▪ Use of Lean Material Overboard (LMOB) systems shall be prohibited; ▪ Excess materials shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessels are moved; ▪ Plants should not be operated with leaking pipes and any pipe leakages shall be repaired quickly; ▪ Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; ▪ All vessels shall be sized such that adequate clearance is maintained between vessels and the seabed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; ▪ The works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site; and ▪ For ground improvement activities including DCM, the wash water from cleaning of the drilling shaft should be appropriately treated before discharge. The Contractor should ensure the wastewater meets the WPCO/TM requirements before discharge. No direct discharge of contaminated water is permitted.	Within construction site / Duration of the construction phase	C – Completed in Apr 2022

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			<u>Specific Measures to be Applied to All Works Areas</u> ▪ The daily maximum production rates shall not exceed those assumed in the water quality assessment in the EIA report; ▪ A maximum of 10 % fines content to be adopted for sand blanket and 20 % fines content for marine filling below +2.5 mPD prior to substantial completion of seawall (until end of Year 2017) shall be specified in the works contract document;	Within construction site / Duration of the construction phase	C – Marine filling works completed in March 2023
			▪ An advance seawall of at least 200m to be constructed (comprising either rows of contiguous permanent steel cells completed above high tide mark or partially completed seawalls with rock core to high tide mark and filter layer on the inner side) prior to commencement of marine filling activities;		C – Completed in May 2018
			▪ Closed grab dredger shall be used to excavate marine sediment; ▪ Silt curtains surrounding the closed grab dredger shall be deployed in accordance with the Silt Curtain Deployment Plan; and		C – Marine filling works completed in March 2023 (The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			▪ The Silt Curtain Deployment Plan shall be implemented.		I – For C7a and localised silt curtains (All enhanced silt curtain removed since March 2023)
			<u>Specific Measures to be Applied to Land Formation Activities prior to Commencement of Marine Filling Works</u> ▪ Double layer 'Type III' silt curtains to be applied around the active eastern works areas prior to commencement of sand blanket laying activities. The silt curtains shall be configured to minimise SS release during ebb tides. A silt curtain efficiency test shall be conducted to validate the performance of the silt curtains;	Within construction site / Duration of the construction phase	C – Marine filling works completed in March 2023 (The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			▪ Double layer silt curtains to enclose WSRs C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of construction; and		I – For C7a C – Completed in Dec 2021 for C8

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
					*(The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)
			▪ The silt curtains and silt screens should be regularly checked and maintained.		I – For C7a and localised silt curtains (All enhanced silt curtain removed since March 2023)
			<u>Specific Measures to be Applied to Land Formation Activities during Marine Filling Works</u> ▪ Double layer 'Type II' or 'Type III' silt curtains to be applied around the eastern openings between partially completed seawalls prior to commencement of marine filling activities. The silt curtains shall be configured to minimise SS release during ebb tides;	Within construction site / Duration of the construction phase	C – Marine filling works completed in March 2023 (The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			▪ Double layer silt curtains to be applied at the south-western opening prior to commencement of marine filling activities;		C – Marine filling works completed in March 2023 (The arrangement of silt curtain has been modified. The details can be referred to Silt Curtain Deployment Plan)
			▪ Double layer silt curtain to enclose WSR C7a and silt screens installed at the intake points for both WSR C7a and C8 prior to commencement of marine filling activities; and		I – For C7a C – Completed in Dec 2021 for C8 (The requirement of silt curtain / screen has been modified. The details can be referred to Silt Curtain Deployment Plan)

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ The silt curtains and silt screens should be regularly checked and maintained.		I – For C7a and localised silt curtains (All enhanced silt curtain removed since March 2023)
			<u>Specific Measures to be Applied to the Field Joint Excavation Works for the Submarine Cable Diversion</u> ▪ Only closed grabs designed and maintained to avoid spillage shall be used and should seal tightly when operated. Excavated materials shall be disposed at designated marine disposal area in accordance with the Dumping at Sea Ordinance (DASO) permit conditions; and ▪ Silt curtains surrounding the closed grab dredger to be deployed as a precautionary measure.	Within construction site / Duration of the construction phase	N/A – the field joint excavation works for the submarine cable diversion will no longer be conducted anymore
8.8.1.4	5.1	-	**Modification of the Existing Seawall** ▪ Silt curtains shall be deployed around the seawall modification activities to completely enclose the active works areas, and care should be taken to avoid splashing of rockfill / rock armour into the surrounding marine environment. For the connecting sections with the existing outfalls, works for these connection areas should be undertaken during the dry season in order that individual drainage culvert cells may be isolated for interconnection works.	At the existing northern seawall / Duration of the construction phase	N/A – no marine-based seawall modification works undertaken after land formation.
8.8.1.5	5.1	-	**Construction of New Stormwater Outfalls and Modifications to Existing Outfalls** ▪ During operation of the temporary drainage channel, runoff control measures such as bunding or silt fence shall be provided on both sides of the channel to prevent accumulation and release of SS via the temporary channel. Measures should also be taken to minimise the ingress of site drainage into the culvert excavations.	Within construction site / Duration of the construction phase	I
8.8.1.6 8.8.1.7	5.1	2.27	**Piling Activities for Construction of New Runway Approach Lights and HKIAAA Marker Beacons** Silt curtains shall be deployed around the piling activities to completely enclose the piling works and care should be taken to avoid spillage of excavated materials into the surrounding marine environment.	Within construction site / Duration of the construction phase	C – For approach lights N/A for marker beacons as HKIAAA Marker Beacons would be replaced by buoys

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			For construction of the eastern approach lights at the CMPs ▪ Ground improvement via DCM using a close-spaced layout shall be completed prior to commencement of piling works; ▪ Steel casings shall be installed to enclose the excavation area prior to commencement of excavation; ▪ The excavated materials shall be removed using a closed grab within the steel casings; ▪ No discharge of the cement mixed materials into the marine environment will be allowed; and ▪ Excavated materials shall be treated and reused on-site.		C – Completed in Oct 2021
8.8.1.8	5.1	-	**Construction of Site Runoff and Drainage** The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended:	Within construction site / Duration of the construction phase	
			▪ Install perimeter cut-off drains to direct off-site water around the site and implement internal drainage, erosion and sedimentation control facilities. Channels, earth bunds or sandbag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the Contractors prior to the commencement of construction (for works areas located on the existing Airport island) or as soon as the new land is completed (for works areas located on the new landform);		I
			▪ Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM-DSS standards under the WPCO. The design of efficient silt removal facilities should make reference to the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction;		I
			▪ All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly;		I
			▪ Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities;		I
			▪ In the event that contaminated groundwater is identified at excavation areas, this should be treated on-site using a suitable wastewater treatment process. The effluent should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge to foul sewers or collected for proper disposal off-site. No direct discharge of contaminated groundwater is permitted; and		I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facility should be provided at construction site exits. Wash-water should have sand and silt settled out and removed regularly to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. All washwater should be treated according to the requirements of the TM-DSS standards under the WPCO prior to discharge.		I
			▪ Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the construction materials, soil, silt or debris from washing away into the drainage system;		I
			▪ Manholes (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and to prevent stormwater runoff being directed into foul sewers; and		I
			▪ Precautionary measures should be taken at any time of the year when rainstorms are likely. Actions to be taken when a rainstorm is imminent or forecasted are summarized in Appendix A2 of ProPECC Note PN 1/94. This includes actions to be taken during and/or after rainstorms. Particular attention should be paid to the control of silty surface runoff during storm events.		I
8.8.1.9	5.1	-	**Sewage Effluent from Construction Workforce** ▪ Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	Within construction site / During construction phase	I
8.8.1.10 8.8.1.11	5.1		**General Construction Activities** ▪ Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used; and ▪ Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.	Within construction site / During construction phase	I
8.8.1.12 8.8.1.13	5.1	2.28	**Drilling Activities for the Submarine Aviation Fuel Pipelines** To prevent potential water quality impacts at Sha Chau, the following measures shall be applied: ▪ A 'zero-discharge' policy shall be applied for all activities to be conducted at Sha Chau; ▪ No bulk storage of chemicals shall be permitted; and	Within construction site / During construction phase	C – Completed in Jan 2019

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ A containment pit shall be constructed around the drill holes. This containment pit shall be lined with impermeable lining and bunded on the outside to prevent inflow from off-site areas.		
			At the airport island side of the drilling works, the following measures shall be applied for treatment of wastewater: ▪ During pipe cleaning, appropriate desilting or sedimentation device should be provided on site for treatment before discharge. The Contractor should ensure discharge water from the sedimentation tank meet the WPCO/TM requirements before discharge; and ▪ Drilling fluid used in drilling activities should be reconditioned and reused as far as possible. Temporary enclosed storage locations should be provided on-site for any unused chemicals that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.	Within construction site / During construction phase	C – Completed in Jan 2019
			Waste Management Implication – Construction Phase		
10.5.1.1	7.1	-	Opportunities to minimise waste generation and maximise the reuse of waste materials generated by the project have been incorporated where possible into the planning, design and construction stages, and the following measures have been recommended: ▪ The relevant construction methods (particularly for the tunnel works) and construction programme have been carefully planned and developed to minimise the extent of excavation and to maximise the on-site reuse of inert C&D materials generated by the project as far as practicable. Temporary stockpiling areas will also be provided to facilitate on-site reuse of inert C&D materials;	Project Site Area / During design and construction phase	I
			▪ Priority should be given to collect and reuse suitable inert C&D materials generated from other concurrent projects and the Government's PFRF as fill materials for the proposed land formation works;		I
			▪ Only non-dredged ground improvement methods should be adopted in order to completely avoid the need for dredging and disposal of marine sediment for the proposed land formation work;		I
			▪ Excavation work for constructing the APM tunnels, BHS tunnels and airside tunnels will not be down to the CMPs beneath the fill materials in order to avoid excavating any sediments; and		I
			▪ For the marine sediments expected to be excavated from the piling works of TRC, APM & BHS tunnels, airside tunnels and other facilities on the proposed land formation area, piling work of marine sections of the approach lights and HKIAAA beacons, basement works for some of T2 expansion area and excavation works for the proposed APM depot should be treated and reused on-site as backfilling materials, although required treatment level / detail and the specific re-use mode are under development.		I
10.5.1.1	7.1	-	The following good site practices should be performed during the construction activities include: ▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;	Project Site Area / Construction Phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ Training of site personnel in proper waste management and chemical waste handling procedures; ▪ Provision of sufficient waste disposal points and regular collection for disposal; ▪ Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks by tarpaulin/ similar material or by transporting wastes in enclosed containers. The cover should be extended over the edges of the sides and tailboards; ▪ Stockpiles of C&D materials should be kept wet or covered by impervious sheets to avoid wind-blown dust; ▪ All dusty materials including C&D materials should be sprayed with water immediately prior to any loading transfer operation so as to keep the dusty material wet during material handling at the barging points/ stockpile areas; ▪ C&D materials to be delivered to and from the project site by barges or by trucks should be kept wet or covered to avoid wind-blown dust; ▪ The speed of the trucks including dump trucks carrying C&D or waste materials within the site should be controlled to about 10 km/hour in order to reduce the adverse dust impact and secure the safe movement around the site; and ▪ To avoid or minimise dust emission during transport of C&D or waste materials within the site, each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials. Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet.		
10.5.1.3	7.1	-	The following practices should be performed to achieve waste reduction include: ▪ Use of steel or aluminium formworks and falseworks for temporary works as far as practicable; ▪ Adoption of repetitive design to allow reuse of formworks as far as practicable; ▪ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; ▪ Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force; ▪ Any unused chemicals or those with remaining functional capacity should be collected for reused as far as practicable; ▪ Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and ▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	Project Site Area / Construction Phase	I
10.5.1.5	7.1		Inert and non-inert C&D materials should be handled and stored separately to avoid mixing the two types of materials.	Project Site Area / Construction Phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
10.5.1.5	7.1	-	Any recyclable materials should be segregated from the non-inert C&D materials for collection by reputable licensed recyclers whereas the non-recyclable waste materials should be disposed of at the designated landfill site by a reputable licensed waste collector.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	-	A trip-ticket system promulgated shall be developed in order to monitor the off-site delivery of surplus inert C&D materials that could not be reused on-site for the proposed land formation work at the PFRF and to control fly tipping.	Project Site Area / Construction Phase	I
10.5.1.6	7.1	2.32	The Contractor should prepare and implement a Waste Management Plan detailing various waste arising and waste management practices.	Construction Phase	I
10.5.1.16	7.1	-	The following mitigation measures are recommended during excavation and treatment of the sediments: ▪ On-site remediation should be carried out in an enclosed area in order to minimise odour/dust emissions;	Project Site Area / Construction Phase	I
			▪ The loading, unloading, handling, transfer or storage of treated and untreated sediment should be carried out in such a manner to prevent or minimise dust emissions;		I
			▪ All practical measures, including but not limited to speed control for vehicles, should be taken to minimise dust emission;		I
			▪ Good housekeeping should be maintained at all times at the sediment treatment facility and storage area;		I
			▪ Treated and untreated sediment should be clearly separated and stored separately; and		I
			▪ Surface runoff from the enclosed area should be properly collected and stored separately, and then properly treated to levels in compliance with the relevant effluent standards as required by the Water Pollution Control Ordinance before final discharge.		I
10.5.1.18	7.1	-	The marine sediments to be removed from the cable field joint area would be disposed of at the designated disposal sites to be allocated by the MFC. The following mitigation measures should be strictly followed to minimise potential impacts on water quality during transportation of the sediments requiring Type 1 disposal: ▪ Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material; ▪ Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by EPD; and ▪ Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.	Project Site Area / Construction Phase	N/A – the field joint excavation works for the submarine cable diversion will no longer be conducted anymore
10.5.1.19	7.1	-	Contractor should register with the EPD as a chemical waste producer and to follow the relevant guidelines. The following measures should be implemented: ▪ Good quality containers compatible with the chemical wastes should be used; ▪ Incompatible chemicals should be stored separately;	Project Site Area / Construction Phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ Appropriate labels must be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.; and ▪ The contractor will use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		
10.5.1.20	7.1	-	General refuse should be stored in enclosed bins or compaction units separated from inert C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site for disposal at designated landfill sites. An enclosed and covered area should be provided to reduce the occurrence of 'windblown' light material.	Project Site Area / Construction Phase	I
10.5.1.21	7.1	-	The construction contractors will be required to regularly check and clean any refuse trapped or accumulated along the newly constructed seawall. Such refuse will then be stored and disposed of together with the general refuse.	Project Site Area / Construction Phase	I
			Land Contamination – Construction Phase		
11.10.1.2 to 11.10.1.3	8.1	2.32	For areas inaccessible during site reconnaissance survey ▪ Further site reconnaissance would be conducted once the areas are accessible in order to identify any land contamination concern for the areas.	Project Site Area inaccessible during site reconnaissance / Prior to Construction Phase	I
			▪ Subject to further site reconnaissance findings, a supplementary Contamination Assessment Plan (CAP) for additional site investigation (SI) (if necessary) may be prepared and submitted to EPD for endorsement prior to the commencement of SI at these areas.		C – Completed in Jan 2018
			▪ After completion of SI, the Contamination Assessment Report (CAR) will be prepared and submitted to EPD for approval prior to start of the proposed construction works at the golf course, the underground and above-ground fuel storage tank areas, emergency power generation units, airside petrol filling station and fuel tank room.		I *(CAR for golf course and Terminal 2 emergency power supply system nos.1, 2, 3, 4 and 5 were submitted to EPD)
			▪ Should remediation be required, Remediation Action Plan (RAP) and Remediation Report (RR) will be prepared for EPD's approval prior to commencement of the proposed remediation and any construction works respectively.		N/A as no remediation was required.
11.8.1.2	8.1	-	If contaminated soil is identified, the following mitigation measures are for the excavation and transportation of contaminated materials (if any):	Project Site Area / Construction Phase	N/A as no contaminated soil was found.

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ To minimize the incidents of construction workers coming in contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; ▪ Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when working directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; ▪ Stockpiling of contaminated excavated materials on site should be avoided as far as possible; ▪ The use of any contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; ▪ Vehicles containing any excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater; ▪ Truck bodies and tailgates should be sealed to prevent any discharge; ▪ Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; ▪ Speed control for trucks carrying contaminated materials should be exercised. 8km/h is the recommended speed limit; ▪ Strictly observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and ▪ Maintain records of waste generation and disposal quantities and disposal arrangements.		
			Terrestrial Ecological – Construction Phase		
12.10.1.1	9.2	2.14	**Pre-construction Egretry Survey** ▪ Conduct ecological survey for Sha Chau egretry to update the latest boundary of the egretry.	Breeding season (April - July) prior to commencement of HDD drilling works at HKIA	C – Completed in Jan 2019
12.7.2.3 and 12.7.2.6	9.1	2.30	**Avoidance and Minimisation of Direct Impact to Egretry** ▪ The daylighting location will avoid direct encroachment to the Sheung Sha Chau egretry. The daylighting location and mooring of flat top barge, if required, will be kept away from the egretry; ▪ In any event, controls such as demarcation of construction site boundary and confining the lighting within the site will be practised to minimise disturbance to off-site habitat at Sheung Sha Chau Island; and ▪ The containment pit at the daylighting location shall be covered or camouflaged.	During construction phase at Sheung Sha Chau Island	C – Completed in Jan 2019

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
12.7.2.5	9.1	2.30	**Preservation of Nesting Vegetation** ▪ The proposed daylighting location and the arrangement of connecting pipeline will avoid the need of tree cutting, therefore the trees that are used by ardeids for nesting will be preserved.	During construction phase at Sheung Sha Chau Island	C – Completed in Jan 2019
12.7.2.4 and 12.7.2.6	9.1	2.30	**Timing the Pipe Connection Works outside Ardeid's Breeding Season** ▪ All HDD and related construction works on Sheung Sha Chau Island will be scheduled outside the ardeids' breeding season (between April and July). No night-time construction work will be allowed on Sheung Sha Chau Island during all seasons.	During construction phase at Sheung Sha Chau Island	C – Completed in Jan 2019
12.10.1.1	9.3	-	**Ecological Monitoring** ▪ During the HDD construction works period from August to March, ecological monitoring will be undertaken monthly at the HDD daylighting location on Sheung Sha Chau Island to identify and evaluate any impacts with appropriate actions taken as required to address and minimise any adverse impact found.	at Sheung Sha Chau Island	C – Completed in Jan 2019
			Marine Ecological Impact – Pre-construction Phase		
13.11.4.1	10.2.2	-	▪ Pre-construction phase Coral Dive Survey.	HKIAAA artificial seawall	C – Completed in Jan 2016
			Marine Ecological Impact – Construction Phase		
13.11.1.3 to 13.11.1.6	-	-	**Minimisation of Land Formation Area** ▪ Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population.	Land formation footprint / during detailed design phase to completion of construction	I
13.11.1.7 to 13.11.1.10	-	2.31	**Use of Construction Methods with Minimal Risk/Disturbance** ▪ Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	C – Completed in Jan 2019 for diversion of aviation fuel pipeline
			▪ Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on CWDs, fisheries and the marine environment;		C – Completed in Apr 2022
			▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; ▪ Avoid bored piling during CWD peak calving season (Mar to Jun);		C – Completed in Oct 2021 for new approach lights N/A for marker beacons as

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
					HKIAAA Marker Beacons would be replaced by buoys
			▪ Prohibition of underwater percussive piling; and		I
			▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of submarine cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.		C – Completed in Jan 2019 for HDD works
13.11.2.1 to 13.11.2.7	-	-	**Mitigation for Indirect Disturbance due to Deterioration of Water Quality** ▪ Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices;	All works area during the construction phase	I
			▪ Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains);		C – Completed in Apr 2022
			▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and		C – Completed in Oct 2021 for new approach lights
			▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to the CWDs and other marine ecological resources.		C – Completed in Jan 2019 for HDD works
13.11.1.12	-	-	**Strict Enforcement of No-Dumping Policy** ▪ A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area; ▪ Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; ▪ Fines for infractions should be implemented; and ▪ Unscheduled, on-site audits shall be implemented.	All works area during the construction phase	I
13.11.1.13	-	-	**Good Construction Site Practices** ▪ Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; ▪ Keep the number of working or stationary vessels present on-site to the minimum anytime; and ▪ Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators.	All works area during the construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
13.11.1.3 to 13.11.1.6	-	-	**Minimisation of Land Formation Area** ▪ Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for marine resources, especially the CWD population.	Land formation footprint / during detailed design phase to completion of construction	I
13.11.5.4 to 13.11.5.13	10.3.1	-	**SkyPier High Speed Ferries' Speed Restrictions and Route Diversions** ▪ SkyPier HSFs operating to / from Zhuhai and Macau would divert north of SCLKC Marine Park with a 15 knot speed limit to apply for the part-journeys that cross high CWD abundance grid squares as indicatively shown in **Drawing No. MCL/P132/EIA/13-023** of the EIA Report. Both the alignment of the northerly route and the portion of routings to be subject to the speed limit of 15 knots shall be finalised prior to commencement of construction based on the future review of up-to-date CWD abundance and EM&A data and taking reference to changes in total SkyPier HSF numbers; and ▪ A maximum of 10 knots will be enforced through the designated SCLKC Marine Park area at all times.	Area between the footprint and SCLKC Marine Park during construction phase	I
			Other mitigation measures ▪ The ET will audit various parameters including actual daily numbers of HSFs, compliance with the 15-knot speed limit in the speed control zone and diversion compliance for SkyPier HSFs operating to / from Zhuhai and Macau; and ▪ The effectiveness of the CWD mitigation measures after implementation of initial six month SkyPier HSF diversion and speed restriction will be reviewed.	Area between the footprint and SCLKC Marine Park during construction phase	I C – Completed in Sep 2016
13.11.5.14 to 13.11.5.18	10.3.1	2.31	**Dolphin Exclusion Zone** ▪ Establishment of a 24 hr Dolphin Exclusion Zone (DEZ) with a 250 m radius around the land formation works areas;	Marine waters around land formation works area during construction phase	I
			▪ A DEZ would also be implemented during ground improvement works (e.g. DCM), water jetting works for submarine cables diversion, open trench dredging at the field joint locations and seawall construction; and		C – Completed in Apr 2022
			▪ A DEZ would also be implemented during bored piling work but as a precautionary measure only.		C – Completed in Oct 2021 for the bored piling work of New approach lights
13.11.5.19	10.4	2.31	**Acoustic Decoupling of Construction Equipment** ▪ Air compressors and other noisy equipment that must be mounted on steel barges should be acoustically-decoupled to the greatest extent feasible, for instance by using rubber or air-filled tyres; and ▪ Specific acoustic decoupling measures shall be specified during the detailed design of the project for use during the land formation works.	Around coastal works area during construction phase	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
13.11.5.20	10.6.1	2.29	**Spill Response Plan** ▪ An oil and hazardous chemical spill response plan is proposed to be established during the construction phase as a precautionary measure so that appropriate actions to prevent or reduce risks to CWDs can be undertaken in the event of an accidental spillage.	Construction phase	I
13.11.5.21 to 13.11.5.23	10.6.1	-	**Construction Vessel Speed Limits and Skipper Training** ▪ A speed limit of 10 knots should be strictly observed for construction vessels at areas with the highest CWD densities (as currently indicated by the 1x1km grid squares in Figure 6 of Appendix 13.2 of EIA report). ▪ Vessels traversing through the work areas should be required to use predefined and regular routes (which would presumably become known to resident dolphins) to reduce disturbance to cetaceans due to vessel movements. Specific marine routes shall be specified by the Contractor prior to construction commencing.	All areas north and west of Lantau Island during construction phase	I
			Fisheries Impact – Construction Phase		
14.9.1.2 to 14.9.1.5	-		**Minimisation of Land Formation Area** ▪ Minimise the overall size of the land formation needed for the additional facilities to minimise the overall loss of habitat for fisheries resources.	Land formation footprint / during detailed design phase to completion of construction	I
14.9.1.6	-	-	**Use of Construction Methods with Minimal Risk/Disturbance** ▪ Use of non-dredge method for the main land formation and ancillary works including the diversion of the aviation fuel pipeline to the AFRF;	During construction phase at marine works area	C – Completed in Jan 2019 for diversion of aviation fuel pipeline
			▪ Use of Deep Cement Mixing (DCM) method instead of conventional seabed dredging for the land formation works to reduce the risk of negative impacts through the elevation of suspended solids and contaminants on fisheries and the marine environment;		C – Completed in Apr 2022
			▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and		C – Completed in Oct 2021 for new approach lights N/A for marker beacons as HKIAAA Marker Beacons would be replaced by buoys

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
			▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources.		C – Completed in Jan 2019 for HDD works
14.9.1.11	-		**Strict Enforcement of No-Dumping Policy** ▪ A policy prohibiting dumping of wastes, chemicals, oil, trash, plastic, or any other substance that would potentially be harmful to dolphins and/or their habitat in the work area; ▪ Mandatory educational programme of the no-dumpling policy be made available to all construction site personnel for all project-related works; ▪ Fines for infractions should be implemented; and ▪ Unscheduled, on-site audits shall be implemented.	All works area during the construction phase	I
14.9.1.12	-		**Good Construction Site Practices** ▪ Regular inspection of the integrity and effectiveness of all silt curtains and monitoring of effluents to ensure that any discharge meets effluent discharge guidelines; ▪ Keep the number of working or stationary vessels present on-site to the minimum anytime; and ▪ Unscheduled, on-site audits for all good site practice restrictions should be conducted, and fines or penalties sufficient to be an effective deterrent need to be levied against violators.	All works area during the construction phase	I
14.9.1.13 to 14.9.1.18	-		**Mitigation for Indirect Disturbance due to Deterioration of Water Quality** ▪ Water quality mitigation measures during construction phases include consideration of alternative construction methods, deployment of silt curtain and good site practices;	All works area during the construction phase	I
			▪ Alternative construction methods including use of non-dredge methods for ground improvement (e.g. Deep Cement Mixing (DCM), prefabricated vertical drains (PVD), sand compaction piles, steel cells, stone columns and vertical sand drains);		C – Completed in Apr 2022
			▪ Use of bored piling in short duration to form the new approach lights and marker beacons for the new runway; and		C – Completed in Oct 2021 for new approach lights N/A for marker beacons as HKIAAA Marker Beacons would be replaced by buoys
			▪ Use of horizontal directional drilling (HDD) method and water jetting methods for placement of undersea cables and pipelines to minimise the disturbance to fisheries resources.		C – Completed on Jan 2019 for HDD work
			Landscape and Visual Impact – Construction Phase		

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
Table 15.6	12.3	-	**CM1 -** The construction area and contractor's temporary works areas should be minimised to avoid impacts on adjacent landscape.	All works areas for duration of works; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM2 -** Reduction of construction period to practical minimum.	All works areas for duration of works; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM3 -** Phasing of the construction stage to reduce visual impacts during the construction phase.	All works areas for duration of works; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM4 -** Construction traffic (land and sea) including construction plants, construction vessels and barges should be kept to a practical minimum.	All works areas for duration of works; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM5 -** Erection of decorative mesh screens or construction hoardings around works areas in visually unobtrusive colours.	All works areas for duration of works; Upon handover and completion of works. – may be disassembled in phases.	I
Table 15.6	12.3	-	**CM6 -** Avoidance of excessive height and bulk of site buildings and structures.	New passenger concourse, terminal 2 expansion and other proposed airport related buildings and structures under the project; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM7** - Control of night-time lighting by hooding all lights and through minimisation of night working periods.	All works areas for duration of works; Upon handover and completion of works. –	I

EIA Ref.	EM&A Ref.	EP Condition	Environmental Protection Measures	Location / Duration of measures Timing of completion of measures	Mitigation Measures Implemented?^
				may be disassembled in phases.	
Table 15.6	12.3	-	**CM8 -** All existing trees shall be carefully protected during construction. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas.	All existing trees to be retained; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM9 -** Trees unavoidably affected by the works shall be transplanted where practical. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, if applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.	All existing trees to be affected by the works; Upon handover and completion of works.	I
Table 15.6	12.3	-	**CM10 -** Land formation works shall be followed with advanced hydroseeding around taxiways and runways as soon as practical.	All affected existing grass areas around runways and verges/Duration of works; Upon handover and completion of works.	I
			Cultural Heritage Impact – Construction Phase		
			Not applicable to the construction stage of this project.		
			Health Impact – Aircraft Emissions		
			Not applicable to the construction stage of this project.		
			Health Impact – Aircraft Noise		
			Not applicable to the construction stage of this project.		

Notes:

" - " For items denoted as " - " provided under the columns of EM&A Ref. or EP Condition, environmental protection measures should be referred to the relevant paragraph(s) / table(s) in the approved EIA Report.

" I " Implemented and on-going where applicable.

" N/A " Not applicable to the construction works implemented during the reporting month.

" ^ " Checked by ET through site inspection and record provided by the Contractor.

"C" Construction works completed.

Appendix B. Monitoring Schedule

Impact Monitoring Schedule of This Reporting Period

Nov-23

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Site Inspection	2 Site Inspection AR1A, AR2 NM1A, NM5	3 Site Inspection NM4, NM6	4
5	6 Site Inspection CWD Survey (Vessel)	7 Site Inspection CWD Survey (Vessel)	8 Site Inspection AR1A, AR2 NM1A, NM5	9 Site Inspection CWD Survey (Vessel)	10 Site Inspection NM4, NM6	11
12	13 Site Inspection CWD Survey (Land-based) CWD Survey (Vessel)	14 Site Inspection CWD Survey (Vessel) AR1A, AR2 NM1A, NM5	15 Site Inspection CWD Survey (Vessel) NM4, NM6	16 Site Inspection CWD Survey (Land-based) CWD Survey (Vessel)	17 Site Inspection	18
19	20 Site Inspection CWD Survey (Vessel) AR1A, AR2 NM1A, NM5	21 Site Inspection	22 Site Inspection	23 Site Inspection	24 Site Inspection NM4, NM6	25 AR1A, AR2
26	27 Site Inspection	28 Site Inspection	29 Site Inspection	30 Site Inspection NM4, NM6		

Notes:

Contract Number - Site Inspection

CWD - Chinese White Dolphin

Air quality and Noise Monitoring Station

NM1A/AR1A - Man Tung Road Park
NM4 - Ching Chung Hau Po Woon Primary School
NM5/AR2 - Village House, Tin Sum
NM6 - House No. 1, Sha Lo Wan

Post-construction Phase Water Quality Monitoring Schedule of This Reporting Period

Nov 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14 Post-Construction WQM mid-ebb: 13:38 mid-flood: 8:06	15	16 Post-Construction WQM mid-ebb: 14:59 mid-flood: 9:44	17	18 Post-Construction WQM mid-ebb: 3:49 mid-flood: 16:12
19	20	21 Post-Construction WQM mid-ebb: 6:53 mid-flood: 15:09	22	23 Post-Construction WQM mid-ebb: 9:27 mid-flood: 16:21	24	25 Post-Construction WQM mid-ebb: 11:17 mid-flood: 17:15
26	27	28 Post-Construction WQM mid-ebb: 13:33 mid-flood: 8:18	29	30 Post-Construction WQM mid-ebb: 14:43 mid-flood: 9:52		

Notes:

Post-Construction WQM

C1, C2, C3, SR2, IM1, IM7, IM2, IM3, IM4, IM5, IM6, IM8, IM9, IM12, IM10, IM11, SR1A, SR3, SR4A, SR5A, SR6A, SR7, SR8
Parameters (for all): DO, pH, Temperature, Salinity, Turbidity, SS
Parameters (for C1-C3, SR2, IM1-IM12): Total Alkalinity, Heavy metals

Tentative Impact Monitoring Schedule of Next Reporting Period

Dec 2023(Tentative)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Site Inspection AR1A, AR2 NM1A, NM5	2
3	4 Site Inspection	5 Site Inspection NM4, NM6	6 Site Inspection	7 Site Inspection AR1A, AR2 NM1A, NM5	8 Site Inspection	9
10	11 Site Inspection	12 Site Inspection	13 Site Inspection AR1A, AR2 NM1A, NM5	14 Site Inspection	15 Site Inspection NM4, NM6	16
17	18 Site Inspection	19 Site Inspection AR1A, AR2 NM1A, NM5	20 Site Inspection	21 Site Inspection NM4, NM6	22 Site Inspection	23 AR1A, AR2
24	25	26	27 Site Inspection	28 Site Inspection NM4, NM6	29 Site Inspection AR1A, AR2 NM1A, NM5	30
24		Notes:				

Tentative Post-construction Phase Water Quality Monitoring Schedule

Dec 2023(Tentative)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2 Post-Construction WQM mid-ebb: 3:44 mid-flood: 16:01
3	4	5 Post-Construction WQM mid-ebb: 5:49 mid-flood: 18:21	6	7 Post-Construction WQM mid-ebb: 8:06 mid-flood: 15:27	8	9 Post-Construction WQM mid-ebb: 10:22 mid-flood: 16:14
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
24		Notes: Post-Construction WQM C1, C2, C3, SR2, IM1, IM7, IM2, IM3, IM4, IM5, IM6, IM8, IM9, IM12, IM10, IM11, SR1A, SR3, SR4A, SR5A, SR6A, SR7, SR8 Parameters (for all): DO, pH, Temperature, Salinity, Turbidity, SS Parameters (for C1-C3, SR2, IM1-IM12): Total Alkalinity, Heavy metals				

Appendix C. Monitoring Results

Air Quality Monitoring Results

1-hour TSP Results

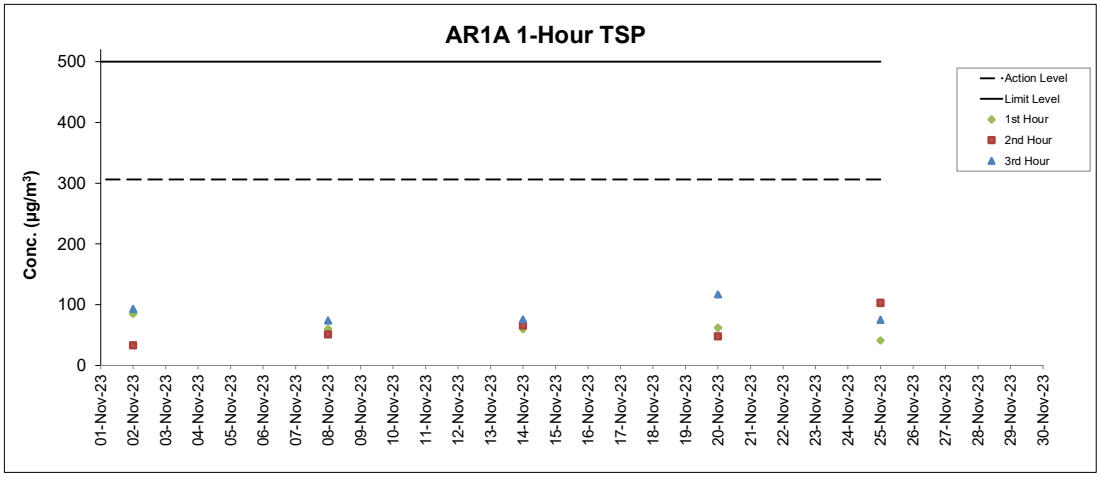
Station: AR1A- Man Tung Road Park

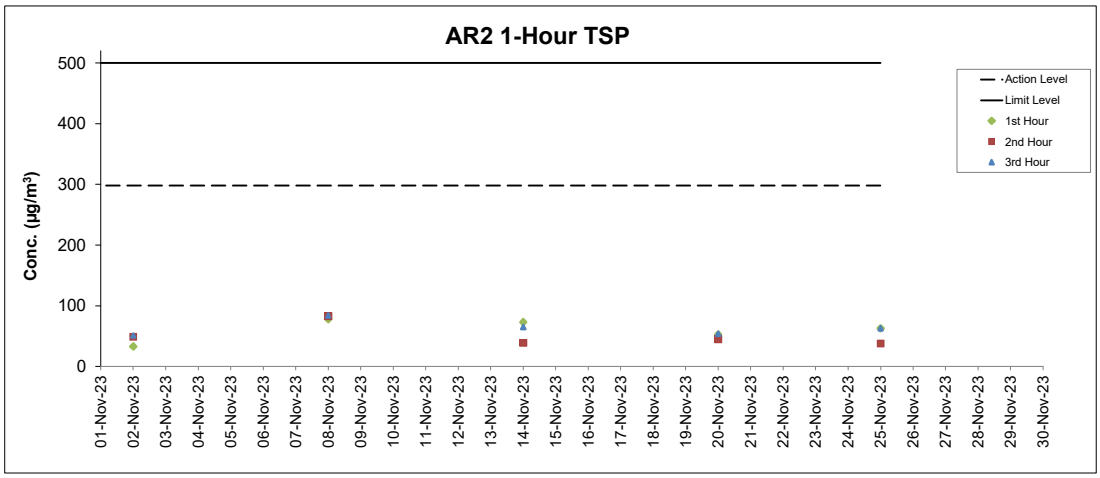
Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
2-Nov-23	8:31	Sunny	3.9	73	85	306	500
2-Nov-23	9:31	Sunny	3.9	60	33	306	500
2-Nov-23	10:31	Sunny	3.3	141	93	306	500
8-Nov-23	8:19	Cloudy	7.5	89	60	306	500
8-Nov-23	9:19	Cloudy	6.4	93	51	306	500
8-Nov-23	10:19	Cloudy	7.5	92	74	306	500
14-Nov-23	8:26	Sunny	5.0	7	60	306	500
14-Nov-23	9:26	Sunny	3.6	42	66	306	500
14-Nov-23	10:26	Sunny	3.9	54	76	306	500
20-Nov-23	8:34	Sunny	2.5	68	62	306	500
20-Nov-23	9:34	Sunny	2.5	62	48	306	500
20-Nov-23	10:34	Sunny	2.8	56	117	306	500
25-Nov-23	8:53	Sunny	3.3	63	41	306	500
25-Nov-23	9:53	Sunny	3.3	48	103	306	500
25-Nov-23	10:53	Sunny	3.9	41	75	306	500

1-hour TSP Results

Station: AR2- Village House, Tin Sum

Date	Time	Weather	Wind Speed (m/s)	Wind Direction (deg)	1-hr TSP (μg/m^3)	Action Level (μg/m^3)	Limit Level (μg/m^3)
2-Nov-23	12:26	Sunny	2.2	Variable	33	298	500
2-Nov-23	13:26	Sunny	1.9	Variable	49	298	500
2-Nov-23	14:26	Sunny	3.3	114	51	298	500
8-Nov-23	12:53	Cloudy	5.3	93	78	298	500
8-Nov-23	13:53	Cloudy	5.0	94	83	298	500
8-Nov-23	14:53	Cloudy	5.6	91	84	298	500
14-Nov-23	12:37	Sunny	2.5	Variable	73	298	500
14-Nov-23	13:37	Sunny	3.3	312	39	298	500
14-Nov-23	14:37	Sunny	2.8	Variable	65	298	500
20-Nov-23	12:27	Sunny	3.1	41	53	298	500
20-Nov-23	13:27	Sunny	3.6	21	45	298	500
20-Nov-23	14:27	Sunny	4.4	267	54	298	500
25-Nov-23	13:01	Sunny	3.1	Variable	63	298	500
25-Nov-23	14:01	Sunny	3.3	237	38	298	500
25-Nov-23	15:01	Sunny	4.2	246	63	298	500





Notes

1. Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.
2. Weather conditions during monitoring are presented in the data tables above.
3. QA/QC requirements as stipulated in the EM&A Manual were carried out during measurement.

Noise Monitoring Results

Noise Measurement Results
Station: NM1A- Man Tung Road Park

Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A) ^
2-Nov-23	Sunny	9:21	65.1	60.3	65
2-Nov-23	Sunny	9:26	62.8	60.0	
2-Nov-23	Sunny	9:31	63.4	59.7	
2-Nov-23	Sunny	9:36	62.7	60.2	
2-Nov-23	Sunny	9:41	61.6	58.9	
2-Nov-23	Sunny	9:46	62.6	59.2	
8-Nov-23	Cloudy	9:05	60.2	55.8	61
8-Nov-23	Cloudy	9:10	60.3	56.2	
8-Nov-23	Cloudy	9:15	59.3	55.2	
8-Nov-23	Cloudy	9:20	59.3	55.6	
8-Nov-23	Cloudy	9:25	60.0	55.7	
8-Nov-23	Cloudy	9:30	59.3	54.7	
14-Nov-23	Sunny	9:23	61.8	59.0	64
14-Nov-23	Sunny	9:28	61.7	58.5	
14-Nov-23	Sunny	9:33	63.1	59.1	
14-Nov-23	Sunny	9:38	62.8	59.2	
14-Nov-23	Sunny	9:43	62.7	59.2	
14-Nov-23	Sunny	9:48	61.8	59.0	
20-Nov-23	Sunny	8:03	63.5	60.9	65
20-Nov-23	Sunny	8:08	64.9	59.4	
20-Nov-23	Sunny	8:13	64.3	59.9	
20-Nov-23	Sunny	8:18	63.9	58.9	
20-Nov-23	Sunny	8:23	62.1	58.5	
20-Nov-23	Sunny	8:28	62.5	58.8	

Remarks:
(^) +3dB (A) correction in Leq(30mins) dB(A) was applied to free-field measurement.

Noise Measurement Results
Station: NM4- Ching Chung Hau Po Woon Primary School

Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A) ^
3-Nov-23	Sunny	10:59	63.5	59.0	64
3-Nov-23	Sunny	11:04	61.6	58.5	
3-Nov-23	Sunny	11:09	62.3	59.1	
3-Nov-23	Sunny	11:14	62.4	58.6	
3-Nov-23	Sunny	11:19	62.0	58.1	
3-Nov-23	Sunny	11:24	62.6	58.2	
10-Nov-23	Overcast	13:21	62.7	58.3	63
10-Nov-23	Overcast	13:26	62.3	58.1	
10-Nov-23	Overcast	13:31	61.7	57.4	
10-Nov-23	Overcast	13:36	61.7	57.1	
10-Nov-23	Overcast	13:41	62.0	57.7	
10-Nov-23	Overcast	13:46	62.8	57.2	
15-Nov-23	Sunny	13:22	64.0	60.5	65
15-Nov-23	Sunny	13:27	64.1	60.8	
15-Nov-23	Sunny	13:32	65.0	61.3	
15-Nov-23	Sunny	13:37	62.9	58.1	
15-Nov-23	Sunny	13:42	62.6	58.0	
15-Nov-23	Sunny	13:47	62.8	57.3	
24-Nov-23	Sunny	11:27	64.1	59.3	65
24-Nov-23	Sunny	11:32	62.9	59.5	
24-Nov-23	Sunny	11:37	64.8	59.6	
24-Nov-23	Sunny	11:42	63.5	60.0	
24-Nov-23	Sunny	11:47	63.2	59.7	
24-Nov-23	Sunny	11:52	64.1	59.9	
30-Nov-23	Overcast	14:30	64.0	58.3	64
30-Nov-23	Overcast	14:35	60.9	57.6	
30-Nov-23	Overcast	14:40	61.8	57.6	
30-Nov-23	Overcast	14:45	63.0	58.4	
30-Nov-23	Overcast	14:50	60.8	57.0	
30-Nov-23	Overcast	14:55	63.9	58.0	

Remarks:
(^) +3dB (A) correction in Leq(30mins) dB(A) was applied to free-field measurement.

Noise Measurement Results

Station: NM5- Village House, Tin Sum

Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A) ^
2-Nov-23	Sunny	12:07	61.0	57.3	59*
2-Nov-23	Sunny	12:12	60.7	56.1	
2-Nov-23	Sunny	12:17	60.6	56.9	
2-Nov-23	Sunny	12:22	61.2	55.9	
2-Nov-23	Sunny	12:27	61.2	57.1	
2-Nov-23	Sunny	12:32	60.5	56.0	
8-Nov-23	Cloudy	11:53	56.1	50.1	57
8-Nov-23	Cloudy	11:58	54.9	50.0	
8-Nov-23	Cloudy	12:03	54.3	50.5	
8-Nov-23	Cloudy	12:08	54.2	50.2	
8-Nov-23	Cloudy	12:13	55.6	51.0	
8-Nov-23	Cloudy	12:18	54.2	50.4	
14-Nov-23	Sunny	12:39	55.4	50.5	56
14-Nov-23	Sunny	12:44	55.4	49.9	
14-Nov-23	Sunny	12:49	56.2	49.6	
14-Nov-23	Sunny	12:54	54.6	48.5	
14-Nov-23	Sunny	12:59	54.1	50.4	
14-Nov-23	Sunny	13:04	55.2	50.2	
20-Nov-23	Sunny	11:32	52.5	47.2	57*
20-Nov-23	Sunny	11:37	54.5	47.9	
20-Nov-23	Sunny	11:42	53.5	47.4	
20-Nov-23	Sunny	11:47	55.3	46.8	
20-Nov-23	Sunny	11:52	62.4	44.4	
20-Nov-23	Sunny	11:57	54.0	42.6	

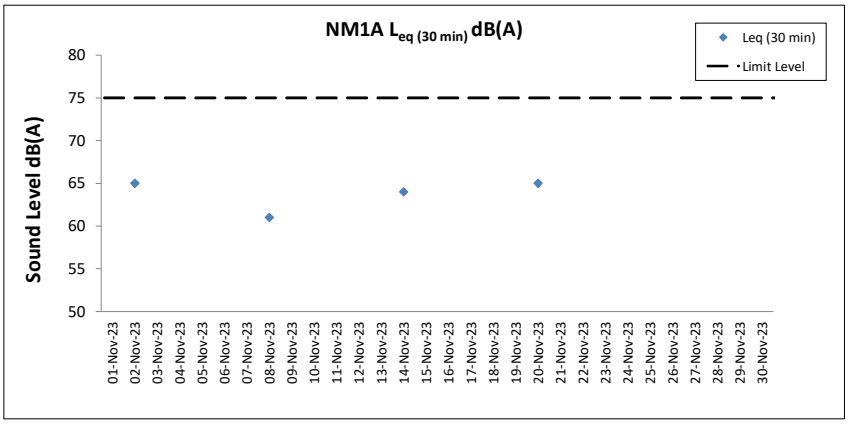
Remarks:
(^) +3dB (A) correction in Leq(30mins) dB(A) was applied to free-field measurement.
(*) The measurement result was corrected with reference to the baseline monitoring levels.

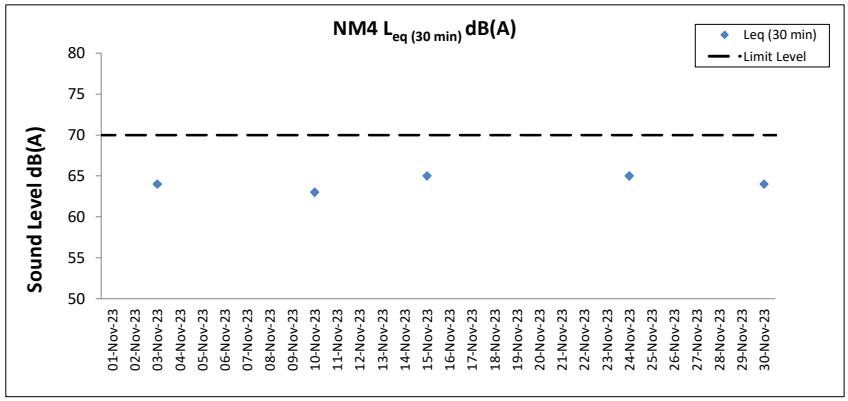
Noise Measurement Results

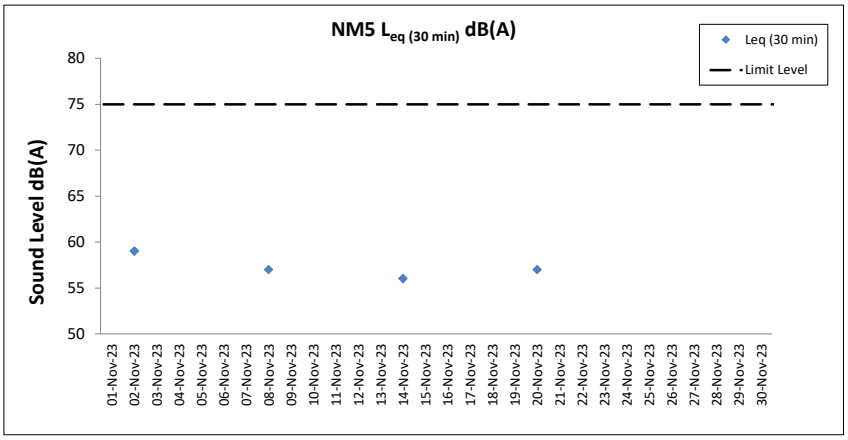
Station: NM6- House No.1 Sha Lo Wan

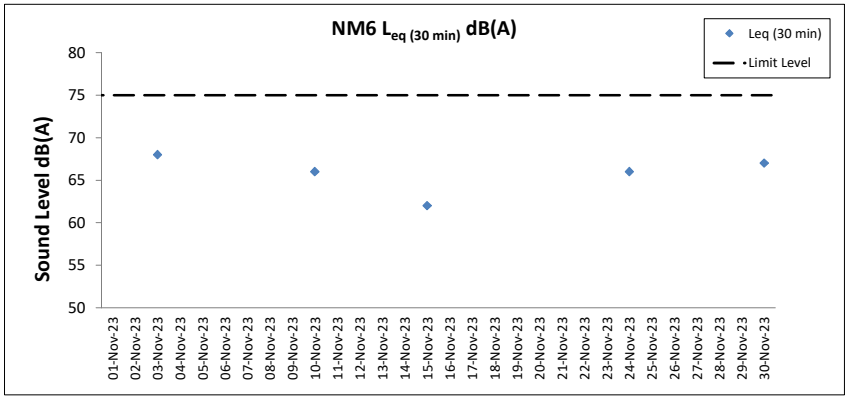
Date	Weather	Time	Measured L_{10} dB(A)	Measured L_{90} dB(A)	$L_{eq(30mins)}$ dB(A) ^
3-Nov-23	Sunny	9:46	73.5	55.7	68*
3-Nov-23	Sunny	9:51	73.2	58.6	
3-Nov-23	Sunny	9:56	73.2	54.0	
3-Nov-23	Sunny	10:01	70.2	58.7	
3-Nov-23	Sunny	10:06	72.4	59.7	
3-Nov-23	Sunny	10:11	72.3	57.4	
10-Nov-23	Overcast	15:50	74.1	60.1	66*
10-Nov-23	Overcast	15:55	71.3	57.9	
10-Nov-23	Overcast	16:00	71.3	59.8	
10-Nov-23	Overcast	16:05	69.8	55.7	
10-Nov-23	Overcast	16:10	64.5	51.7	
10-Nov-23	Overcast	16:15	67.0	54.7	
15-Nov-23	Sunny	15:46	61.3	50.7	62*
15-Nov-23	Sunny	15:51	63.5	48.5	
15-Nov-23	Sunny	15:56	63.8	51.1	
15-Nov-23	Sunny	16:01	74.0	55.7	
15-Nov-23	Sunny	16:06	70.6	56.3	
15-Nov-23	Sunny	16:11	71.6	56.3	
24-Nov-23	Sunny	9:58	71.3	59.4	66*
24-Nov-23	Sunny	10:03	68.9	58.3	
24-Nov-23	Sunny	10:08	72.5	63.0	
24-Nov-23	Sunny	10:13	69.8	59.3	
24-Nov-23	Sunny	10:18	71.8	57.1	
24-Nov-23	Sunny	10:23	65.9	54.5	
30-Nov-23	Overcast	15:45	58.9	49.6	67
30-Nov-23	Overcast	15:50	67.3	49.9	
30-Nov-23	Overcast	15:55	68.2	50.7	
30-Nov-23	Overcast	16:00	61.2	49.4	
30-Nov-23	Overcast	16:05	72.5	52.5	
30-Nov-23	Overcast	16:10	67.8	51.3	

Remarks:
(^) +3dB (A) correction in Leq(30mins) dB(A) was applied to free-field measurement.
(*) The measurement result was corrected with reference to the baseline monitoring levels.









Notes

1. Major site activities carried out during the reporting period are summarized in Section 1.4 of the monthly EM&A report.
2. Weather conditions during monitoring are presented in the data tables above.
3. QA/QC requirements as stipulated in the EM&A Manual were carried out during measurement.

Chinese White Dolphin Monitoring Results

CWD Small Vessel Line-transect Survey **Survey Effort Data**

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
06-Sep-23	NEL	1	2.34	AUTUMN	32166	3RS ET	P
06-Sep-23	NEL	2	34.54	AUTUMN	32166	3RS ET	P
06-Sep-23	NEL	1	0.67	AUTUMN	32166	3RS ET	S
06-Sep-23	NEL	2	9.25	AUTUMN	32166	3RS ET	S
13-Sep-23	SWL	3	55.03	AUTUMN	32166	3RS ET	P
13-Sep-23	SWL	3	14.57	AUTUMN	32166	3RS ET	S
15-Sep-23	NEL	2	13.6	AUTUMN	32166	3RS ET	P
15-Sep-23	NEL	3	23.82	AUTUMN	32166	3RS ET	P
15-Sep-23	NEL	2	5.98	AUTUMN	32166	3RS ET	S
15-Sep-23	NEL	3	4.2	AUTUMN	32166	3RS ET	S
18-Sep-23	SWL	2	17.1	AUTUMN	32166	3RS ET	P
18-Sep-23	SWL	3	36.7	AUTUMN	32166	3RS ET	P
18-Sep-23	SWL	2	2.74	AUTUMN	32166	3RS ET	S
18-Sep-23	SWL	3	13	AUTUMN	32166	3RS ET	S
20-Sep-23	WL	1	9.19	AUTUMN	32166	3RS ET	P
20-Sep-23	WL	2	7.4	AUTUMN	32166	3RS ET	P
20-Sep-23	WL	3	1.904	AUTUMN	32166	3RS ET	P
20-Sep-23	WL	1	4.95	AUTUMN	32166	3RS ET	S
20-Sep-23	WL	2	4.11	AUTUMN	32166	3RS ET	S
20-Sep-23	WL	3	2.186	AUTUMN	32166	3RS ET	S
20-Sep-23	AW	1	4.63	AUTUMN	32166	3RS ET	P
21-Sep-23	AW	2	4.56	AUTUMN	32166	3RS ET	P
21-Sep-23	WL	1	3.93	AUTUMN	32166	3RS ET	P
21-Sep-23	WL	2	12.869	AUTUMN	32166	3RS ET	P
21-Sep-23	WL	2	11.546	AUTUMN	32166	3RS ET	S
22-Sep-23	NWL	2	63.9	AUTUMN	32166	3RS ET	P
22-Sep-23	NWL	2	12	AUTUMN	32166	3RS ET	S
25-Sep-23	NWL	2	1.62	AUTUMN	32166	3RS ET	P
25-Sep-23	NWL	3	43.48	AUTUMN	32166	3RS ET	P
25-Sep-23	NWL	4	18.2	AUTUMN	32166	3RS ET	P
25-Sep-23	NWL	3	8.9	AUTUMN	32166	3RS ET	S
25-Sep-23	NWL	4	3.2	AUTUMN	32166	3RS ET	S
06-Oct-23	NEL	2	26.24	AUTUMN	32166	3RS ET	P
06-Oct-23	NEL	3	10.33	AUTUMN	32166	3RS ET	P
06-Oct-23	NEL	4	0.77	AUTUMN	32166	3RS ET	P
06-Oct-23	NEL	2	6.37	AUTUMN	32166	3RS ET	S
06-Oct-23	NEL	3	4.39	AUTUMN	32166	3RS ET	S
12-Oct-23	NWL	2	11.4	AUTUMN	32166	3RS ET	P
12-Oct-23	NWL	3	52.8	AUTUMN	32166	3RS ET	P
12-Oct-23	NWL	2	4.3	AUTUMN	32166	3RS ET	S
12-Oct-23	NWL	3	7.3	AUTUMN	32166	3RS ET	S
13-Oct-23	AW	2	1.7	AUTUMN	32166	3RS ET	P
13-Oct-23	AW	3	3.03	AUTUMN	32166	3RS ET	P
13-Oct-23	WL	2	11.126	AUTUMN	32166	3RS ET	P
13-Oct-23	WL	3	7.776	AUTUMN	32166	3RS ET	P
13-Oct-23	WL	2	4.944	AUTUMN	32166	3RS ET	S
13-Oct-23	WL	3	5.384	AUTUMN	32166	3RS ET	S
16-Oct-23	NWL	3	63.8	AUTUMN	32166	3RS ET	P
16-Oct-23	NWL	3	11.8	AUTUMN	32166	3RS ET	S
17-Oct-23	NEL	2	1.7	AUTUMN	32166	3RS ET	P
17-Oct-23	NEL	3	33.64	AUTUMN	32166	3RS ET	P
17-Oct-23	NEL	2	4.5	AUTUMN	32166	3RS ET	S

DATE	AREA	BEAU	KM SEARCHED	SEASON	VESSEL	TYPE	P/S
17-Oct-23	NEL	3	7.26	AUTUMN	32166	3RS ET	S
20-Oct-23	AW	3	4.52	AUTUMN	32166	3RS ET	P
20-Oct-23	WL	2	4.763	AUTUMN	32166	3RS ET	P
20-Oct-23	WL	3	15.33	AUTUMN	32166	3RS ET	P
20-Oct-23	WL	2	2.967	AUTUMN	32166	3RS ET	S
20-Oct-23	WL	3	7.67	AUTUMN	32166	3RS ET	S
26-Oct-23	SWL	3	53.33	AUTUMN	32166	3RS ET	P
26-Oct-23	SWL	4	1.1	AUTUMN	32166	3RS ET	P
26-Oct-23	SWL	3	14.97	AUTUMN	32166	3RS ET	S
26-Oct-23	SWL	4	0.9	AUTUMN	32166	3RS ET	S
27-Oct-23	SWL	2	8.81	AUTUMN	32166	3RS ET	P
27-Oct-23	SWL	3	45.261	AUTUMN	32166	3RS ET	P
27-Oct-23	SWL	2	3.59	AUTUMN	32166	3RS ET	S
27-Oct-23	SWL	3	12.389	AUTUMN	32166	3RS ET	S
06-Nov-23	SWL	2	35.185	AUTUMN	32166	3RS ET	P
06-Nov-23	SWL	3	16.77	AUTUMN	32166	3RS ET	P
06-Nov-23	SWL	2	12.371	AUTUMN	32166	3RS ET	S
06-Nov-23	SWL	3	3.57	AUTUMN	32166	3RS ET	S
07-Nov-23	NEL	2	12.86	AUTUMN	32166	3RS ET	P
07-Nov-23	NEL	3	18.4	AUTUMN	32166	3RS ET	P
07-Nov-23	NEL	1	5	AUTUMN	32166	3RS ET	P
07-Nov-23	NEL	2	7.64	AUTUMN	32166	3RS ET	S
07-Nov-23	NEL	3	1.1	AUTUMN	32166	3RS ET	S
07-Nov-23	NEL	1	1.7	AUTUMN	32166	3RS ET	S
09-Nov-23	NWL	2	0.9	AUTUMN	32166	3RS ET	P
09-Nov-23	NWL	3	59.3	AUTUMN	32166	3RS ET	P
09-Nov-23	NWL	3	10.2	AUTUMN	32166	3RS ET	S
09-Nov-23	NWL	4	3.5	AUTUMN	32166	3RS ET	P
09-Nov-23	NWL	4	1	AUTUMN	32166	3RS ET	S
13-Nov-23	AW	3	6.49	AUTUMN	32166	3RS ET	P
13-Nov-23	WL	3	9.799	AUTUMN	32166	3RS ET	P
13-Nov-23	WL	3	8.121	AUTUMN	32166	3RS ET	S
13-Nov-23	WL	4	9.56	AUTUMN	32166	3RS ET	P
13-Nov-23	WL	4	2.89	AUTUMN	32166	3RS ET	S
14-Nov-23	NWL	2	22.6	AUTUMN	32166	3RS ET	P
14-Nov-23	NWL	3	41	AUTUMN	32166	3RS ET	P
14-Nov-23	NWL	3	6	AUTUMN	32166	3RS ET	S
14-Nov-23	NWL	2	5.8	AUTUMN	32166	3RS ET	S
15-Nov-23	AW	2	1.34	AUTUMN	32166	3RS ET	P
15-Nov-23	AW	3	2.96	AUTUMN	32166	3RS ET	P
15-Nov-23	WL	2	0.25	AUTUMN	32166	3RS ET	P
15-Nov-23	WL	3	18.362	AUTUMN	32166	3RS ET	P
15-Nov-23	WL	2	1.13	AUTUMN	32166	3RS ET	S
15-Nov-23	WL	3	8.41	AUTUMN	32166	3RS ET	S
16-Nov-23	NEL	4	3.6	AUTUMN	32166	3RS ET	P
16-Nov-23	NEL	2	6.91	AUTUMN	32166	3RS ET	P
16-Nov-23	NEL	3	26.11	AUTUMN	32166	3RS ET	P
16-Nov-23	NEL	2	2.96	AUTUMN	32166	3RS ET	S
16-Nov-23	NEL	3	7.02	AUTUMN	32166	3RS ET	S
20-Nov-23	SWL	2	36.96	AUTUMN	32166	3RS ET	P
20-Nov-23	SWL	3	15.97	AUTUMN	32166	3RS ET	P
20-Nov-23	SWL	2	13.26	AUTUMN	32166	3RS ET	S
20-Nov-23	SWL	3	3.3	AUTUMN	32166	3RS ET	S

Notes: CWD monitoring survey data of the two preceding survey months are presented for reference only.

CWD Small Vessel Line-transect Survey

Sighting Data

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
13-Sep-23	1	1227	CWD	6	SWL	3	19	ON	3RS ET	22.188770	113.90627	AUTUMN	NONE	P
18-Sep-23	1	1029	FP	2	SWL	2	365	ON	3RS ET	22.197349	113.93566	AUTUMN	NONE	P
18-Sep-23	2	1037	FP	3	SWL	2	55	ON	3RS ET	22.184478	113.93564	AUTUMN	NONE	P
18-Sep-23	3	1053	FP	6	SWL	2	198	ON	3RS ET	22.153702	113.93678	AUTUMN	NONE	P
20-Sep-23	1	1030	CWD	2	WL	1	234	ON	3RS ET	22.261023	113.85093	AUTUMN	NONE	P
20-Sep-23	2	1042	CWD	2	WL	1	265	ON	3RS ET	22.260349	113.84229	AUTUMN	NONE	P
20-Sep-23	3	1112	CWD	1	WL	1	290	ON	3RS ET	22.241103	113.84425	AUTUMN	NONE	P
20-Sep-23	4	1124	CWD	1	WL	1	236	ON	3RS ET	22.241593	113.83484	AUTUMN	NONE	P
21-Sep-23	1	1034	CWD	3	WL	2	138	ON	3RS ET	22.261205	113.84683	AUTUMN	NONE	P
21-Sep-23	2	1122	CWD	3	WL	2	297	ON	3RS ET	22.223088	113.83525	AUTUMN	NONE	P
21-Sep-23	3	1156	CWD	6	WL	2	77	ON	3RS ET	22.214777	113.82498	AUTUMN	NONE	P
21-Sep-23	4	1223	CWD	1	WL	2	163	ON	3RS ET	22.206057	113.82903	AUTUMN	NONE	P
21-Sep-23	5	1231	CWD	2	WL	2	41	ON	3RS ET	22.205669	113.82487	AUTUMN	NONE	P
21-Sep-23	6	1247	CWD	1	WL	2	22	ON	3RS ET	22.196451	113.83561	AUTUMN	NONE	P
21-Sep-23	7	1254	CWD	3	WL	2	913	ON	3RS ET	22.193651	113.84263	AUTUMN	NONE	S
21-Sep-23	8	1319	CWD	1	WL	2	634	ON	3RS ET	22.187905	113.83346	AUTUMN	NONE	P
13-Oct-23	1	1028	CWD	2	WL	2	243	ON	3RS ET	22.260779	113.853468	AUTUMN	NONE	S
13-Oct-23	2	1043	CWD	2	WL	2	34	ON	3RS ET	22.260956	113.840829	AUTUMN	NONE	P
13-Oct-23	3	1058	CWD	1	WL	3	91	ON	3RS ET	22.250437	113.841275	AUTUMN	GILLNETTER	P
13-Oct-23	4	1117	CWD	9	WL	2	126	ON	3RS ET	22.241167	113.841706	AUTUMN	NONE	P
13-Oct-23	5	1149	CWD	3	WL	2	139	ON	3RS ET	22.241672	113.829845	AUTUMN	NONE	P
20-Oct-23	1	1149	CWD	2	WL	2	15	ON	3RS ET	22.196308	113.834539	AUTUMN	NONE	P
27-Oct-23	1	1202	FP	2	SWL	3	45	ON	3RS ET	22.151171	113.908504	AUTUMN	NONE	P
27-Oct-23	2	1216	CWD	1	SWL	2	128	ON	3RS ET	22.168029	113.906685	AUTUMN	NONE	S
06-Nov-23	1	1038	FP	6	SWL	2	144	ON	3RS ET	22.179714	113.936292	AUTUMN	NONE	P
06-Nov-23	2	1041	FP	4	SWL	2	55	ON	3RS ET	22.174271	113.936089	AUTUMN	NONE	P
06-Nov-23	3	1050	FP	3	SWL	2	442	ON	3RS ET	22.159022	113.936224	AUTUMN	NONE	P
06-Nov-23	4	1058	FP	1	SWL	2	52	ON	3RS ET	22.145772	113.931080	AUTUMN	NONE	S
06-Nov-23	5	1102	FP	5	SWL	2	113	ON	3RS ET	22.147034	113.927694	AUTUMN	NONE	P
06-Nov-23	6	1114	FP	2	SWL	2	40	ON	3RS ET	22.168425	113.927825	AUTUMN	NONE	P
06-Nov-23	7	1435	CWD	5	SWL	2	160	ON	3RS ET	22.199740	113.860026	AUTUMN	NONE	S
06-Nov-23	8	1509	CWD	15	SWL	3	398	ON	3RS ET	22.185090	113.849075	AUTUMN	NONE	P

DATE	STG #	TIME	CWD/FP	GP SZ	AREA	BEAU	PSD	EFFORT	TYPE	DEC LAT	DEC LON	SEASON	BOAT ASSOC.	P/S
13-Nov-23	1	1121	CWD	8	WL	3	32	ON	3RS ET	22.223555	113.836856	AUTUMN	NONE	S
13-Nov-23	2	1204	CWD	5	WL	3	4	ON	3RS ET	22.214224	113.831569	AUTUMN	NONE	P
15-Nov-23	1	0939	CWD	3	AW	2	463	ON	3RS ET	22.293376	113.877038	AUTUMN	NONE	P
15-Nov-23	2	1022	CWD	1	WL	3	247	ON	3RS ET	22.284568	113.861728	AUTUMN	NONE	P
15-Nov-23	3	1102	CWD	1	WL	3	208	ON	3RS ET	22.260917	113.845227	AUTUMN	NONE	P
15-Nov-23	4	1131	CWD	3	WL	3	449	ON	3RS ET	22.242099	113.836970	AUTUMN	NONE	P
15-Nov-23	5	1205	CWD	3	WL	3	190	ON	3RS ET	22.224754	113.837304	AUTUMN	NONE	S
15-Nov-23	6	1213	CWD	2	WL	3	470	ON	3RS ET	22.223496	113.823713	AUTUMN	NONE	P
15-Nov-23	7	1220	CWD	2	WL	3	650	ON	3RS ET	22.215539	113.819722	AUTUMN	SHRIMP TRAWLER	S
20-Nov-23	1	1042	FP	2	SWL	3	180	ON	3RS ET	22.173928	113.935982	AUTUMN	NONE	P
20-Nov-23	2	1104	FP	1	SWL	2	37	ON	3RS ET	22.158240	113.927296	AUTUMN	NONE	P
20-Nov-23	3	1115	FP	2	SWL	2	233	ON	3RS ET	22.180467	113.928151	AUTUMN	NONE	P
20-Nov-23	4	1156	FP	2	SWL	2	113	ON	3RS ET	22.146640	113.917842	AUTUMN	NONE	P

Abbreviations: STG# = Sighting Number; GP SZ = Group Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance (in metres); N/A = Not Applicable; DEC LAT = Latitude (WGS84 in Decimal), DEC LON = Longitude (WGS84 in Decimal); BOAT ASSOC. = Fishing Boat Association; P/S = Primary Transect / Secondary Transect

Notes:

CWD monitoring survey data of the two preceding survey months are presented for reference only. No relevant figure or text will be mentioned in this monthly EM&A report.

Sighting data of finless porpoise (FP) are presented for reference only. No relevant figure or text will be mentioned in the monthly EM&A report. All FP sightings are excluded in calculation.

Calculation of the encounter rates STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 429.75 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 11 on-effort sightings and total number of 48 dolphins from on-effort sightings were collected under such condition. Calculation of the encounter rates in November 2023 are shown as below:

Encounter Rate by Number of Dolphin Sightings (STG) in November 2023

$$STG = \frac{11}{429.75} \times 100 = 2.56$$

Encounter Rate by Number of Dolphins (ANI) in November 2023

$$ANI = \frac{48}{429.75} \times 100 = 11.17$$

Calculation of the running quarterly STG and ANI in the whole survey area (NEL, NWL, AW, WL, SWL):

A total of 1313.85 km of survey effort was collected under Beaufort Sea State 3 or below with favourable visibility; total no. of 31 on-effort sightings and total number of 100 dolphins from on-effort sightings were collected under such condition. Calculation of the running quarterly encounter rates are shown as below:

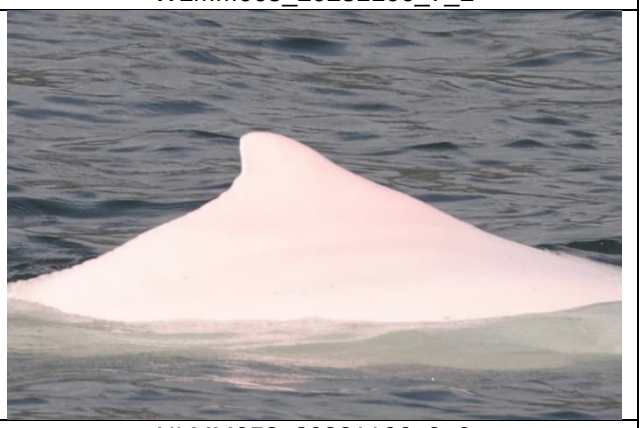
Running Quarterly Encounter Rate by Number of Dolphin Sightings (STG)

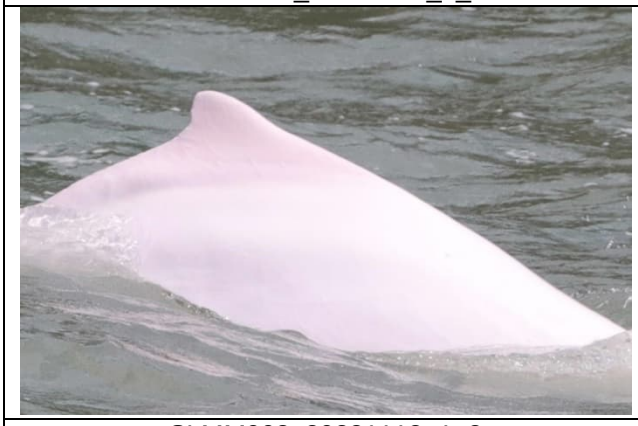
$$STG = \frac{31}{1313.85} \times 100 = 2.36$$

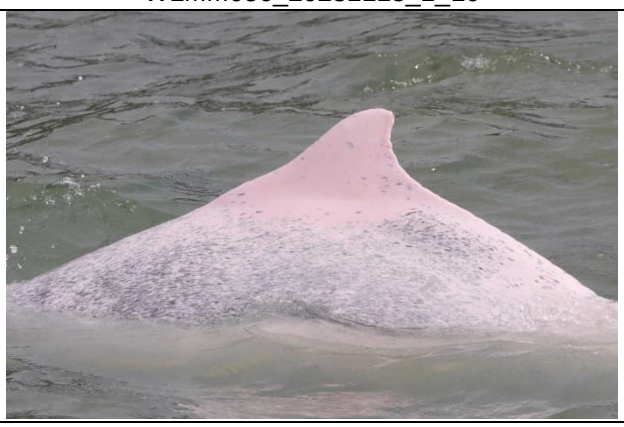
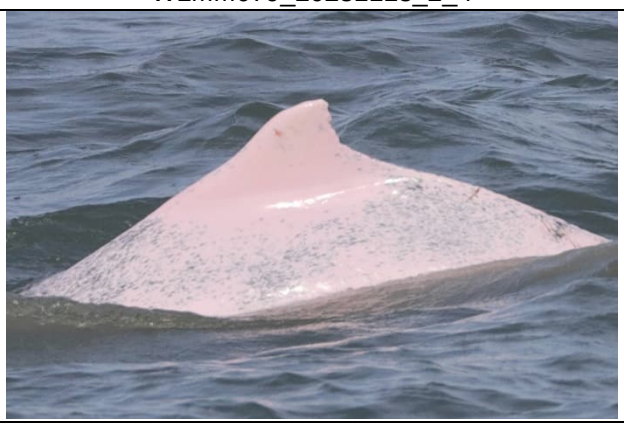
Running Quarterly Encounter Rate by Number of Dolphins (ANI)

$$ANI = \frac{100}{1313.85} \times 100 = 7.61$$

CWD Small Vessel Line-transect Survey **Photo Identification**

	
SLMM034_20231106_7_7	SLMM055_20231106_7_1
	
WLMM056_20231106_7_3	WLMM065_20231106_7_2
	
NLMM023_20231106_8_9	NLMM058_20231106_8_6
	
SLMM003_20231106_8_9	SLMM034_20231106_8_3

	
WLMM001_20231106_8_1	WLMM007_20231106_8_1
	
WLMM065_20231106_8_4	WLMM118_20231106_8_8
	
WLMM150_20231106_8_2	WLMM168_20231106_8_2
	
SLMM003_20231113_1_3	SLMM010_20231113_1_2

	
SLMM044_20231113_1_1	WLMM003_20231113_1_6
	
WLMM007_20231113_1_3	WLMM056_20231113_1_10
	
SLMM003_20231113_2_5	WLMM079_20231113_2_4
	
WLMM071_20231115_1_1	WLMM193_20231115_1_4

	
NLMM001_20231115_2_4	SLMM022_20231115_5_3
	
SLMM070_20231115_5_4	

CWD Land-based Theodolite Tracking Survey

CWD Groups by Survey Date

Date	Station	Start Time	End Time	Duration	Beaufort Range	Visibility	No. of Focal Follow Dolphin Groups Tracked	Dolphin Group Size Range
13/Nov/23	Lung Kwu Chau	8:55	14:55	6:00	3	2	0	0
16/Nov/23	Sha Chau	10:42	16:42	6:00	3	2-3	0	0

Visibility: 1=Excellent, 2=Good, 3=Fair, 4=Poor

Appendix D. Calibration Certificates

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C236127
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-2041) Date of Receipt / 收件日期 : 4 October 2023

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 01287679
Supplied By / 委託者 : Mott MacDonald Hong Kong Limited
3/F., Manulife Place, 348 Kwun Tong Road, Kwun Tong,
Kowloon, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C
Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration

DATE OF TEST / 測試日期 : 22 October 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits. (after adjustment)
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 25 October 2023

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C236127
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using the internal standard (After Adjustment) was performed before the test from 6.1.1.2 to 6.3.2.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C230306
CL281	Multifunction Acoustic Calibrator	CDK2302738

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	* 92.4	± 1.1

* Out of IEC 61672 Class 1 Limit

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

Certificate of Calibration
校正證書

Certificate No. : C236127
證書編號

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.7	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.6
					4 kHz	95.0	+1.0 ± 1.6
					8 kHz	93.0	-1.1 (+2.1 ; -3.1)
					16 kHz	86.0	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					16 kHz	84.1	-8.5 (+3.5 ; -17.0)

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C236127
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 22018

- Mfr's Limit : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110024
Date of Issue : 09 November 2023
Page No. : 1 of 2

PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House Yu Chui Court, Shatin
New Territories (HK) Hong Kong

PART B - SAMPLE INFORMATION

Name of Equipment :	Titrette® bottle-top burette, 50mL
Manufacturer :	Brand
Serial Number :	10N60623
Date of Received :	06 November 2023
Date of Calibration :	07 November 2023
Date of Next Calibration :	07 February 2024
Request No. :	D-BC110024

PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Test Parameter	Reference Method
Accuracy Test	In-house Method (Gravimetric Method)

PART D - CALIBRATION RESULT

(1) Accuracy Test

Trial	Tested Volume (interval)	Range (1-4)	Tested Volume (interval)	Range (16-19)	Tested Volume (interval)	Range (23-26)	Tested Volume (interval)	Range 34-37	Tested Volume (interval)	Range (42-45)
No	Weight of Water(g)	Volume, V (mL)	Weight of Water(g)	Volume, V (mL)	Weight of Water(g)	Volume, V (mL)	Weight of Water(g)	Volume, V (mL)	Weight of Water(g)	Volume, V (mL)
1	2.9600	2.9707	2.9701	2.9808	2.9688	2.9795	2.9623	2.9730	2.9642	2.9749
2	2.9551	2.9657	2.9652	2.9759	2.9655	2.9762	2.9575	2.9681	2.9601	2.9708
3	2.9612	2.9719	2.9655	2.9762	2.9714	2.9821	2.9611	2.9718	2.9878	2.9986
4	2.9641	2.9748	2.9766	2.9873	2.9601	2.9708	2.9655	2.9762	2.9674	2.9781
5	2.9612	2.9719	2.9585	2.9692	2.9767	2.9874	2.9661	2.9768	2.9712	2.9819
6	2.9563	2.9669	2.9645	2.9752	2.9600	2.9707	2.9717	2.9824	2.9688	2.9795
7	2.9734	2.9841	2.9612	2.9719	2.9596	2.9703	2.9748	2.9855	2.9615	2.9722
8	2.9656	2.9763	2.9565	2.9671	2.9612	2.9719	2.9684	2.9791	2.9601	2.9708
9	2.9701	2.9808	2.9764	2.9871	2.9734	2.9841	2.9621	2.9728	2.9600	2.9707
10	2.9612	2.9719	2.9496	2.9602	2.9697	2.9804	2.9714	2.9821	2.9720	2.9827
Average	2.9628	2.9735	2.9644	2.9751	2.9666	2.9773	2.9661	2.9768	2.9673	2.9780
SD	0.0057	-	0.0085	-	0.0062	-	0.0055	-	0.0086	-
Error	-0.8838	-	-0.8306	-	-0.7560	-	-0.7744	-	-0.7336	-
RSD%	0.1916	-	0.2865	-	0.2097	-	0.1841	-	0.2876	-

Tolerance of Accuracy Test should be less than ± 1.0 (%)

--- CONTINUED ON NEXT PAGE ---

AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC110024
Date of Issue : 09 November 2023

Acceptance Criteria:
Accuracy: <±1%
Precision (RSD): <1%

Environmental conditions of the calibration:
Water temperature: 23.5°C
Relative humidity: 65%
Z-Factor: 1.0036
Nominal volume: 3.0ml

Remark(s)

·The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

·The results relate only to the calibrated equipment as received

·The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

·"Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.

·The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

--- END OF REPORT ---

Appendix E. Status of Environmental Permits and Licenses

	Description	Permit/ Reference No.	Status
EIAO	Environmental Permit	EP-489/2014	Approved on 7 Nov 2014

Contract No.	Description	Location	Permit/ Reference No.	Status
3206	Registration as Chemical Waste Producer	Site office of 3206	WPN 5213-951-Z4035-01	Completion of Registration on 18 Nov 2016
		Works area of 3206	WPN 5213-951-Z4035-02	Completion of Registration on 18 Nov 2016
	Construction Noise Permit (General Works)	Works Area of 3206	GW-RS0913-23	Valid from 1 Nov 2023 to 30 Apr 2024
	Bill Account for disposal	Works area of 3206	A/C 7026398	Approval granted from EPD on 16 Nov 2016
3302	Notification of Construction Work under APCO	Works area of 3302	497609	Receipt acknowledged by EPD on 28 Sep 2023
	Registration as Chemical Waste Producer	Works area of 3302	5296-951-C4331-01	Completion of Registration on 4 Jan 2019
	Discharge License under WPCO	Works area of 3302	WT00034539-2019	Valid from 11 Mar 2020 to 31 Mar 2025
	Bill Account for disposal	Works area of 3302	A/C 7032881	Approval granted from EPD on 8 Jan 2019
	Construction Noise Permit (General Works)	Works area of 3302	GW-RS0876-23	Valid from 20 Oct 2023 to 19 Apr 2024
3305	Notification of Construction Work under APCO	Works area of 3305	460857	Receipt acknowledged by EPD on 12 Oct 2020
	Registration as Chemical Waste Producer	Works area of 3305	5213-951-A3024-01	Completion of Registration on 13 Nov 2020
	Bill Account for disposal	Works area of 3305	A/C 7035360	Approval granted from EPD on 9 Oct 2019
	Construction Noise Permit (General Works)	Works area of 3305	GW-RS0423-23	Valid from 1 Jun 2023 to 30 Nov 2023
3306	Registration as Chemical Waste Producer	Works area of 3306	8335-951-C4434-01	Completion of Registration on 1 Apr 2020
	Bill Account for disposal	Works area of 3306	A/C 7035868	Approval granted from EPD on 27 Nov 2019
3307	Registration as Chemical Waste Producer	Works area of 3307	5211-951-P3379-01	Completion of Registration on 8 Jun 2020
	Bill Account for disposal	Works area of 3307	A/C 7037129	Approval granted from EPD on 5 May 2020

Contract No.	Description	Location	Permit/ Reference No.	Status
3308	Bill Account for disposal	Works area of 3308	A/C 7038988	Approval granted from EPD on 24 Nov 2020
3310	Notification of Construction Work under APCO	Works area of 3310	485057	Receipt acknowledged by EPD on 6 Oct 2022
	Registration as Chemical Waste Producer	Works area of 3310	5213-951-C4682-01	Completion of Registration on 21 Dec 2021
		Works area of 3310	5213-000-C3317-27	Completion of Registration on 31 Aug 2022
	Discharge License under WPCO	Works area of 3310	WT00039654-2021	Valid from 31 Dec 2021 to 31 Dec 2026
	Bill Account for disposal	Works area of 3310	A/C 7042793	Approval granted from EPD on 4 Jan 2022
	Construction Noise Permit (General Works)	Works area of 3310 (Existing airport)	GW-RS0421-23	Valid from 24 May 2023 to 21 Nov 2023 (Superseded by GW-RS1010-23)
			GW-RS1010-23	Valid from 22 Nov 2023 to 19 May 2024
		Works area of 3310 (Reclamation area)	GW-RS0502-23	Valid from 19 Jun 2023 to 15 Dec 2023
		Tsing Chau Wan	GW-RW0340-23	Valid from 26 May 2023 to 25 Nov 2023 (Superseded by GW-RW0797-23)
			GW-RW0797-23	Valid from 26 Nov 2023 to 19 May 2024
3402	Bill Account for disposal	Works area of 3402	A/C 7032577	Approval granted from EPD on 11 Jan 2019
3403	Notification of Construction Work under APCO	Works area of 3403	485039	Receipt acknowledged by EPD on 06 Oct 2022
		Works area of 3403 (with Area 17 and Area 15)	475369	Receipt acknowledged by EPD on 28 Dec 2021
	Registration as Chemical Waste Producer	Works area of 3403	5213-951-S4218-01	Completion of Registration on 9 Jan 2020
	Discharge License under WPCO	Works area of 3403	WT00035841-2020	Valid from 5 Jun 2020 to 30 Jun 2025 Approved variation on 9 Jun 2022
	Bill Account for disposal	Works area of 3403	A/C 7035267	Approval granted from EPD on 30 Sep 2019
	Construction Noise Permit (General Works)	Works area of 3403	GW-RS0694-23	Valid from 1 Sep 2023 to 29 Feb 2024
3404	Bill Account for disposal	Works area of 3404	A/C 7035158	Approval granted from EPD on 12 Sep 2019
3405	Notification of Construction Work under APCO	Works area of 3405	484926	Receipt acknowledged by EPD on 30 Sep 2022
	Registration as Chemical Waste Producer	Works area of 3405	WPN 5218-951-C4431-01	Completion of Registration on 12 Mar 2020 Revised license was issued on 14 Jul 2023
	Discharge License under WPCO	Works area of 3405	WT00037084-2020	Valid from 17 Mar 2021 to 31 Mar 2026

Contract No.	Description	Location	Permit/ Reference No.	Status
	Bill Account for disposal	Works area of 3405	A/C 7036796	Approval granted from EPD on 20 Mar 2020
	Construction Noise Permit (General Works)	Works area of 3405	GW-RS0438-23	Valid from 1 Jun 2023 to 29 Nov 2023 (Superseded by GW-RS0973-23)
		Works area of 3405	GW-RS0973-23	Valid from 18 Nov 2023 to 14 May 2024
3408	Notification of Construction Work under APCO	Works area of 3408	461958	Receipt acknowledged by EPD on 17 Nov 2020
		3408 CSA-CBP	488443	Receipt acknowledged by EPD on 13 Jan 2023
	Specified Process Licence (Cement Works)	3408 CSA-CBP	L-3-268(1)	Valid from 22 May 2023 to 21 May 2025
	Registration as Chemical Waste Producer	Works area of 3408	WPN 5218-951-B2621-01	Completion of Registration on 16 Jul 2021
	Discharge License under WPCO	Works area of 3408	WT00038836-2021	Valid from 10 Jul 2023 to 30 Sep 2026
	Bill Account for disposal	Works area of 3408	A/C 7039063	Approval granted from EPD on 2 Dec 2020
	Construction Noise Permit (General Works)	Works area of 3408	GW-RS0870-23	Valid from 13 Oct 2023 to 1 Apr 2024
	Construction Noise Permit (Special Case)	Works area of 3408	GW-RS0850-23	Valid from 17 Oct 2023 to 24 Nov 2023 (Superseded by GW-RS1031-23)
			GW-RS1031-23	Valid from 24 Nov 2023 to 23 Apr 2024
3508	Notification of Construction Work under APCO	Works area of 3508	459017	Receipt acknowledged by EPD on 27 Aug 2020
			459469	Receipt acknowledged by EPD on 4 Sep 2020
			493055	Receipt acknowledged by EPD on 30 May 2023
	Registration as Chemical Waste Producer	Works area of 3508	WPN-5218-951-G2898-01	Completion of Registration on 28 Sep 2020
	Discharge License under WPCO	Works area of 3508	WT00037209-2020	Valid from 11 Mar 2021 to 31 Mar 2026
			WT00037523-2021	Valid from 1 Apr 2021 to 30 Apr 2026
			WT00037225-2020	Valid from 1 Apr 2021 to 30 Apr 2026
			WT00037549-2021	Valid from 1 Apr 2021 to 30 Apr 2026
	Bill Account for disposal	Works area of 3508	7038224	Approval granted from EPD on 8 Sep 2020
	Construction Noise Permit (General Works)	Works area of 3508	GW-RS0513-23	Valid from 28 Jun 2023 to 27 Dec 2023 (Superseded by GW-RS0934-23)
		Works area of 3508	GW-RS0437-23	Valid from 6 Jun 2023 to 5 Dec 2023
		Works area of 3508	GW-RS0794-23	Valid from 22 Sep 2023 to 21 Mar 2024

Contract No.	Description	Location	Permit/ Reference No.	Status
		Works area of 3508	GW-RS0834-23	Valid from 30 Sep 2023 to 27 Mar 2024
		Works area of 3508	GW-RS0934-23	Valid from 5 Nov 2023 to 2 May 2024
		Works area of 3508	GW-RS0991-23	Valid from 24 Nov 2023 to 19 May 2024
	Construction Noise Permit (Special Case)	Works area of 3508	GW-RS0535-23	Valid from 16 Jul 2023 to 30 Nov 2023
		Works area of 3508	GW-RS0534-23	Valid from 1 Jul 2023 to 30 Nov 2023
		Works area of 3508	GW-RS0635-23	Valid from 4 Aug 2023 to 31 Jan 2024
		Works area of 3508	GW-RS0770-23	Valid from 10 Sep 2023 to 31 Dec 2023
		Works area of 3508	GW-RS0739-23	Valid from 1 Sep 2023 to 30 Nov 2023
		Works area of 3508	GW-RS0881-23	Valid from 18 Oct 2023 to 31 Mar 2024
		Works area of 3508	GW-RS0879-23	Valid from 18 Oct 2023 to 31 Mar 2024
3601	Notification of Construction Work under APCO	Works area of 3601	451762	Receipt acknowledged by EPD on 10 Dec 2019
	Registration as Chemical Waste Producer	Works area of 3601	WPN 7119-951-C4421-01	Completion of Registration on 9 Jan 2020
	Bill Account for disposal	Works area of 3601	A/C 7029991	Approval granted from EPD on 1 Feb 2018
	Construction Noise Permit (General Works)	Works area of 3601	GW-RS0356-23	Valid from 8 May 2023 to 7 Nov 2023 (Superseded by GW-RS0929-23)
			GW-RS0929-23	Valid from 8 Nov 2023 to 7 May 2024
3602	Notification of Construction Work under APCO	Works area of 3602	421278	Receipt acknowledged by EPD on 18 Sep 2017
	Registration as Chemical Waste Producer	Works area of 3602	WPN 5296-951-N2673-01	Completion of Registration on 9 Oct 2017
		Site office of 3602	WPN 5296-951-N2673-02	Completion of Registration on 11 Dec 2017
	Bill Account for disposal	Works area of 3602	A/C 7028942	Approval granted from EPD on 6 Oct 2017
3603	Notification of Construction Work under APCO	Site office of 3603	433604	Receipt acknowledged by EPD on 16 May 2018
	Registration as Chemical Waste Producer	Site office of 3603	5296-951-S4069-01	Completion of Registration on 22 Jan 2018
	Bill Account for disposal	Works area of 3603	A/C 7030002	Approval granted from EPD on 1 Feb 2018

Contract No.	Description	Location	Permit/ Reference No.	Status
	Construction Noise Permit (General Works)	Works area of 3603	GW-RS0357-23	Valid from 23 May 2023 to 22 Nov 2023 (Superseded by GW-RS0958-23)
		Works area of 3603	GW-RS0958-23	Valid from 22 Nov 2023 to 21 May 2024
3721	Notification of Construction Work under APCO	Works area of 3721	448657	Receipt acknowledged by EPD on 02 Sep 2019
	Bill Account for disposal	Works area of 3721	A/C 7035234	Approval granted from EPD on 25 Sep 2019
	Construction Noise Permit (General Works)	Works area of 3721	GW-RS0491-23	Valid from 19 Jun 2023 to 15 Dec 2023
3728	Registration as Chemical Waste Producer	Works area of 3728	WPN 5113-951-S4481-01	Completion of Registration on 20 October 2023
	Discharge License under WPCO	Works area of 3728	WT00037809-2021	Valid from 27 Jul 2021 to 31 Jul 2026
	Bill Account for disposal	Works area of 3728	A/C 7039409	Approval granted from EPD on 22 Jan 2021
3733	Notification of Construction Work under APCO	Works area of 3733	472772	Receipt acknowledged by EPD on 18 Oct 2021
	Registration as Chemical Waste Producer	Works area of 3733	474728	Receipt acknowledged by EPD on 9 Dec 2021
	Bill Account for disposal	Works area of 3733	7041945	Approval granted from EPD on 21 Oct 2021
	Construction Noise Permit (General Works)	Works area of 3733	GW-RS0395-23	Valid from 18 May 2023 to 15 Nov 2023
3801	Notification of Construction Work under APCO	Works area of 3801	488993	Receipt acknowledged by EPD on 2 Feb 2023
		Stockpiling area of 3801	454269	Receipt acknowledged by EPD on 12 Mar 2020
			450940	Receipt acknowledged by EPD on 13 Nov 2019
	Registration as Chemical Waste Producer	Works area of 3801	WPN 5296-951-C1169-53	Completion of Registration on 14 Aug 2018
	Discharge License under WPCO	Works area of 3801	WT00041429-2022	Valid from 16 Aug 2022 to 31 Aug 2027
		Stockpiling area of 3801	WT00037354-2021	Valid from 8 Mar 2021 to 31 Mar 2026
	Bill Account for disposal	Works area of 3801	A/C 7028254	Approval granted from EPD on 3 Jul 2017
	Construction Noise Permit (General Works)	Works area of 3801	GW-RS0863-23	Valid from 30 Sep 2023 to 27 Mar 2024 (Superseded by GW-RS1027-23)
			GW-RS1027-23	Valid from 24 Nov 2023 to 21 May 2024
3802	Notification of Construction	Works area of 3802	458122	Receipt acknowledged by EPD on 14 Jul 2020

Contract No.	Description	Location	Permit/ Reference No.	Status
	Work under APCO			
	Registration as Chemical Waste Producer	Works area of 3802	WPN 5218-951-G2895-01	Completion of Registration on 28 Aug 2020
		Works area of 3802 (Existing airport)	WPN 5218-951-G2945-01	Completion of Registration on 29 Sep 2020
	Discharge License under WPCO	Works area of 3802	WT00037032-2020	Valid from 25 May 2021 to 31 May 2026
		Works area of 3802 (Existing airport)	WT00039092-2021	Valid from 30 Nov 2021 to 31 Nov 2026
			WT00043143-2023	Valid from 17 Mar 2023 to 31 Mar 2028
	Bill Account for disposal	Works area of 3802	A/C 7037575	Approval granted from EPD on 15 Jun 2020
	Construction Noise Permit (General Works)	Works area of 3802	GW-RS0760-23	Valid from 4 Sep 2023 to 3 Mar 2024 (Superseded by GW-RS0995-23)
			GW-RS0995-23	Valid from 18 Nov 2023 to 14 May 2024
		Works area of 3802 (Existing airport)	GW-RS0432-23	Valid from 5 Jun 2023 to 4 Dec 2023
		Works area of 3802 (Ventilation building)	GW-RS0632-23	Valid from 31 Jul 2023 to 26 Jan 2024
3804	Notification of Construction Work under APCO	Works area of 3804	487452	Receipt acknowledged by EPD on 14 Dec 2022
	Construction Noise Permit (General Works)	Works area of 3804	GW-RS0629-23	Valid from 31 Jul 2023 to 18 Nov 2023 (Superseded by GW-RS0988-23)
			GW-RS0988-23	Valid from 18 Nov 2023 to 14 May 2024
	Registration as Chemical Waste Producer	Works area of 3804	WPN 5213-951-B2686-01	Completion of Registration on 4 Jan 2023
	Bill Account for disposal	Works area of 3804	A/C 7046121	Approval granted from EPD on 3 Jan 2023
	Discharge License under WPCO	Works area of 3804	WT00044391-2023	Valid from 17 Aug 2023 to 31 Aug 2028
3805	Notification of Construction Work under APCO	Works area of 3805	490065	Receipt acknowledged by EPD on 2 Mar 2023
	Registration as Chemical Waste Producer	Works area of 3805	WPN 5218-951-C4788-01	Completion of Registration on 31 Mar 2023
	Bill Account for disposal	Works area of 3805	A/C 7046828	Approval granted from EPD on 10 Mar 2023
	Discharge License under WPCO	Works area of 3805	WT00043804-2023	Valid from 15 Jun 2023 to 30 Jun 2028

Contract No.	Description	Location	Permit/ Reference No.	Status
	Construction Noise Permit (General Works)	Works area of 3805	GW-RS0750-23	Valid from 4 Sep 2023 to 3 Mar 2024
3901A	Notification of Construction Work under APCO	Works area of 3901A	466883	Receipt acknowledged by EPD on 26 Apr 2021
	Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations	Works area of 3901A	EP/RS/00004430 53	Approval granted on 11 Dec 2020
	Specified Process license under APCO	Works area of 3901A	L-3-261(1)	Valid from 14 Sep 2020 to 13 Sep 2024
	Landfill Disposal of Waste Concrete from Batching Plant	Works area of 3901A	EP195/01/18	Valid from 10 Nov 2023 to 9 Aug 2024
	Registration as Chemical Waste Producer	Works area of 3901A	WPN 5218-951-K3400-01	Completion of Registration on 17 Jul 2020
	Bill Account for disposal	Works area of 3901A	A/C 7037889	Approval granted from EPD on 20 Jul 2020
	Construction Noise Permit (General Works)	Works area of 3901A	GW-RS0620-23	Valid from 5 Aug 2023 to 4 Feb 2024
3901B	Air Pollution Control (Furnaces, Ovens and Chimneys) (Installation and Alteration) Regulations	Works area of 3901B	EP/RS/00004384 88	Approval granted on 26 Jun 2020
	Specified Process license under APCO	Works area of 3901B	L-3-262(1)	Valid from 17 Nov 2020 to 16 Nov 2024
	Registration as Chemical Waste Producer	Works area of 3901B	WPN 5218-951-G2880-01	Completion of Registration on 17 Jan 2020
	Bill Account for disposal	Works area of 3901B	A/C 7032417	Approval granted from EPD on 13 Nov 2018
	Construction Noise Permit (General Works)	Works area of 3901B	GW-RS0625-23	Valid from 5 Aug 2023 to 4 Feb 2024
3913	Specified Process license under APCO	Works area of 3913	L-15-040 (1)	Valid from 29 Mar 2021 to 28 Mar 2025
	Registration as Chemical Waste Producer	Works area of 3913	5213-951-S4405-01	Completion of Registration on 22 Jul 2022, updated on 29 Mar 2023
	Bill Account for disposal	Works area of 3913	A/C 7044632	Approval granted from EPD on 18 Aug 2022

Contract No.	Description	Location	Permit/ Reference No.	Status
	Construction Noise Permit (General Works)	Works area of 3913	GW-RS0772-23	Valid from 20 Sep 2023 to 19 Mar 2024
132 kV Cable	Bill Account for disposal	Works area of 132 kV Cable	A/C 7039280	Approval granted from EPD on 8 Jan 2021

Appendix F. Cumulative Statistics on Exceedances, Environmental Complaints, Notification of Summons and Status of Prosecutions

Statistics for Exceedances for 1-hour TSP, Noise, Water, Waste, CWD Monitoring

		Total no. recorded in the reporting period	Total no. recorded since the project commenced
1-hr TSP	Action	0	0
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water	Action	0	0
	Limit	0	0
Waste	Action	0	1
	Limit	0	0
CWD	Action	0	0
	Limit	0	0

Remark: Exceedances, which are not project related, are not shown in this table.

Statistics for Complaints, Notifications of Summons and Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Prosecutions
This reporting period	4	0	0
From 28 December 2015 to end of the reporting period	68	2	2

Appendix G. Data of SkyPier HSF Movements to/from Macau (between 1 and 30 November 2023)

Data of SkyPier HSF Movements to/from Macau (between 1 and 30 Nov 2023)

Date	Time [Arrival at / Departure from HKIA SkyPier]	Ferry No.	Connecting Port [YFT – Macao (Taipa)]	Travel Direction [Arrival at / Departure from HKIA SkyPier]	Average Speed within Speed Control Zone (knots)	Extent of Instantaneous Speeding by SkyPier HSFs across SCZ (knots)	Duration of the Instantaneous Speeding (min)
01-Nov	11:56	8S912	YFT	Arrival	13	-	-
01-Nov	12:53	8S193	YFT	Departure	12.6	-	-
03-Nov	12:02	8S912	YFT	Arrival	12.1	-	-
03-Nov	12:56	8S193	YFT	Departure	13.5	-	-
07-Nov	11:58	8S912	YFT	Arrival	12.9	-	-
07-Nov	12:49	8S193	YFT	Departure	12	-	-
08-Nov	11:58	8S912	YFT	Arrival	11.9	-	-
08-Nov	12:45	8S193	YFT	Departure	12.3	-	-
10-Nov	11:57	8S912	YFT	Arrival	13	-	-
10-Nov	12:47	8S193	YFT	Departure	12.8	-	-
14-Nov	11:57	8S912	YFT	Arrival	12.1	-	-
14-Nov	12:53	8S193	YFT	Departure	12.1	-	-
15-Nov	11:58	8S912	YFT	Arrival	12.7	-	-
15-Nov	12:55	8S193	YFT	Departure	12.1	-	-
17-Nov	11:58	8S912	YFT	Arrival	11.7	-	-
17-Nov	12:44	8S193	YFT	Departure	12.5	-	-
21-Nov	11:54	8S912	YFT	Arrival	12.5	-	-
21-Nov	12:43	8S193	YFT	Departure	10.6	-	-
22-Nov	11:58	8S912	YFT	Arrival	11.7	-	-
22-Nov	12:45	8S193	YFT	Departure	12.7	-	-
24-Nov	12:01	8S912	YFT	Arrival	11.3	-	-
24-Nov	12:50	8S193	YFT	Departure	11.9	-	-
28-Nov	12:01	8S912	YFT	Arrival	11.2	-	-
28-Nov	12:50	8S193	YFT	Departure	11.9	-	-
29-Nov	11:57	8S912	YFT	Arrival	12.5	-	-
29-Nov	12:46	8S193	YFT	Departure	12.3	-	-

Follow-up on instantaneous speeding

Referring to the data of SkyPier HSF movements in Nov 2023, no instantaneous speeding (i.e. a sudden change in speed at over 15 knots for a short period of time) within the SCZ was recorded.