

Contract No. EP/SP/66/12
Integrated Waste Management Facilities, Phase 1
Monthly EM&A Report No.42






Monthly EM&A Report No.42 (Period from 1 December to 31 December 2021)

(Clause 3.3, Further Environmental Permit FEP-01/429/2012/A)

Document No.

KSZHJV	/	312	/	Monthly EM&A	/	0042	/	A
Issuer		Project Code		Type of Document		Sequential No.		Revision Index

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Date:	14 January 2022	14 January 2022	14 January 2022

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Revision History

Rev.	DESCRIPTION OF MODIFICATION	DATE
A	First Submission	14 January 2022

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EXECUTIVE SUMMARY

Introduction

- A1. The Project, Integrated Waste Management Facility (IWMF), is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is currently governed by a Further Environmental Permit (FEP No. FEP-01/429/2012/A) for the construction and operation of the Project.
- A2. In accordance with the Updated Environmental Monitoring and Audit (EM&A) Manual for the Project, EM&A works for marine water quality, noise, waste management and ecology should be carried out by Environmental Team (ET), Acuity Sustainability Consulting Limited (ASCL), during the construction phase of the Project.
- A3. This is the 42nd Monthly EM&A Report, prepared by ASCL, for the Project summarizing the monitoring results and audit findings of the EM&A programme at and around Shek Kwu Chau (SKC) during the reporting period from 1 December to 31 December 2021.

Summary of Main Works Undertaken & Key Mitigation Measures Implemented

- A4. Key activities carried out in this reporting period for the Project included the following:
- Reclamation Area:
 - Reclamation works
 - PVD Remedial Works
 - Installation of Instrumentation
 - Site Investigation works for foundation
 - Foundation works
 - Seawall Portion:
 - Installation of caisson
 - Installation of Chinese Pod
 - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B
- A5. The major environmental impacts brought by the above construction activities include:
- Deterioration of water quality of nearby water body by reclamation
- A6. The key environmental mitigation measures implemented for the Project in this reporting period associated with the construction activities include:
- Reduction of noise from equipment and machinery on-site;
 - Sorting, recycling, storage and disposal of general refuse and construction waste;
 - Management of chemicals and avoidance of oil spillage on-site;
 - Regulation on rate and means for filling works as stipulated in Table 1 of FEP or the approved Supporting Document for Reviewing Dredging Rate and Filling Rate, whichever is applicable;

- Confirmation of the absence of silt content in the rock filling material and the filling work is properly conducted;
- Dust suppression measures for exposed earth surface and stockpile of dusty material; and
- Site runoff control measure during rainstorm.

Summary of Exceedance & Investigation & Follow-up

- A7. The EM&A works for water quality, construction waste, marine mammal and White-Bellied Sea Eagle (WBSE) were conducted during the reporting period in accordance with the Updated EM&A Manual.
- A8. No exceedance of the Action or Limit Levels in relation to noise, construction waste and WBSE monitoring was recorded in the reporting month.
- A9. During the reporting period, twenty-six (26) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded Action Level. Forty-seven (47) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Three (3) of the general water quality monitoring results of dissolved oxygen (DO) obtained had exceeded Action Level. Investigations were carried out immediately for each of the exceedance cases during the reporting period. No project-related Action Level & Limit Level exceedance was recorded from 1 December 2021 to 31 December 2021.
- A10. Weekly site inspections of the construction work by ET were carried out on 1, 7, 14, 23 and 29 December 2021 to audit the mitigation measures implementation status. Monthly joint site inspection was carried out on 14 December 2021 by ET and IEC. Observations were recorded in the site inspection checklists and provided to the contractors together with the appropriate follow-up actions where necessary.

Complaint Handling and Prosecution

- A11. A complaint was received by the Environmental Protection Department on 01 December 2021 and referred to the Environmental Team (ET), Independent Environmental Checker (IEC) and Supervising Officer (SO) on 15 December 2021. The complaint was related to oil spillage/leakage and the use of restricted liquid fuel. After the investigation, it was considered that no non-compliance had been found for the oil filling operation, chemical leakage/spillage and sulfur content of fuel oil.
- A12. Neither notifications of summons nor prosecution was received for the Project.

Reporting Change

- A13. There was no change to be reported that may affect the on-going EM&A programme.

Summary of Upcoming Key Issues and Key Mitigation Measures

A14. Key activities anticipated in the next reporting period for the Project will include the following:

- Reclamation Area:
 - Reclamation works
 - PVD Remedial works
 - Installation of instrumentation
 - Site Investigation works for foundation
 - Foundation works
- Seawall Portion:
 - Installation of caisson
 - Installation of Chinese Pod
 - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B

A15. The major environmental impacts brought by the above construction activities will include:

- Deterioration of water quality of nearby water body by reclamation.

A16. The key environmental mitigation measures for the Project in the coming reporting period associated with the construction activities will include:

- Reduction of noise from equipment and machinery on-site;
- Sorting, recycling, storage and disposal of general refuse and construction waste;
- Management of chemicals and avoidance of oil spillage on-site, especially under heavy rains and adverse weather;
- Confirmation of the absence of silt content in the rock filling material and the filling work is properly conducted;
- Dust control of exposed soil surface and stockpile of dusty material at reclaimed area;
- Dust suppression measures for exposed earth surface and stockpile of dusty material; and
- Site runoff control measure during rainstorm.

1. BASIC PROJECT INFORMATION

1.1 Background

1.1.1 The Government of Hong Kong SAR will develop the Integrated Waste Management Facilities (IWMF) Phase 1 (hereafter “the Project”) with incineration to achieve substantial bulk reduction of unavoidable municipal solid waste (MSW) and to recover energy from the incineration process. The IWMF will be on an artificial island to be formed by reclamation at the south-western coast of Shek Kwu Chau. Keppel Seghers – Zhen Hua Joint Venture (KSZHJV) was awarded the contract under Contract No. EP/SP/66/12 Integrated Waste Management Facilities Phase 1 to construct and operate the Project.

1.1.2 An environmental impact assessment (EIA) study for the Project has been conducted and the EIA Report was approved under the Environmental Impact Assessment Ordinance on 17 January 2012. An Environmental Permit (EP) (EP No.: EP-429/2012) was granted to EPD on 19 January 2012 for the construction and operation of the Project. Subsequently, the EP was amended (EP No.: EP-429/2012/A) and a further EP (FEP) (EP No.: FEP-01/429/2012/A) was granted to the Keppel Seghers – Zhen Hua Joint Venture (KSZHJV) on 27 December 2017.

1.1.3 A further EP (FEP) (EP No.: FEP-02/429/2012/A) on Submarine Cable for the Development of the Project was granted to CLP Power Hong Kong Limited (CLP) on 17 Jan 2020.

1.1.4 The key design and construction elements of the Project include the Design and the Works including but not limited to the design, engineering procurement, construction, testing and commissioning of the Facility including:

- Ground Treatment works;
- Seawall and Breakwater construction;
- Non-dredged Reclamation;
- Other Marine works and Harbour and Port Facilities;
- Site formation;
- Municipal Solid Waste (MSW) Treatment Processes;
- Energy Recovery for Power Generation and Surplus Electricity export;
- Wastewater treatment process;
- Desalination and water treatment process;
- Civil works;
- Building and Structural works;
- Electrical and Mechanical works;
- Building Services;
- Architectural and Landscaping works; and
- All other design and works required for the operation and maintenance of the Facility according to the Contract requirements.

- 1.1.5 The location of the IWMF near Shek Kwu Chau (SKC) and general layout of IWMF are shown in **Figure 1.1** and **Figure 1.2** respectively.

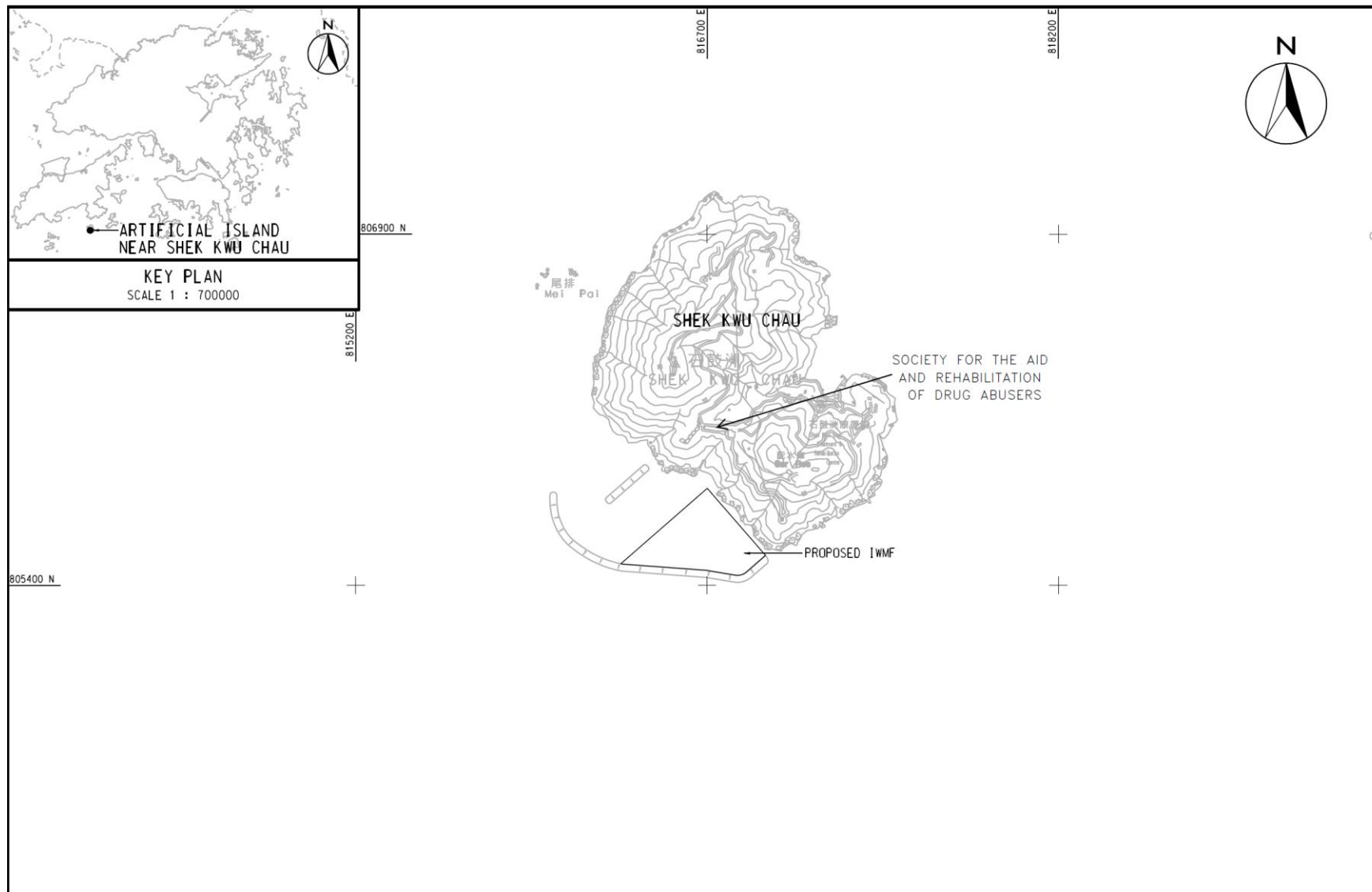


Figure 1.1 Location of the IWMF at the Artificial Island near SKC

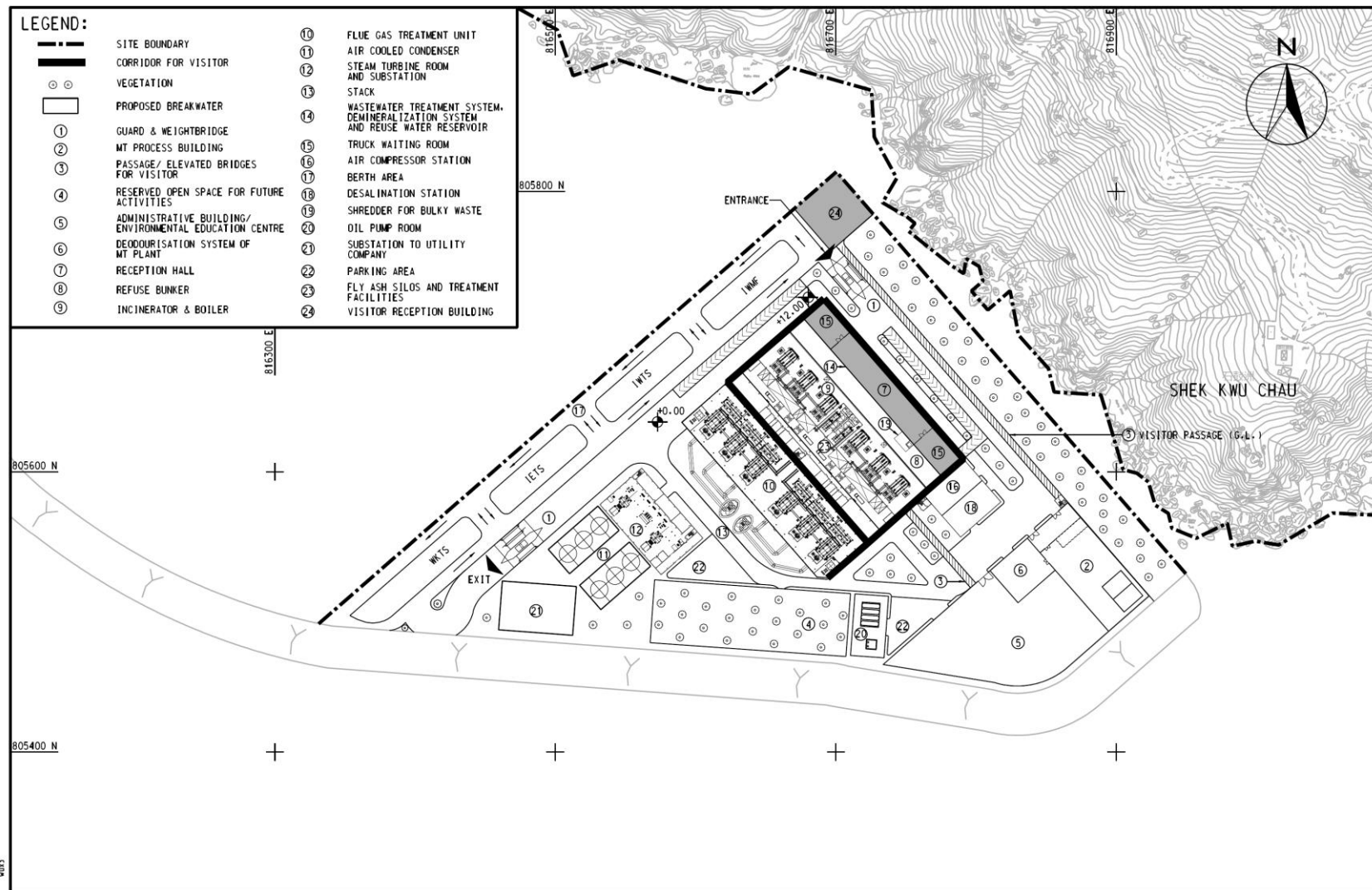


Figure 1.2 General Layout of the IWMF at the Artificial Island near SKC

1.2 The Reporting Scope

1.2.1 This is the 42nd Monthly EM&A Report for the Project which summarizes the key findings of the EM&A programme during the reporting period from 1 December 2021 to 31 December 2021.

1.3 Project Organization

1.3.1 The Project Organization structure for Construction Phase is presented in **Figure 1.3**.

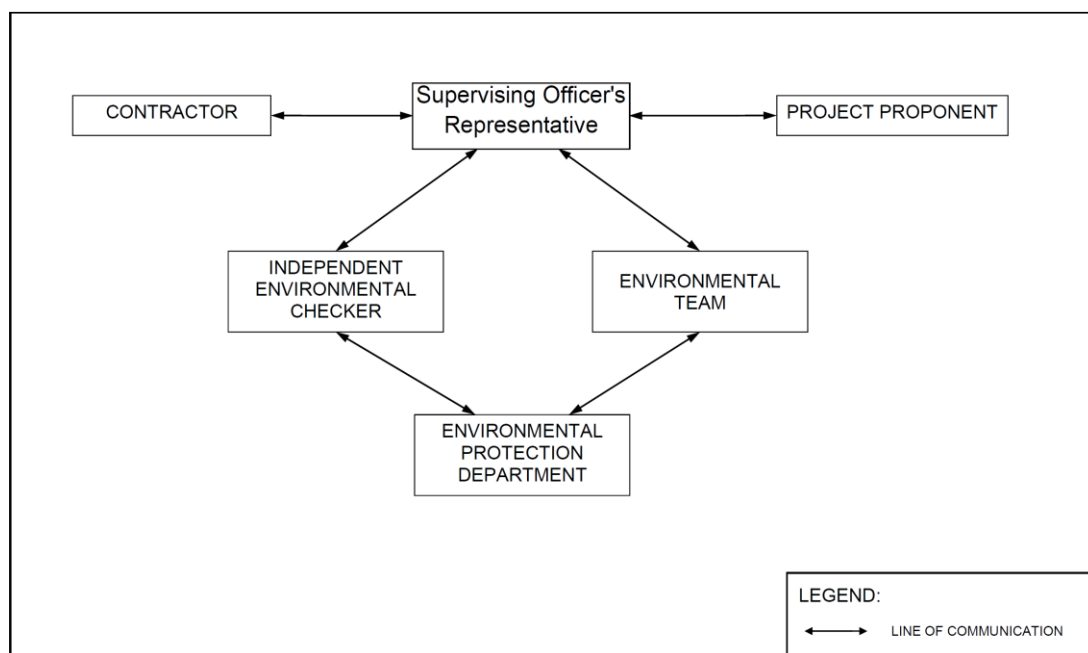


Figure 1.3 Project Organization Chart

1.3.2 Contact details of the key personnel are presented in **Table 1.1** below:

Table 1.1 Contact Details of Key Personnel

Party	Position	Name	Telephone no.
Keppel Seghers – Zhen Hua Joint Venture	Project Manager	Kenny Yu	2192-0606
Acuity Sustainability Consulting Limited	Environmental Team Leader	F.C. Tsang	2698-6833
ERM-Hong Kong, Limited	Independent Environmental Checker	Mandy To	2271-3000

1.4 Summary of Construction Works

1.4.1 Details of the major construction activities undertaken in this reporting period are shown in **Table 1.2** and **Figure 1.4** below. The construction programme is presented in **Appendix A**.

Table 1.2 Summary of the Construction Activities Undertaken during the Reporting Month

Location of works	Construction activities undertaken	Remarks on progress
Reclamation area	<ul style="list-style-type: none"> • Reclamation works • PVD Remedial works • Installation of Instrumentation • Site Investigation works for foundation • Foundation works 	<ul style="list-style-type: none"> • On-going • On-going • On-going • On-going • On-going
Seawall portion	<ul style="list-style-type: none"> • Installation of caisson • Installation of Chinese Pod • Caisson extension works, from +3mPD to +6mPD, at Seawall A and B 	<ul style="list-style-type: none"> • On-going • On-going • On-going

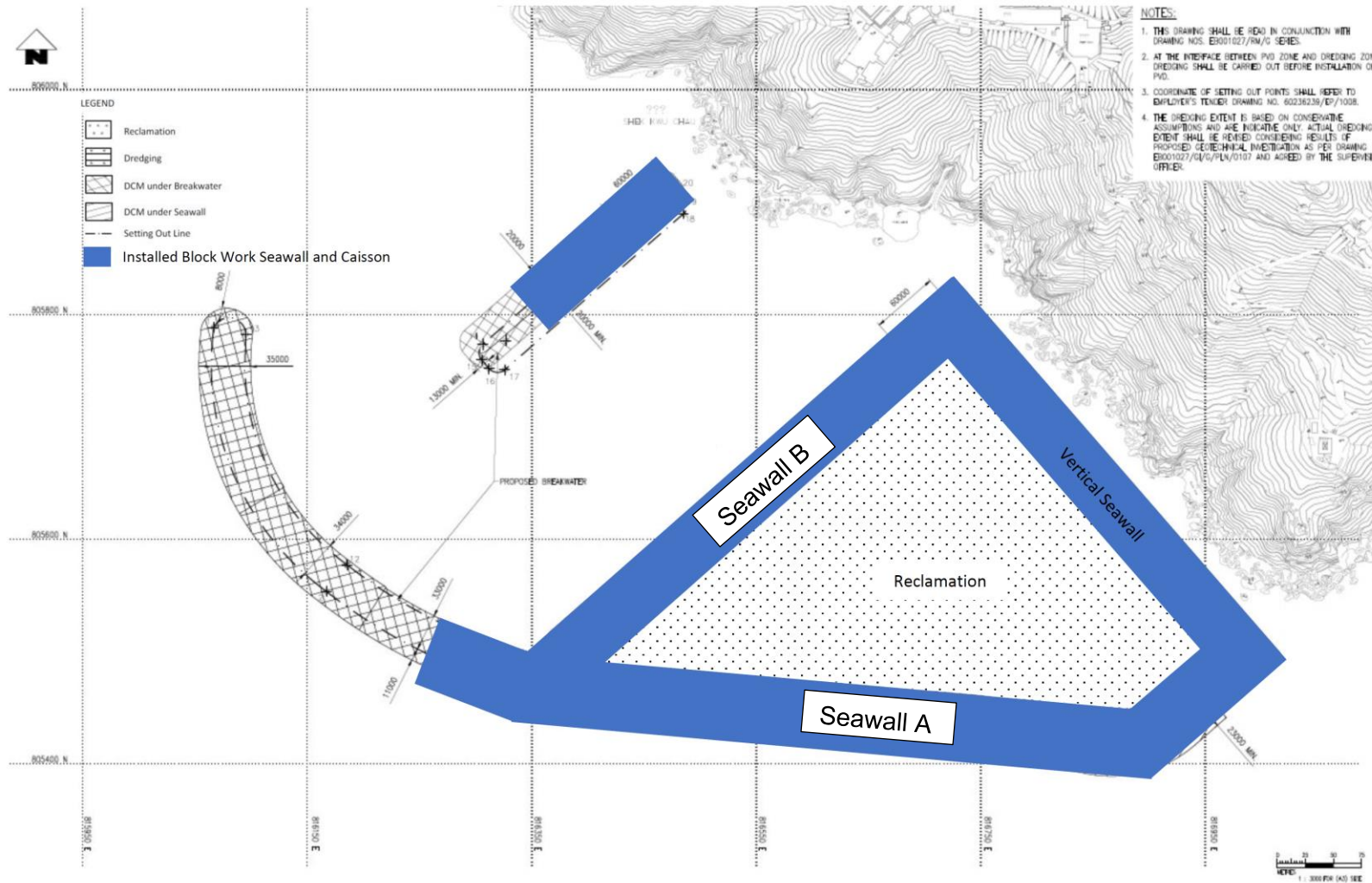


Figure 1.4 Location of Major Construction Activities Undertaken during the Reporting Month

1.5 Summary of Environmental Status

1.5.1 A summary of the valid permits, licences, and /or notifications on environmental protection for this Project is presented in **Table 1.3**

Table 1.3 Summary of the Status of Valid Environmental Licence, Notification, Permit and Documentations

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Variation of Environmental Permit	EP-429/2012/A	Throughout the Contract	
Further Environmental Permit	FEP-01/429/2012/A	Throughout the Contract	
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation (Form NA)	Ref No.: 428778	15/12/2017 – 22/09/2024	
Wastewater Discharge Licence	WT00033787-2019	22/08/2019 – 31/08/2024	
Chemical Waste Producer Registration	WPN0017-933-K3301-01	Throughout the Contract	
	WPN5213-961-K3301-02	Throughout the Contract	
	WPN5296-839-K3301-03	Throughout the Contract	
Construction Noise Permit (24 hours)	GW-RS0838-21	10/11/2021– 09/05/2022	Portion 1, 1A & 1B (Superseded by GW-RS0972-21)
	GW-RS0972-21	13/12/2021– 12/06/2022	Portion 1, 1A & 1B
Construction Noise Permit (Percussive piling)	PP-RS0018-21	15/11/2021– 14/05/2022	Portion 1, 1A & 1B
Billing Account for Disposal of Construction Waste	A/C No.:7029768	Throughout the Contract	

1.5.2 The status for all environmental aspects is presented in **Table 1.4**.

Table 1.4 Summary of Status for Key Environmental Aspects under the Updated EM&A Manual

Parameters	Status
Water Quality	
Baseline Monitoring under Updated EM&A Manual and Detailed Plan on DCM	The baseline water quality monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Post DCM Monitoring	All DCM was completed on 14 October 2020, regular DCM monitoring for further 4 weeks (i.e from 16 October 2020 to 14 November 2020) was completed according to the approved Detailed Plan on Deep Cement Mixing
Initial Intensive DCM Monitoring	Conducted from 11 February 2019 to 10 March 2019, had not been resumed since there was no DCM related parameter exceeding the AL/LL.
Baseline Water Quality of wet season	Completed over 13 August 2018 to 7 September 2018
Noise	
Baseline Monitoring	The baseline noise monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Waste Management	
Mitigation Measures in Waste Monitoring Plan	On-going
Coral	
Pre-translocation Survey and Coral Mapping	The Coral Translocation Plan was submitted and approved by EPD under EP Condition 2.12
Coral Translocation	Completed on 28 March 2018
Post-Translocation Coral Monitoring	Survey affected by missing of translocated and tagged coral colonies after typhoons in September 2018, completed on 28 March 2019.
Pre-construction Coral Survey and Tagging	Completed on 26 June 2018
Tagged Coral Monitoring	Survey obstructed due to missing of tagged coral colonies after typhoons in September 2018
Coral Survey and Re-tagging	Re-tagging at Indirect Impact Site was conducted on 23 November and Re-tagging at Control Site was conducted on 3 December 2018.
Post Re-tagging Coral Monitoring	On-going
Marine Mammal	
Vessel-based Line-transect Survey Baseline Monitoring	The baseline marine mammal monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Vessel-based Line-transect Survey Impact Monitoring	On-going
Land-based Theodolite Tracking	30 days of theodolite surveys were started on 21 Feb 2019 and completed in May 2019.

Parameters	Status
Passive Acoustic Monitoring	30 days of PAM surveys were started on 1 May 2019 and completed until the end of May 2019.
White-bellied Sea Eagle	
Baseline Monitoring	The baseline WBSE monitoring result has been reported in Baseline Monitoring Report and submitted to EPD under FEP Condition 3.4
Impact Monitoring	On-going
Environmental Audit	
Site Inspection covering Measures of Air Quality, Noise Impact, Water Quality, Waste, Ecological Quality, Fisheries, Landscape and Visual	On-going
Mitigation Measures in Marine Mammal Watching Plan (MMWP)	Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.
Mitigation Measures in Detailed Monitoring Programme on Finless Porpoise (DMPFP)	Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.
Mitigation Measures in Vessel Travel Details	On-going
Daily Site Audit and Monitoring for Dredging Work	Completed

1.5.3 Other than the EM&A work by ET, environmental briefings, trainings and regular environmental management meetings were conducted, in order to enhance environmental awareness and closely monitor the environmental performance of the contractors.

1.5.4 The EM&A programme has been implemented in accordance with the recommendations presented in the approved EIA Report and the Updated EM&A 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 B**.

2. MARINE WATER QUALITY MONITORING

2.1 Water Quality Requirements

- 2.1.1 To ensure no adverse water quality impact, water quality monitoring is recommended to be carried out at the nearby water sensitive receivers (WSRs) during construction phase including proposed reclamation, breakwater construction, etc.
- 2.1.2 In accordance with the Updated EM&A Manual, impact water quality monitoring were conducted 3 days per week at mid-flood and mid-ebb tide to obtain impact water quality levels at the eleven monitoring stations during general water quality monitoring for the reporting period.

2.2 Water Quality Parameters, Time, Frequency

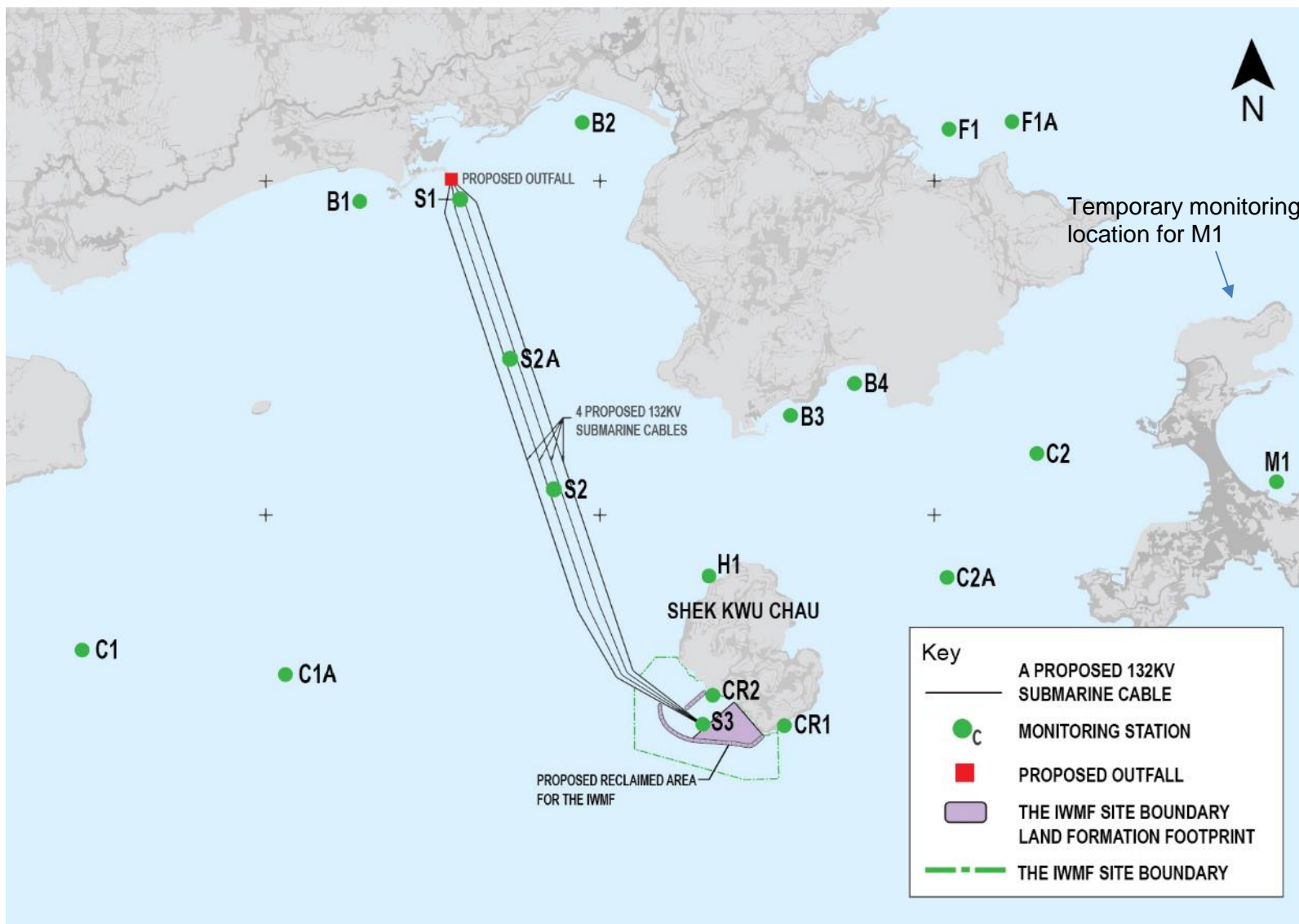
- 2.2.1 Dissolved Oxygen (DO), Turbidity, Suspended Solids (SS), Salinity and pH have been undertaken at the eleven monitoring stations during general water quality monitoring.
- 2.2.2 DO, temperature, salinity, turbidity and pH have been measured in-situ and the SS, has been assayed in a HOKLAS laboratory.
- 2.2.3 In associate with the water quality parameters, other relevant data were also measured, such as monitoring location/position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or work underway nearby were also recorded. The monitoring schedule is provided in **Appendix C**.
- 2.2.4 Impact water quality monitoring was conducted 3 days per week in the reporting period. All parameters were monitored during mid-flood and mid-ebb tides at three water depths for general water quality monitoring. The interval between two sets of monitoring has not been less than 36 hours.
- 2.2.5 **Table 2.1** summarizes the monitoring parameters, frequency and duration of the impact water quality monitoring during construction phase.

Table 2.1 Water Quality Monitoring Parameters, Frequency and Duration

Parameter, unit	Frequency	No. of Depths
<ul style="list-style-type: none"> • Water Depth (m) • Temperature (°C) • Salinity (ppt) • pH (pH unit) • Dissolved Oxygen (DO) (mg/L and % of saturation) • Turbidity (NTU) • Suspended Solids (SS), mg/L 	General water quality monitoring : 3 days per week, at mid-flood and mid-ebb tides	3 water depths: 1m below sea surface, mid-depth and 1m above sea bed. If the water depth is less than 3m, mid-depth sampling only. If water depth less than 6m, mid-depth may be omitted.

2.3 Water Quality Monitoring Locations

2.3.1 Impact water quality monitoring was conducted at eleven monitoring locations (B1-B4, H1, C1, C2, F1, CR1, CR2 & M1) during general water quality monitoring as shown in **Figure 2.1**. As per the relocation proposal verified by IEC and approved by EPD, the monitoring location C1, C2, S2, F1 are relocated at C1A, C2A, S2A, F1A as equivalent points respectively to clear up the concerns from stakeholders.



2.3.2 B1 to B4 are located at 4 beaches respectively at the southern shore of Lantau Island. Monitoring station H1 is located at the horseshoe crab habitat at northern SKC, while CR1 and CR2 are located at the coral communities at southwestern shore of SKC. Monitoring station F1 is located at the Cheung Sha Wan Fish Culture Zone while monitoring station M1 is located at Tung Wan at Cheung Chau. Monitoring station F1A is relocated for F1 at the Cheung Sha Wan Fish Culture Zone. S1, S2 and S3 are located at the northern landing site, midway and southern landing site of the proposed submarine cable, respectively. S2A is the relocated monitoring station of S2 which represents the midway landing site of the proposed submarine cable. S1, S2/S2A and S3 are required for monitoring due to the laying of submarine cable. Control stations C1 and C2 at far field locations are for comparison. Control stations C1A and C2A are relocated for C1 and C2 respectively as equivalent far field locations for comparison.

2.3.3 Fourteen monitoring stations are listed in **Table 2.2**:

Table 2.2 – Locations of Marine Water Quality Stations

Monitoring station	Description	Easting	Northing
B1	Beach – Cheung Sha Lower	813342	810316
B2	Beach – Pui O	815340	811025
B3	Beach – Yi Long Wan	817210	808395
B4	Beach – Tai Long Wan	817784	808682
H1	Horseshoe Crab – Shek Kwu Chau	816477	806953
C1	Control Station <small>(note i)</small>	810850	806288
C1A	Relocated Control Station	812823	806300
C2	Control Station <small>(note ii)</small>	819421	808053
C2A	Relocated Control Station	818869	806808
F1	Cheung Sha Wan Fish Culture Zone <small>(note iii)</small>	818631	810966
F1A	Cheung Sha Wan Fish Culture Zone	819109	810924
S1	Submarine Cable Landing Site	814245	810335
S2	Submarine Cable <small>(note iv)</small>	815076	807747
S2A	Submarine Cable	814808	808515
S3	Submarine Cable Landing Site	816420	805621
CR1	Coral	817144	805597
CR2	Coral	816512	805882
M1	Tung Wan	821572	807799

Note:

- i. Relocated to C1A in Mar 2019
- ii. Relocated to C2A in Mar 2019
- iii. Relocated to S2A in Mar 2019
- iv. Relocated to F1A in Mar 2019

2.4 Impact Monitoring Methodology

- 2.4.1 General water quality monitoring was conducted three days per week, at mid-flood and mid-ebb tides, at the designated water quality monitoring stations during the reporting period.
- 2.4.2 The interval between 2 sets of monitoring was not less than 36 hours. Sampling was collected at three water depths, namely, 1m below water surface, mid-depth and 1m above seabed, except where the water depth is less than 6m, the mid-depth was omitted. If the water depth was less than 3m, only the mid-depth station was monitored.
- 2.4.3 All observations and results were recorded in the data record sheets in **Appendix D**. Duplicate in-situ measurements and water sampling were carried out in each sampling event. The monitoring probes were retrieved out of water after the first measurement and then redeployed for the second measurement. When the difference in value between the first and second readings of DO or turbidity is more than 25% of the value of the first reading, the reading would be discarded and further readings would be taken.

In-situ Measurement

- 2.4.4 Levels of DO, pH, temperature, turbidity and salinity would be measured in-situ by portable and weatherproof measuring instrument, e.g. YSI ProDSS and Horiba U-53 Multiparameter complete with cable and sensor. (Refer to <http://www.ysi.com/ProDSS> for YSI ProDSS technical specification and https://static.horiba.com/fileadmin/Horiba/Products/Process_and_Environmental/Water_Pollution/Instruction_Manuals/U-50/U-50_SS_E.pdf for Horiba U-53 technical specification). Water current velocity and Water Current direction would be measured by portable and weatherproof current meter, e.g. SonTek Hydrosurveyor (Refer to <https://www.sontek.com/hydrosurveyor> for SonTek Hydrosurveyor M9 technical specification). Parameters measured by in-situ measurement is tabulated in **Table 2.3**

Table 2.3 – Parameters Measured by In-situ Measurement

Parameter	Resolution	Range
Temperature	0.1 °C	-5-70 °C
Dissolved Oxygen (DO)	0.01 mg/L	0-50.0 mg/L
Turbidity	0.1 NTU	0-1000 NTU
pH	pH 0.01	pH 0-14
Salinity	0.01 ppt	0-40 ppt
Water Current Velocity	0.001m/s	±20m/s
Water Current Direction	±1°	±2°

Laboratory Analysis

- 2.4.5 Analysis of SS shall be carried out in a HOKLAS accredited laboratory, as shown in **Appendix E**. Sufficient water samples shall be collected at the monitoring stations for carrying out the laboratory determinations. The determination work shall be started within 24 hours after collection of the water samples. Analytical methods and detection limits for SS is presented in **Table 2.4**.

Table 2.4 – Analytical Methods Applied to Water Quality Samples

Parameter	Analytical method	Detection Level
Suspended Solids, SS	APHA 2540 D _i	1 mg/L

Footnote:

- i. “APHA 2540 D” stands for American Public Health Association Standard Methods for the Examination of Water and Wastewater, 23rd Edition.

Field Log

2.4.6 Other relevant data was recorded, such as: monitoring location / position, time, water depth, weather conditions and any special phenomena underway near the monitoring station.

2.5 Monitoring Equipment

2.5.1 Equipment used in the impact water quality monitoring programme is summarized in **Table 2.5** below. Calibration certificates for the water quality monitoring equipment are attached in **Appendix F**.

Table 2.5 Impact Water Quality Monitoring Equipment

Monitored Parameter	Equipment	Brand and Model
DO, Temperature, Salinity, pH and Turbidity	Multi-functional Meter	Horiba U-53 YSI ProDSS Multi Parameter
Coordinates	Positioning Equipment	Garmin GPSMAP 78s
Water depth	Water Depth Detector	Hummingbird 160 Portable
SS	Water Sampler	Wildco 2 L Water Sampler with messenger

2.5.2 Dissolved Oxygen and Temperature Measuring Equipment

The instrument is a portable and weatherproof DO probe mounted on the multi-functional meter complete with cable and sensor and is powered by a DC supply source. The equipment was capable of measuring:

- A DO level in the range of 0 - 50 mg/L; and
- Temperature of -5 - 70 degree Celsius.

2.5.3 Turbidity Measurement Instrument

The instrument is a portable and weatherproof turbidity-measuring probe mounted on the multi-functional meter and is powered by a DC supply source. The instrument is equipped with a photoelectric sensor which is capable of measuring turbidity between 0 – 1000 NTU.

2.5.4 pH Measurement Instrument

The probe consists of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device mounted on the multi-functional meter. It is readable to 0.1 pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

2.5.5 Salinity Measurement Instrument

A portable salinometer mounted on the multi-functional meter capable of measuring salinity in the range of 0-40 parts per thousand (ppt) was provided for measuring salinity of the water at each monitoring location.

2.5.6 Sampler

The water sampler comprises a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler has a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth.

2.5.7 Sample Containers and Storage

Water samples for SS were stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory and analysed as soon as possible after collection. Sufficient volume of samples was collected to achieve the detection limit stated in **Table 2.4**.

2.5.8 Water Depth Detector

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station. This unit could either be hand-held or affixed to the bottom of the work boat, if the same vessel is to be used throughout the monitoring programme.

2.5.9 Monitoring Position Equipment

Hand-held digital Differential Global Positioning System (DGPS) with way point bearing indication and Radio Technical Commission for maritime (RTCM) Type 16 error message 'screen pop-up' facilities (for real-time auto-display of error messages and DGPS corrections from the Hong Kong Hydrographic Office) was provided and used to ensure that the water sampling locations were correct during the water quality monitoring work.

2.6 Maintenance and Calibration

2.6.1 The multi-functional meters were checked and calibrated before use. Multi-functional meters were certified by a laboratory accredited under HOKLAS or any other international accreditation scheme, and subsequently re-calibrated at three monthly intervals throughout all stages of the water quality monitoring. 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.

2.6.2 Sufficient stocks of spare parts were provided and maintained for replacements when necessary. Backup monitoring equipment was prepared for uninterrupted monitoring during equipment maintenance or calibration during monitoring.

2.7 Action and Limit Levels

2.7.1 The Action and Limit Levels have been set based on the derivation criteria specified in the Updated EM&A Manual and Detailed DCM Plan, as shown in **Table 2.6** below.

Table 2.6 Criteria of Action and Limit Levels for Water Quality

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 5 %-ile of baseline data	≤ 4
SS in mg/L	≥ 95 %-ile of baseline data or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 99 %-ile of baseline data or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 95 %-ile of baseline data or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 99 %-ile of baseline data or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in °C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

2.7.2 Based on the baseline monitoring data and the derivation criteria specified above, the Action/Limit Levels have been derived and are presented in **Table 2.7** and **Table 2.8** for both dry seasons (October – March) and wet seasons (April – September).

Table 2.7 Derived Action and Limit Levels for Water Quality Monitoring (Dry Season)

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 7.13	≤ 4
SS in mg/L	≥ 8 or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 10 or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 5.6 or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 12.8 or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher

Parameters	Action	Limit
Temperature in °C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

Notes:

- i. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
- ii. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- iii. For turbidity, SS and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table 2.8 Derived Action and Limit Levels for Water Quality (Wet Season)

Parameters	Action	Limit
Construction Phase Impact Monitoring		
DO in mg/L	≤ 5.28	≤ 4
SS in mg/L	≥ 12 or 120% of control station's SS at the same tide of the same day of measurement, whichever is higher	≥ 14 or 130% of control station's SS at the same tide of the same day of measurement, whichever is higher
Turbidity in NTU	≥ 4.0 or 120% of control station's turbidity at the same tide of the same day of measurement, whichever is higher	≥ 4.3 or 130% of control station's turbidity at the same tide of the same day of measurement, whichever is higher
Temperature in °C	1.8°C above the temperature recorded at representative control station at the same tide of the same day	2°C above the temperature recorded at representative control station at the same tide of the same day

Notes:

- i. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
- ii. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
- iii. For turbidity, SS and Salinity, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

2.7.3 If exceedances were found during water quality monitoring, the actions in accordance with the Event and Action Plan shall be carried out according to **Appendix G**.

2.8 Monitoring Results and Observations

2.8.1 As confirmed by the Contractor on 14 October 2020, all DCM works was completed on 14 October 2020, the post DCM water quality monitoring was completed for further 4 weeks (i.e. from 16 October 2020 to 14 November 2020) according to the approved Detailed Plan on Deep Cement Mixing. As all DCM work and post DCM water quality monitoring were completed, no water quality monitoring was conducted at S1, S2A and S3 during the reporting period. General water quality monitoring at all the eleven monitoring stations were conducted on 1, 3, 6, 8, 10, 13, 15, 17, 20, 22, 24, 27, 29 and 31 December 2021.

2.8.2 Monitoring results of 6 key parameters: Salinity, DO, turbidity, SS, pH and temperature in this reporting period, are summarized in **Table 2.9**, and details results are presented in **Appendix D**.

Table 2.9 Summary of Impact Water Quality Monitoring Results

Locations		Parameters						
		Salinity (ppt)	Dissolved Oxygen (mg/L)		pH	Turbidity (NTU)	Suspended Solids (mg/L)	Temp.(°C)
			Surface & Middle	Bottom				
B1	Avg.	32.27	8.47	8.39	8.37	3.7	9.37	23.5
	Min.	29.98	7.48	7.58	8.15	2.1	2.00	21.6
	Max.	35.30	9.31	9.20	8.87	6.5	32.00	26.7
B2	Avg.	32.28	8.61	8.55	8.38	3.6	9.40	23.6
	Min.	30.13	7.68	7.56	8.19	2.1	2.00	21.8
	Max.	35.73	9.73	9.65	8.74	5.9	22.00	26.7
B3	Avg.	32.13	8.43	8.42	8.35	3.8	9.90	23.6
	Min.	29.48	7.47	7.49	8.06	2.2	2.00	21.5
	Max.	35.64	9.46	9.55	8.89	6.9	26.00	27.1
B4	Avg.	32.19	8.47	8.45	8.38	3.7	9.36	23.6
	Min.	29.95	7.74	7.65	8.14	2.2	2.00	21.8
	Max.	35.59	9.51	9.62	8.74	7.0	25.00	27.2
C1A	Avg.	32.13	8.41	8.51	8.36	5.3	10.53	23.6
	Min.	29.17	7.32	7.39	8.06	3.0	3.00	21.7
	Max.	35.39	9.82	9.63	8.81	9.7	32.00	27.0
C2A	Avg.	32.31	8.38	8.34	8.36	6.3	10.99	23.5
	Min.	29.71	6.32	6.30	8.08	3.2	4.00	21.2
	Max.	36.52	9.42	9.06	9.01	47.7	37.00	27.1
CR1	Avg.	32.29	8.37	8.46	8.37	4.3	9.92	23.5
	Min.	29.57	6.32	6.31	8.08	2.2	2.00	21.1
	Max.	36.57	9.40	9.43	9.06	24.3	24.00	27.1
CR2	Avg.	32.11	8.41	8.39	8.36	4.0	10.23	23.5
	Min.	29.31	6.02	6.06	8.13	2.1	2.00	21.1
	Max.	36.40	9.46	9.44	9.14	10.4	31.00	26.3
F1A	Avg.	32.24	8.42	8.46	8.40	3.7	10.12	23.6
	Min.	29.90	7.38	7.45	8.08	2.1	3.00	21.6
	Max.	35.11	9.51	9.52	8.91	6.9	34.00	27.2
H1	Avg.	32.28	8.44	8.49	8.39	4.1	9.17	23.5
	Min.	29.31	6.10	6.36	8.09	2.1	2.00	21.2
	Max.	36.43	9.49	9.52	9.22	23.1	27.00	26.4
M1	Avg.	32.21	8.51	8.51	8.37	3.7	9.56	23.6
	Min.	29.33	7.39	7.41	8.09	2.3	2.00	21.4
	Max.	35.66	9.67	9.66	8.98	6.1	30.00	27.1
S1	Avg.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
	Max.	-	-	-	-	-	-	-
S2A	Avg.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
	Max.	-	-	-	-	-	-	-
S3	Avg.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
	Max.	-	-	-	-	-	-	-

Notes:

- i. "Avg", "Min" and "Max" is the average, minimum and maximum respectively of the data from measurements conducted under mid-flood and mid-ebb tides at three water depths, except that of DO where the data for "Surface & Middle" and "Bottom" are calculated separately.
- ii. As all DCM works and post DCM water quality monitoring were completed, no water quality monitoring was conducted at S1, S2A and S3 in the report period.
- iii. As all DCM works were completed on 14 October 2020, no water quality monitoring for total alkalinity was conducted in the report period.

- 2.8.3 During the impact monitoring period for December 2021, twenty-six (26) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded Action Level. Forty-seven (47) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Three (3) of the general water quality monitoring results of dissolved oxygen (DO) obtained had exceeded Action Level. Investigations were carried out immediately for each of the exceedance cases during the reporting period.
- 2.8.4 Details of the exceedance are presented in **Section 8**.
- 2.8.5 Mitigation measures minimizing the adverse impacts on water implemented are listed in the implementation schedule given in **Appendix B**.

3. NOISE MONITORING

3.1 Monitoring Requirements

3.1.1 To ensure no adverse noise impact, noise monitoring is recommended to be carried out at the nearby noise sensitive receivers (NSRs) during construction phase.

3.1.2 In accordance with the Updated EM&A Manual, baseline noise level at the noise monitoring stations was established as presented in the Baseline Monitoring Report. Impact noise monitoring was conducted once per week in the form of 30-minutes measurements L_{eq} , L_{10} and L_{90} levels recorded at each monitoring station between 0700 and 1900 hours on normal weekdays.

3.1.3 In accordance with the Updated EM&A Manual, additional weekly impact monitoring should be carried out during respective restricted hours period (1900 – 0700 hours) if the construction works were conducted at evening and night time. Additional weekly noise monitoring was conducted once per week in the form of 5-minutes measurements L_{eq} , L_{10} and L_{90} levels recorded at each monitoring station between 1900 and 0700 hours as well as public holidays and Sundays.

3.2 Noise Monitoring Parameters, Time, Frequency

3.2.1 Impact noise monitoring was conducted weekly in the reporting period between 0700-1900 hours on normal weekdays. Additional impact noise monitoring was conducted weekly in the reporting period between 1900-0700 hours on all days as well as public holidays and Sundays.

3.2.2 Construction noise level measured in terms of the A-weighted equivalent continuous sound pressure level (L_{Aeq}). $L_{eq\ 30min}$ was used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. $L_{eq\ 5mins}$ was used as the monitoring parameter for the time period between 1900 and 0700 hours as well as public holidays and Sundays. **Table 3.1** summarizes the monitoring parameters, frequency and duration of the impact noise monitoring and additional impact noise monitoring. The monitoring schedule is provided in **Appendix C**.

Table 3.1 Noise Monitoring Parameters, Time, Frequency and Duration

Monitoring Station	Time	Duration	Parameters
M1/ N_S1, M2/ N_S2, M3/ N_S3	Day time: 0700-1900 hrs (during normal weekdays)	Once per week $L_{eq\ 5min}/L_{eq\ 30min}$ (average of 6 consecutive $L_{eq\ 5min}$)	L_{eq} , L_{10} & L_{90}
	Evening time: 1900-2300 hrs (including normal weekdays, also public holidays and Sundays)	Once per week $L_{eq\ 5min}$ (3 sets of $L_{eq\ 5min}$)	L_{eq} , L_{10} & L_{90}
	Night time: 2300-0700 hrs (including normal weekdays, also public holidays and Sundays)	Once per week $L_{eq\ 5min}$ (3 sets of $L_{eq\ 5min}$)	L_{eq} , L_{10} & L_{90}

3.3 Noise Monitoring Locations

3.3.1 Three noise monitoring locations for impact monitoring and additional impact monitoring at the nearby sensitive receivers are shown in **Figure 3.1**.

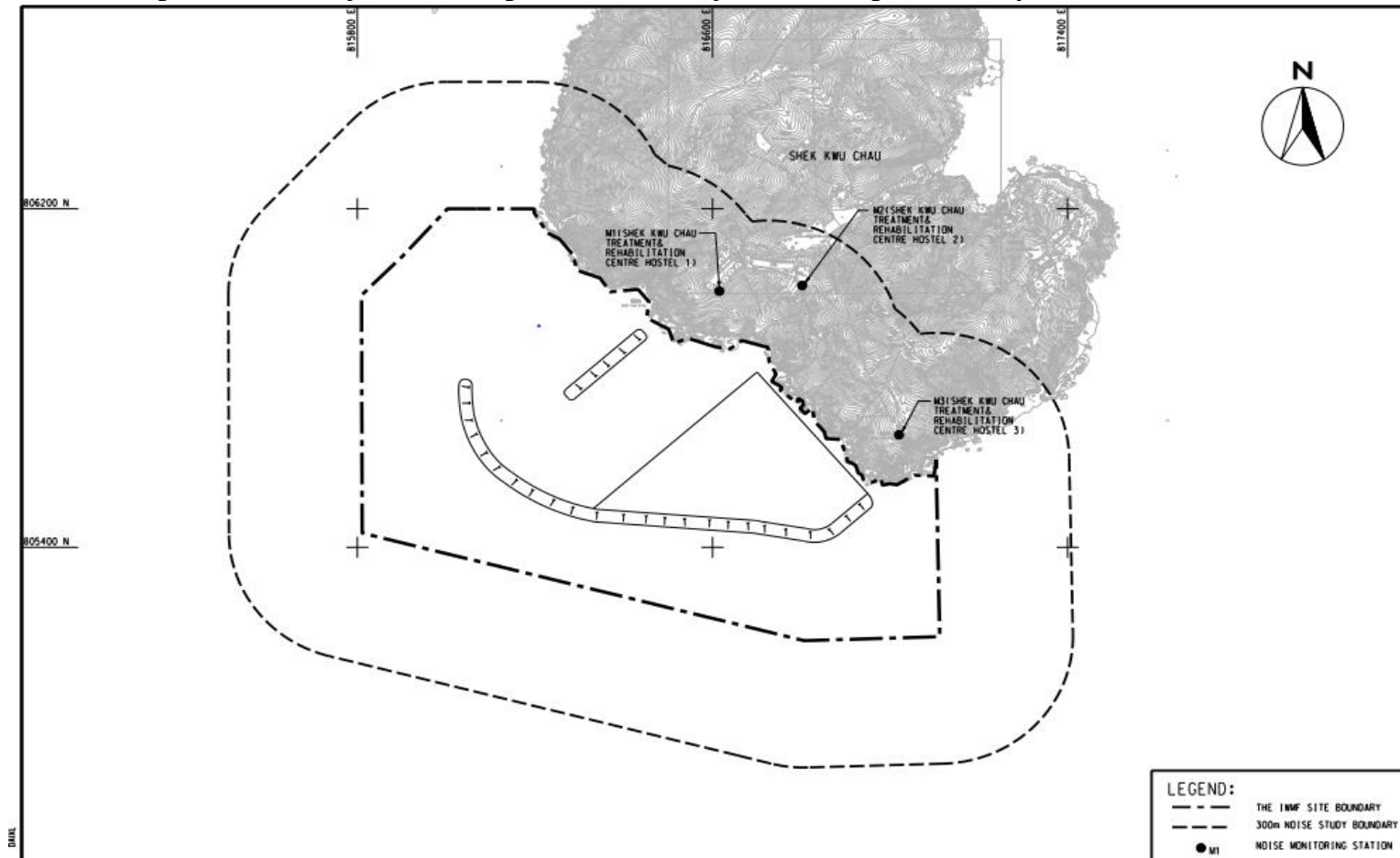


Figure 3.1 Noise monitoring locations at SKC

3.3.2 M1, M2 and M3 are Shek Kwu Chau Treatment and Rehabilitation Centre Hostel 1, 2 and 3 respectively of The Society for the Aid and Rehabilitation of Drug Abusers (SARDA) located at southern part of Shek Kwu Chau.

3.3.3 Measurements at M1 & M3 were conducted at a point 1m from the exterior of the sensitive receivers building façade and at a position 1.2m above the ground. Measurement setup at M3 has been varying with minor adjustment to minimize the disturbance to the users of Treatment Centre. Measurement at M2 was conducted at a point 1m from building façade of the ceiling of 1st floor level for avoidance of mutual disturbance with users of Treatment Centre. The minor adjustment of monitoring locations, which were in favour to mutual convenience with the users of Treatment Centre, were found with no effect on monitoring result based on on-site observation and experience from the Baseline monitoring of the Project. The noise monitoring stations are summarized in **Table 3.2** below.

Table 3.2 Noise Monitoring Location

Station	NSR ID in EIA Report	Noise Monitoring Location	Type of sensitive receiver(s)	Measurement Type
M1	N_S1	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1	Residential	Façade
M2	N_S2	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2	Residential	Façade
M3	N_S3	Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3	Residential	Façade

3.4 Impact Monitoring Methodology

3.4.1 At each designated monitoring location, measurements of six 5-minutes A-weighted equivalent sound pressure level [$L_{eq\ 5min}$] was carried out between 0700 and 1900 hours for daytime measurements on a normal weekdays (exclude Sunday or general holiday). The measured six impact noise levels at each monitoring location shall then be averaged in logarithmic scale and expressed in terms of the 30 minutes A-weighted equivalent continuous sound pressure level ($L_{eq\ 30min}$) for the time period between 0700 and 1900 hours on normal weekdays.

3.4.2 At each designated monitoring location, measurements of three 5-minutes A-weighted equivalent sound pressure level [$L_{eq\ 5min}$] was carried out between 1900 and 0700 hours for evening time and night time measurements.

3.4.3 The monitoring procedures are as follows:

- The microphone head of the lead level meter was normally positioned 1m exterior of the noise sensitive façade and lowered sufficiently so that the building’s external wall acts as a reflecting surface.
- If there is a problem with the access to the normal monitoring position, an alternative may be chosen and appropriate correction would be applied according to acoustic principle when necessary. For reference, +3 dB(A) correction would be made for free-filed measurements.
- The battery condition was checked to ensure good functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - Frequency weight: A
 - Time weighting: Fast
 - Measurement time: 5 minutes

- Prior to and after noise measurement, the meter was calibrated using the calibrator for 94.0 dB at 1000Hz. If the difference in the calibration level before and after measurement is more than 1.0 dB, the measurement was considered invalid and repeat of noise measurement was required after re-calibration or repair of the equipment.
- For Noise monitoring was carried out for 30 mins by sound level meter. At the end of the monitoring period, noise levels in terms of L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded when the equipment were checked and inspected.
- All the monitoring data within the sound level meter system was downloaded through the computer software.

3.5 Monitoring Equipment

3.5.1 Integrated sound level meter was used for the noise monitoring. The meter shall comply with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications.

3.5.2 Equipment used in the impact noise monitoring programme is summarized in **Table 3.3** below. Calibration certificates for the noise monitoring equipment are attached in **Appendix H**.

Table 3.3 Impact Noise Monitoring Equipment

Equipment	Brand and Model
Sound Level Meter	NTi XL2 SVANTEK 971
Sound Calibrator	Svantek SV33B

3.6 Maintenance and Calibration

3.6.1 The maintenance and calibration procedures were as follows:

- The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.
- The sound level meter and calibrator were checked and calibrated at yearly intervals
- Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0dB.

3.7 Action and Limit Levels

3.7.1 The Action/Limit Levels in line with the criteria of Practice Note for Professional Persons (ProPECC PN 2/93) “Noise from Construction Activities – Non-statutory Controls” and Technical Memorandum on Environmental Impact Assessment Process issued by HKSAR Environmental Protection Department [“EPD”] under the Environmental Impact Assessment Ordinance, Cap 499, S.16 is presented in **Table 3.4**.

Table 3.4 Action and Limit Levels for Noise per Updated EM&A Manual

Time Period	Action	Limit (dB(A))
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

3.7.2 If exceedances were found during noise monitoring. The actions in accordance with the Event and Action Plan shall be carried out according to **Appendix I**.

3.8 Monitoring Results and Observations

3.8.1 Impact monitoring for noise impact for daytime was carried out on 6, 13, 14, 20, 28 December 2021. Impact monitoring for noise impact for evening time and night time was carried out on 6&7, 13&14, 14&15, 20&21 and 28&29 December 2021. The impact noise levels at Noise Monitoring Stations at SKC (i.e. M1/N_S1 to M3/N_S3) are summarized in **Table 3.6**, **Table 3.7** and **Table 3.8** respectively. Details of noise monitoring results are presented in **Appendix J**.

3.8.2 Major construction activity, major noise source and extreme weather which might affect the results were recorded during the impact monitoring.

3.8.3 According to our field observations, the major noise source identified at the noise monitoring station in the reporting month are summarised in **Table 3.5**. Sound from the intermittent piling work was the noticeable noise source for monitoring stations M1, M2 and M3. Air conditioning units were also observed nearby monitoring stations M3.

Table 3.5 Summary of Field Observation

Monitoring Station	Major Noise Source
M1	Sound from the intermittent piling work
M2	Sound from the intermittent piling work
M3	Sound from the intermittent piling work, air-conditioner

No data from impact monitoring during daytime has exceeded the stipulated limit level at 75 dB(A).

Table 3.6 Summary of Impact Noise Monitoring Results during Day Time (0700 – 1900 hours)

Location	Measured Noise Level in dB(A)		
	Range of $L_{eq\ 30min}$	Range of $L_{10\ 30min}$	Range of $L_{90\ 30min}$
M1	56.1 – 61.5	57.6 – 65.3	50.8 – 54.8
M2	53.3 – 62.0	55.0 – 64.7	50.8 – 56.0
M3	53.3 – 61.8	55.7 – 65.7	48.2 – 54.1

Applicable mitigation measures for construction works are fully implemented as shown in **Appendix B**, where double-glazed windows and air conditioning system were also installed and confirmed operable for the NSRs (N_S1, N_S2 & N_S3).

During the noise monitoring event, frontline staff of ET had inquired the treatment centre users on any noise disturbance from the construction activities at evening and night time, where no complaint and adverse opinions was received.

Where site inspection and auditing on Contractor’s record have shown that the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority for construction works during restricted hours were followed. No inappropriate practice was spotted during evening time and night time construction works, thus the stipulated requirement on noise impact control during night time and evening time was achieved.

Table 3.7 Summary of Additional Impact Noise Monitoring Results during Evening Time (1900 – 2300 hours)

Location	Measured Noise Level in dB(A)		
	Range of $L_{eq\ 5min}$	Range of $L_{10\ 5min}$	Range of $L_{90\ 5min}$
M1	44.5 – 49.9	45.7 – 51.6	42.8 – 48.7
M2	44.9 – 54.1	46.1 – 55.9	43.3 – 51.9
M3	46.2 – 53.2	47.0 – 54.3	43.0 – 52.0

Table 3.8 Summary of Additional Impact Noise Monitoring Results during Night Time (2300 – 0700 hours)

Location	Measured Noise Level in dB(A) ^[1]		
	Range of L _{eq} 5min	Range of L ₁₀ 5min	Range of L ₉₀ 5min
M1	40.7 – 48.3	42.5 – 50.3	39.5 – 47.3
M2	42.6 – 52.2	45.0 – 54.9	39.3 – 49.5
M3	42.9 – 53.3	44.0 – 54.2	41.5 – 52.3

Note:

[1] No construction work was conducted during the night time period in December 2021.

4. WASTE

- 4.1 The waste generated from this Project includes inert construction and demolition (C&D) materials, and non-inert C&D materials. Non-inert C&D materials are made up of general refuse, vegetative wastes and recyclable wastes such as plastics and paper/cardboard packaging waste. Steel materials generated from the project are also grouped into non-inert C&D materials as the materials were not disposed of with other inert C&D materials.
- 4.2 As advised by the Contractor, No C&D material was generated on site in the reporting month. For C&D waste, no metals were generated and collected by registered recycling collector. No paper was collected by the registered recycling collector. No plastic waste was collected by registered recycling collector. No chemical waste was collected by the licensed chemical waste collector. No other types of wastes (e.g. general refuse) was disposed of at designated landfill. 5,923.5 m³ of fill rock was imported during the reporting period. No public fill was imported in December 2021.
- 4.3 Chemical waste generated from the cleaning of oil stain and leakage on deck of barges was stored in the chemical waste storage area on the barges.
- 4.4 With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in **Table 4.1**. Details of cumulative waste management data are presented as a waste flow table in **Appendix K**.

Table 4.1 Quantities of Waste Generated from the Project during December 2021

Reporting Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill			Metals	Paper / cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
						Sand	Public Fill	Rock				(in ,000kg)	(in ,000L)	
(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)			(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000m ³)	
Dec 2021	0	0	0	0	0	0	0	5.9235	0	0	0	0	0	0

- Notes: (1) Broken concrete for recycling into aggregates.
 (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
 (3) Use the conversion factor: 1 full load of dumping truck being equivalent to 6.5m³ by volume.

4.5 Although there is not much waste generation anticipated in the coming month from the Project, the Contractor is advised to sort and store any solid and liquid waste on-site properly prior to disposal.

5. CORAL

5.1 Coral Monitoring Requirements

5.1.1 To monitor the health condition of corals during different phases, corals located within areas likely to be affected by the Project, corals located at control sites (areas unlikely to be affected by the Project), the trans-located coral colonies as well as the tagged natural coral colonies at the recipient site were chosen, in order to identify any adverse indirect impact from the marine works. The size, percentage cover and health condition of corals (i.e. any sign of abnormal appearance, such as layer of mucus, bleaching, partial mortality etc.) at representative transects should be recorded during each monitoring.

5.2 Coral Monitoring Parameters, Time, Frequency

5.2.1 Rapid Ecological Assessment (REA) survey was conducted on 26 June 2018 at the suggested control site and indirect impact site within two weeks before commencement of the construction work which was 29 June 2018. 10 selected hard coral colonies with the similar species were tagged at both control and indirect impact sites. Following coral translocation in the recipient site R3, 16 coral colonies attached to rocks less than 50 cm in diameter were translocated and tagged, as well as 10 selected natural coral colonies, at the recipient site. One additional REA survey was conducted in December 2018 to further assess the seabed condition at Indirect Impact Site after Typhoon Mangkhut.

5.2.2 Tagged coral colonies at the suggested control site and indirect impact site are being monitored weekly for the first month and followed by monthly monitoring for two months. Quarterly monitoring will be carried out after the first three-months monthly monitoring for until the completion of marine works and bi-annual monitoring will be carried out after the completion of marine works. The selected Control Site is located at Yuen Kong Chau of Soko Islands about 7 km away from the project area. Tagged coral colonies at the proposed recipient site are being monitored quarterly for one year. The selected recipient site R3 is located at the opposite side of the Project area at about 2 km away. The detailed survey of the Control Site and Impact Site were conducted before the commencement of the Construction Phase.

5.2.3 Monitoring recorded the following parameters (using the same methodology adopted during the pre-translocation survey); the size, presence, health conditions (percentage of mortality/bleaching) and percentage of sediment of each tagged coral colony. The general environmental conditions including weather, sea, and tidal conditions of impact site, control site and recipient site were monitored.

5.2.4 **Table 5.1** summarizes the monitoring locations, time and frequency of the tagged coral colonies monitoring. The monitoring schedule is provided in **Appendix C**.

Table 5.1 Tagged Coral Monitoring Locations, Time and Frequency

Monitoring Location	Monitoring Month/Year	Frequency	No. of Monitoring Survey
10 selected hard coral colonies at control site / indirect impact site	1 st Month	Weekly Survey	4
	2 nd to 3 rd Months	Monthly Survey	2
	4 th Month (postponed to 5 th month due to diver accident in Shek	Re-tagging of Coral Colonies in Indirect Impact Site after Typhoon Mangkhut	

Monitoring Location	Monitoring Month/Year	Frequency	No. of Monitoring Survey
	Kwu Chau in October 2018)		
	4 th Month (postponed to 5 th month due to diver accident in Shek Kwu Chau in October 2018 and further postpone to 6 th month due to adverse weather)	Re-tagging of Coral Colonies in Control Site after Typhoon Mangkhut	
	5 th Month (postponed to 6 th month due to diver accident in Shek Kwu Chau and further postponed to 7 th month due to delay of re-tagging activities at both Indirect Impact Site and Control Site)	Post Re-tagging Monthly Survey	1
	7 th to 45 th Months (postponed to 8 th to 76 th month due to diver accident in Shek Kwu Chau in October 2018)	Quarterly Survey	13
	46 th to 76 th Months (The marine construction work is anticipated to be completed by March 2022, the frequency of monitoring will be changed to bi-annual with reference to the Updated EM&A Manual (Rev.E))	Bi-annually Survey	5
16 translocated hard coral colonies and 10 selected natural hard coral colonies at recipient site R3	1 st Year	Quarterly Survey	4

5.3 Coral Monitoring Locations

5.3.1 Location of the ten tagged coral colonies at each of the proposed indirect impact site (re-tagging after typhoon Mangkhut), control site (baseline) and recipient site R3 (translocation) are shown in **Figure 5.1**, **Figure 5.2** and **Figure 5.3** respectively:

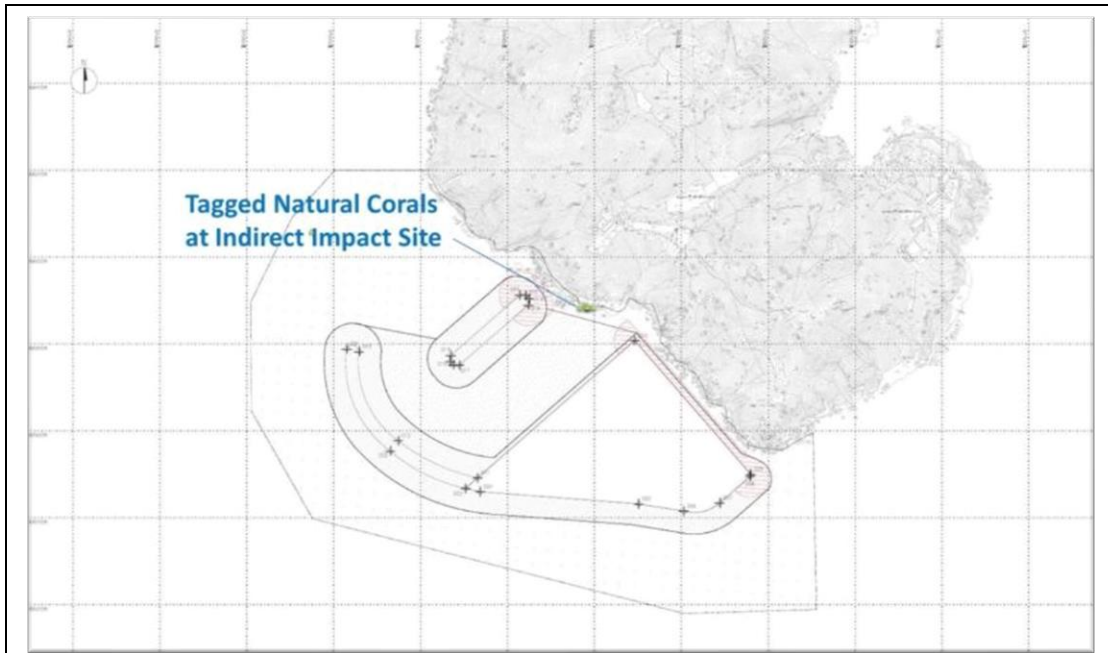


Figure 5.1 Tagged Natural Corals at Indirect Impact Site Near SKC for re-tagging after typhoon Mangkhut

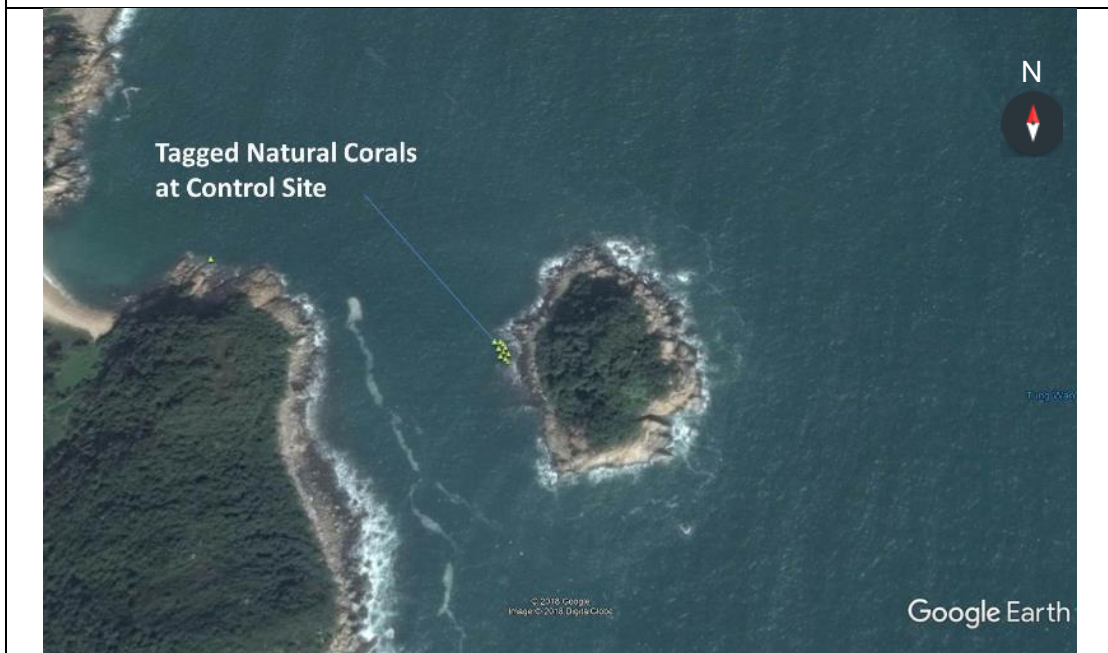


Figure 5.2 Tagged Natural Corals at Control Site Near Yuen Kong Chau for re-tagging after typhoon Mangkhut



Figure 5.3 Tagged Translocation Corals at Recipient Site R3 near SKC

5.3.2 The GPS coordinates of the tagged coral colonies, retagged coral colonies and recipient site were shown in **Table 5.2**, **Table 5.3** and **Table 5.4** respectively.

Table 5.2 Tagged Natural Corals during Baseline and Re-tagged Natural Corals after Typhoon Manghkut at Control Site near Yuen Long Chau

Coral #	GPS Coordinates	
1	N22°09'45.96"	E113°54'57.81"
2R	N22°11'29.12"	E113°59'09.01"
3	N22°09'45.81"	E113°54'57.78"
4	N22°09'45.70"	E113°54'57.95"
5R	N22°11'29.10"	E113°59'09.18"
6	N22°09'45.75"	E113°54'58.02"
7R	N22°11'29.17"	E113°59'08.86"
7	N22°09'45.65"	E113°54'57.94"
8	N22°09'45.53"	E113°54'57.90"
9	N22°09'46.23"	E113°54'54.70"
10R	N22°11'29.18"	E113°59'08.91"

Notes:

- i. The re-tagged corals were marked as ##R.

Table 5.3 Re-tagged Natural Corals after Typhoon Manghkut at Indirect Impact Site near SKC

Coral # ^{note i}	GPS Coordinates	
11R	N22°11'29.14"	E113°59'08.92"
12R	N22°11'29.12"	E113°59'09.01"
13R	N22°11'29.11"	E113°59'09.07"
14R	N22°11'29.13"	E113°59'09.12"
15R	N22°11'29.10"	E113°59'09.18"
16R	N22°11'29.07"	E113°59'09.23"

Coral # ^{note i}	GPS Coordinates	
17R	N22°11'29.17"	E113°59'08.86"
18R	N22°11'29.14"	E113°59'08.94"
19R	N22°11'29.20"	E113°59'08.81"
20R	N22°11'29.18"	E113°59'08.91"

Notes:

- i. The re-tagged corals were marked as ##**R**.

Table 5.4 GPS Coordinates of Recipient Site R3

Site	GPS Coordinates	
R3	N22°11'43.69"	E113°28.99"

5.4 Impact Monitoring Methodology

5.4.1 Health status of coral was assessed by the following criteria:

- Hard coral: Percentage of surface area exhibiting partial mortality and blanched/bleached area of each coral colony and degree of sedimentation.

5.5 Action and Limit Levels

- 5.5.1 Monitoring result was reviewed and compared against the below Action Level and Limit Level (AL/LL) as set with the below **Table 5.5** and **Table 5.6**.

Table 5.5 Action and Limit Levels for Construction Phase Coral Monitoring

Parameter	Action Level	Limit Level
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Action Level is exceeded.	If during Impact Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the tagged indirect impact site coral colonies that is not recorded on the tagged corals at the control site, then the Limit Level is exceeded.

Table 5.6 Action and Limit Levels for Post-Translocation Coral Monitoring

Parameter	Action Level	Limit Level
Mortality	If during Post-Translocation Monitoring a 15% increase in the percentage of partial mortality on the corals occurs at more than 20% of the translocated coral colonies that is not recorded on the original corals in the recipient site, then the Action Level is exceeded.	If during Post-Translocation Monitoring a 25% increase in the percentage of partial mortality on the corals occurs at more than 20% of the translocated coral colonies that is not recorded on the original corals in the recipient site, then the Limit Level is exceeded.

5.5.2 If exceedance was found during coral monitoring. The actions in accordance with the Event and Action Plan should be carried out according to **Appendix L**.

5.6 Monitoring Results and Observations

5.6.1 The 12th quarterly coral monitoring during construction phase at both Indirect Impact Site and Control Site was conducted on 24 December 2021 and the weather condition was summarized in **Table 5.7**.

Table 5.7 Weather Condition for the 12th Quarterly Coral Monitoring during Construction Phase at both Indirect Impact Site and Control Site

Date	Condition	Average Underwater Visibility
24 December 2021	- North wind force 3-4, - Sunny Day	Less than 0.5m

5.6.2 Ten (10) hard coral colonies were monitored at each Control site and Indirect Impact Site as suggested in the Construction Phase Monitoring Plan. The general health conditions (size, mortality, bleaching and sediment) were recorded and summarized in **Table 5.8** and **Table 5.9**. Photos of each coral colonies were taken during the monitoring activities shown in **Photo Plate 5.1** and **5.2**.

Table 5.8 Sizes, Condition, Mortality, Bleaching and Sediment of 10 Natural Coral Colonies at Control Site during 12th Quarterly Coral Monitoring

Tag #	Species	Size (cm) – Max. Diameter	Condition	Mortality (%)		Bleaching (%)		Sediment (%)	
				Baseline	24/12	Baseline	24/12	Baseline	24/12
1	<i>Goniopora stutchburyi</i>	25	Fair	0	0	0	0	0	0
2R	<i>Goniopora stutchburyi</i>	10	Good	0	0	0	0	0	0
3	<i>Psammocora superficialis</i>	18	Fair	0	0	0	0	0	0
4	<i>Turbinaria peltata</i>	13	Good	0	0	0	0	0	0
5R	<i>Goniopora stutchburyi</i>	18	Good	0	0	0	0	0	0
6	<i>Cyphastrea serailia</i>	43	Fair	0	0	0	0	0	0
7R	<i>Coscinaraea</i> sp.	15	Good	0	0	0	0	0	0
8	<i>Goniopora stutchburyi</i>	21	Good	0	0	0	0	0	0
9	<i>Goniopora stutchburyi</i>	11	Fair	0	0	0	0	0	0
10R	<i>Goniopora stutchburyi</i>	20	Good	0	0	0	0	0	0

Notes:

- i. The re-tagged corals were marked as ##R.



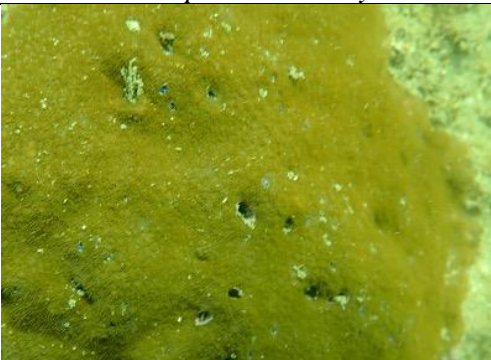
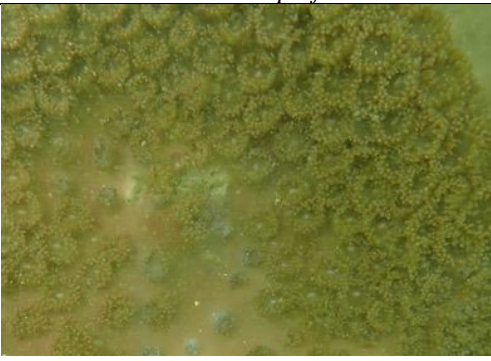
Table 5.9 Sizes, Condition, Mortality, Bleaching and Sediment of 10 Natural Coral Colonies at Indirect Impact Site during 12th Quarterly Coral Monitoring





Tag #	Species	Size (cm) – Max. Diameter	Condition	Mortality (%)		Bleaching (%)		Sediment (%)	
				Baseline	24/12	Baseline	24/12	Baseline	24/12
11R	<i>Cyphastrea serailia</i>	48	Good	0	0	0	0	0	0
12R	<i>Favites chinensis</i>	27	Good	0	0	0	0	0	0
13R	<i>Turbinaria peltata</i>	21	Good	0	0	0	0	0	0
14R	<i>Favites chinensis</i>	8	Good	0	0	0	0	0	0
15R	<i>Goniopora stutchburyi</i>	11	Good	0	0	0	0	0	0
16R	<i>Psammocora superficialis</i>	27	Good	0	0	0	0	0	0
17R	<i>Favites chinensis</i>	15	Good	0	0	0	0	0	0
18R	<i>Psammocora superficialis</i>	39	Good	0	0	0	0	0	0
19R	<i>Psammocora superficialis</i>	42	Good	0	0	0	0	0	0
20R	<i>Psammocora superficialis</i>	29	Good	0	0	0	0	0	0



Notes:

- i. The re-tagged corals were marked as ##R.

Photo Plate 5.1 Ten (10) Monitored Corals at Control Site

Tag #	24 December 2021
#1	 <p data-bbox="799 663 1050 692"><i>Goniopora stutchburyi</i></p>
#2R	 <p data-bbox="788 1072 1061 1104"><i>Goniopora stutchburyi</i></p>
#3	 <p data-bbox="783 1462 1066 1491"><i>Psammocora superficialis</i></p>
#4	 <p data-bbox="823 1850 1026 1874"><i>Turbinaria peltata</i></p>

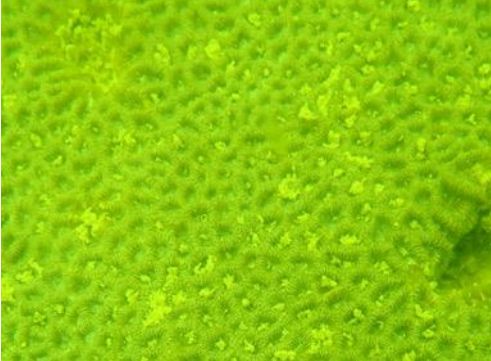
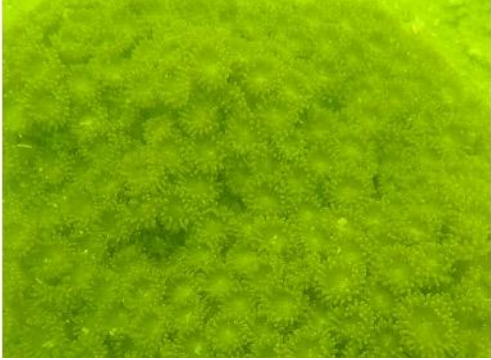

Tag #	24 December 2021	
#5R		 <p data-bbox="790 622 1061 656"><i>Goniopora stutchburyi</i></p>
#6		 <p data-bbox="821 1019 1029 1052"><i>Cyphastrea serailia</i></p>
#7R		 <p data-bbox="821 1415 1029 1449"><i>Coscinaraea</i> sp.</p>
#8		 <p data-bbox="805 1796 1045 1827"><i>Goniopora stutchburyi</i></p>


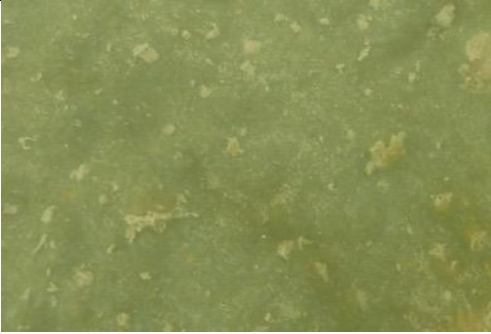
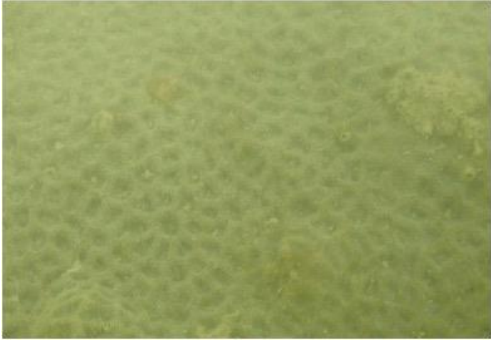

Tag #	24 December 2021	
#9		 <p data-bbox="799 622 1050 651"><i>Goniopora stutchburyi</i></p>
#10R		 <p data-bbox="799 999 1050 1028"><i>Goniopora stutchburyi</i></p>

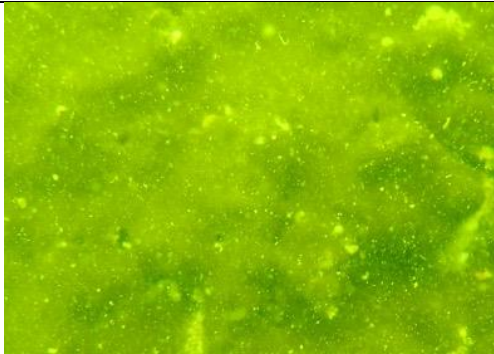
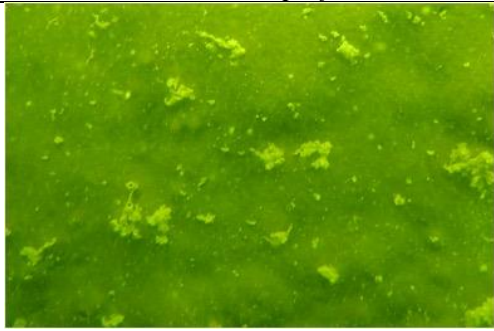
Notes:

- i. The re-tagged corals were marked as ##R.

Photo Plate 5.2 Ten (10) Monitored Corals at Indirect Impact Site

Tag #	24 December 2021
#11R	 <p data-bbox="810 663 1043 696"><i>Cyphastrea serailia</i></p>
#12R	 <p data-bbox="823 1059 1031 1093"><i>Favites chinensis</i></p>
#13R	 <p data-bbox="815 1456 1038 1489"><i>Turbinaria peltata</i></p>
#14R	 <p data-bbox="823 1859 1031 1892"><i>Favites chinensis</i></p>

Tag #	24 December 2021	
#15R		 <p data-bbox="788 609 1062 640"><i>Goniopora stutchburyi</i></p>
#16R		 <p data-bbox="769 976 1082 1008"><i>Psammocora superficialis</i></p>
#17R		 <p data-bbox="820 1352 1031 1384"><i>Favites chinensis</i></p>
#18R		 <p data-bbox="769 1738 1082 1769"><i>Psammocora superficialis</i></p>

Tag #	24 December 2021	
#19R		 <p data-bbox="767 584 1082 618"><i>Psammocora superficialis</i></p>
#20R		 <p data-bbox="767 947 1082 976"><i>Psammocora superficialis</i></p>

Notes:

- i. The re-tagged corals were marked as ##**R**.
- 5.6.3 The coral re-tagging activities were carried out in the control site and indirect impact area on 23 November and 3 December 2018. Four and ten hard coral colonies were successfully re-tagged at both control and indirect impact sites respectively. Each re-tagged and remained coral colonies were photographed.
- 5.6.4 All tagged and re-tagged coral colonies showed good health condition during the 12th Quarterly Construction Phase Monitoring. There was no increased level of mortality, bleaching and sediment when compared with the baseline results.
- 5.6.5 No sediment, bleaching or increased mortality in the general condition of coral colonies were observed during the tenth construction phase monitoring period. No deterioration of the coral community was observed in the ecological monitoring results when compared with the baseline ecological monitoring results. There is no AL/LL exceedance during the monitoring period. Photos of each tagged corals colonies were taken and shown in **Photo Plates 5.1** and **5.2**.

6. MARINE MAMMAL

6.1 Monitoring Requirements

- 6.1.1 The marine mammal monitoring programme would focus on Finless Porpoise, as the study area near Shek Kwu Chau has been identified as a hotspot for this species, while the Chinese White Dolphins rarely occurred there in the past.
- 6.1.2 The monitoring will verify the predicted impacts on marine mammals and examine whether the mitigation measures recommended in the EIA report have been effectively implemented to protect marine mammals from negative impacts from construction activities.
- 6.1.3 The Vessel-based Line-transect Survey, the Passive Acoustic Monitoring and the Land-based Theodolite Tracking will be conducted to provide systematic, quantitative measurements of occurrence, encounter rate, habitat use, movement and behavioural patterns of marine mammals within or near the Project Area during construction and operational phases.
- 6.1.4 The mammal monitoring works during construction consist of the following three survey methods:
- Vessel-based Line-transect Survey – to monitor the occurrence of Finless Porpoises (and Chinese White Dolphins) in the study area during construction works, by comparing with the findings of the pre-construction marine mammal monitoring;
 - Passive Acoustic Monitoring – to study the usage of the Project Area and two control sites in South Lantau Waters by Finless Porpoise during construction works, in reference with the baseline findings of the pre-construction marine mammal monitoring; and
 - Land-based Theodolite Tracking – to study the movement and behavioral pattern of Finless Porpoise within and around the Project Area during construction works.
- 6.1.5 The marine mammal observation works of Marine Mammal Exclusion Zone (MMEZ) and Marine Mammal Watching as two of the specific mitigation measures recommended in the approved EIA report shall be fully and properly implemented for the Project to minimize disturbance on Finless Porpoise during construction and operational phases.

6.2 Survey Methods

6.2.1 Vessel-based Line-transect Survey

- 6.2.1.1 For the vessel-based marine mammal surveys, the monitoring team adopted the standard line-transect method (Buckland et al. 2001) as same as that adopted during the EIA study and pre-construction phase monitoring to allow fair comparison of marine mammal monitoring results.
- 6.2.1.2 Eight transect lines are set at Southeast Lantau survey area, including Shek Kwu Chau, waters between Shek Kwu Chau and the Soko Islands, inshore waters of Lantau Island (e.g. Pui O Wan) as well as southwest corner of Cheung Chau as shown in **Figure 6.1** below:

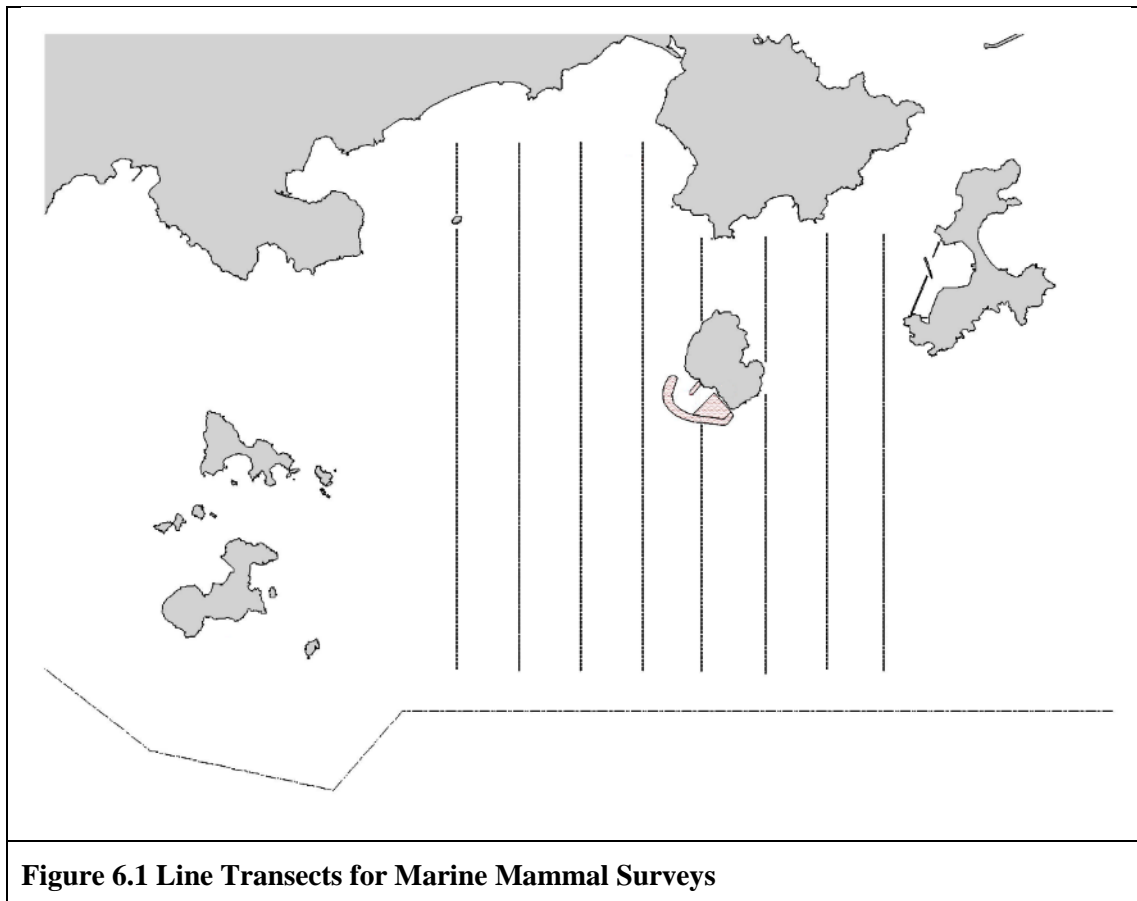


Figure 6.1 Line Transects for Marine Mammal Surveys

6.2.1.3 The surveys should cover all 4 seasons in order to take natural fluctuation and seasonal variations into account for data analysis of distribution, encounter rate, density and habitat use of both porpoises and dolphins (if any). In comparison to the baseline monitoring results, results from the analysed construction phase monitoring data would allow the detection of any changes of their usage of habitat, in response to the scheduled construction works. The monitoring surveys shall be conducted throughout the construction phase involving marine construction work with the frequency shown in **Table 6.1** below:

Table 6.1 Vessel-based Line-transect Survey Frequency

Season	Months	Frequency
Peak Season	December, January, February, March, April & May	Twice per month
Non-peak Season	June, July, August, September, October & November	Once per month

6.2.1.4 For each vessel survey, a 15-m inboard vessel with an open upper deck (about 4.5 m above water surface) would be used to make observations from the flying bridge area. Two experienced marine mammal observers (a data recorder and a primary observer) would make up the on-effort survey team, and the survey vessel would transit different transect lines at a constant speed of 13-15 km per hour. The data recorder shall search with unaided eyes and fill out the datasheets, while the primary observer shall search for dolphins and porpoises continuously through 7 x 50 marine binoculars. Both observers shall search the sea ahead of the vessel, between 270° and 90° (in relation to the bow, which is defined as 0°). Two additional experienced observers shall be available on the boat to work in shift (i.e. rotate every 30 minutes) in order to minimize fatigue of the survey team members. All observers shall be experienced

in small cetacean survey techniques and identifying local cetacean species with extensive training by marine mammal specialist of the ET.

- 6.2.1.5 During on-effort survey periods, the survey team shall record effort data including time, position (latitude and longitude), weather conditions (Beaufort sea state and visibility), and distance travelled in each series (a continuous period of search effort) with the assistance of a handheld GPS (Garmin eTrex Legend). Data including time, position and vessel speed would also be automatically and continuously logged by handheld GPS throughout the entire survey for subsequent review.
- 6.2.1.6 When porpoises or dolphins are sighted, the survey team shall end the survey effort, and immediately record the initial sighting distance and angle of the porpoise or dolphin group from the survey vessel, as well as the sighting time and position. Then the research vessel shall be diverted from its course to approach the animals for species identification, group size estimation, assessment of group composition, behavioural observations, and collection of identification photos (feasible only for Chinese White Dolphin). The perpendicular distance (PSD) of the porpoise or dolphin group to the transect line would then be calculated from the initial sighting distance and angle, which shall be used in the line-transect analysis for density and abundance estimation.
- 6.2.1.7 The line-transect survey data shall be integrated with a Geographic Information System (GIS) to visualize and interpret different spatial and temporal patterns of porpoise and dolphin distribution using their sighting positions collected from vessel surveys. Location data of porpoise and dolphin groups would be plotted on map layers of Hong Kong using a desktop GIS (e.g. ArcView© 3.1) to examine their distribution patterns in details. The encounter rate could be used as an indicator to determine areas or time periods of importance to porpoises within the study area. For encounter rate analysis of finless porpoises, only survey data collected under Beaufort 2 or below condition would be used for encounter rate analysis.
- 6.2.1.8 To take into account of the variations of survey effort across different sections within survey area, the quantitative grid analysis of habitat use would be conducted to examine finless porpoise usage among 1-km² grids within the Southeast Lantau survey area. For the grid analysis, SPSE (sighting density) and DPSE (porpoise density) values would be deduced for evaluation on level of porpoise usage. First, positions of on-effort porpoise sightings from the study period are plotted onto 68 grids (1 km x 1 km each) within the survey area. Sighting density grids and porpoise density grids shall then be normalized with the amount of survey effort conducted within each grid. The total amount of survey effort spent on each grid shall be calculated by examining the survey coverage on each line-transect survey to determine how many times the grid had been surveyed during study period. With the amount of survey effort calculated for each grid, the sighting density and porpoise density of each grid shall be further normalized (i.e. divided by the unit of survey effort).
- 6.2.1.9 The newly-derived unit for sighting density was termed SPSE, representing the number of on-effort sightings per 100 units of survey effort. In addition, the derived unit for actual porpoise density was termed DPSE, representing the number of dolphins/porpoise per 100 units of survey effort. Among the 1-km² grids that were partially covered by land, the percentage of sea area was calculated using GIS tools, and their SPSE and DPSE values were adjusted accordingly. The following formulae shall be used to estimate SPSE and DPSE in each 1-km² grid within the study area:

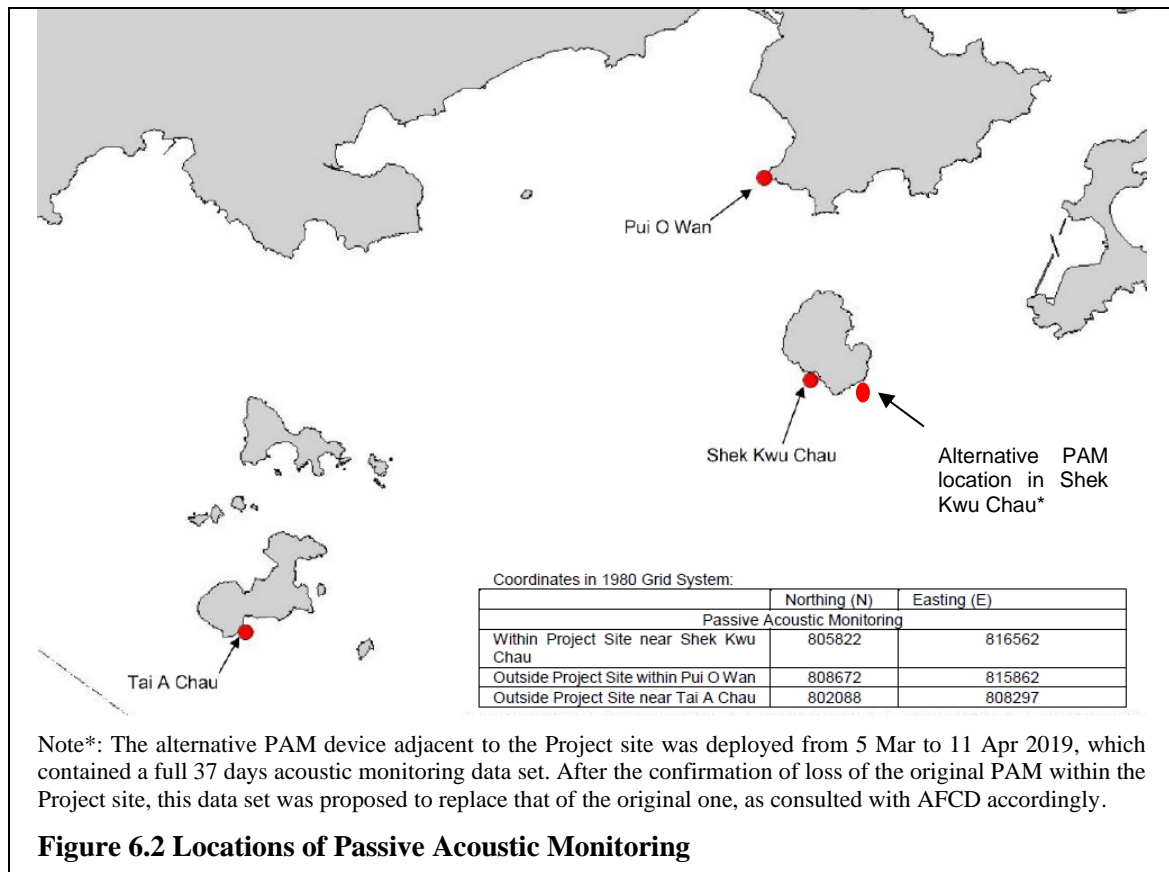
$$SPSE = ((S / E) \times 100) / SA\%$$

$$DPSE = ((D / E) \times 100) / SA\%$$

where S = total number of on-effort sightings
 D = total number of dolphins/porpoises from on-effort sightings
 E = total number of units of survey effort
 SA% = percentage of sea area

6.2.2 Passive Acoustic Monitoring (PAM)

The PAM aims to study the usage of an area by Finless Porpoise by using an array of automated static porpoise detectors (e.g. C-POD) which would be deployed at different locations to detect the unique ultra-high frequency sounds produced by Finless Porpoise. During the construction period, the PAM survey will be conducted including placement of two passive porpoise detectors outside the Project Area as control site (i.e. within Pui O Wan and to the south of Tai A Chau) and one porpoise detector within the Project Area (i.e. near Shek Kwu Chau) as shown in **Figure 6.2** below.



6.2.3 These three detectors will be deployed on-site to carry out 24-hours monitoring for a period listed as **Table 6.2** below during the construction phase.

Table 6.2 PAM Deployment Period

Season	Months	Deployment Period
Peak Season	December, January, February, March, April or May	At least 30 days during the peak months of porpoise occurrence in South Lantau waters

6.2.3.1 The automated static porpoise detectors shall detect the presence and number of finless porpoise and Chinese White Dolphins respectively over the deployment period, with the false signal such as boat sonar and sediment transport noise distinguished and filtered out. The detectors shall be deployed and retrieved by professional dive team on the seabed of the three selected location shown in **Figure 6.2**. During each deployment, the C-POD unit serial numbers as well as the time and date of deployments shall be recorded. Information including the GPS positions and water depth at each of the deployment locations shall also be obtained.

6.2.3.2 The diel patterns (i.e. 24-hour activity pattern) of finless porpoise occurrence among the three sites at Shek Kwu Chau, Tai A Chau and Pui O Wan shall be analyzed. Peaks and troughs of finless porpoise occurrence per hour of day would be identified and compared with the results obtained from pre-construction monitoring.

6.2.4 Land-based Theodolite Tracking

6.2.4.1 The Land-based Theodolite Tracking study would use the same station as in the AFCD monitoring study (same as the baseline monitoring location), which is situated at the southwest side of Shek Kwu Chau (GPS position: 22°11.47' N and 113°59.33' E) as shown in below **Figure 6.3**. The station was selected based on its height above sea level (at least 20 metres), close proximity to shore, and relatively unobstructed views of the entire Project Area to the southwest of Shek Kwu Chau. The height of the Shek Kwu Chau Station established by the HKCRP team is 74.6 m high at mean low water, and only a few hundred metres to the IWMF reclamation site, which is ideal for the purpose for the present behavioural and movement monitoring of finless porpoises as well during construction phase considering there as an un-obstructed vantage point at a height above the Project Site.

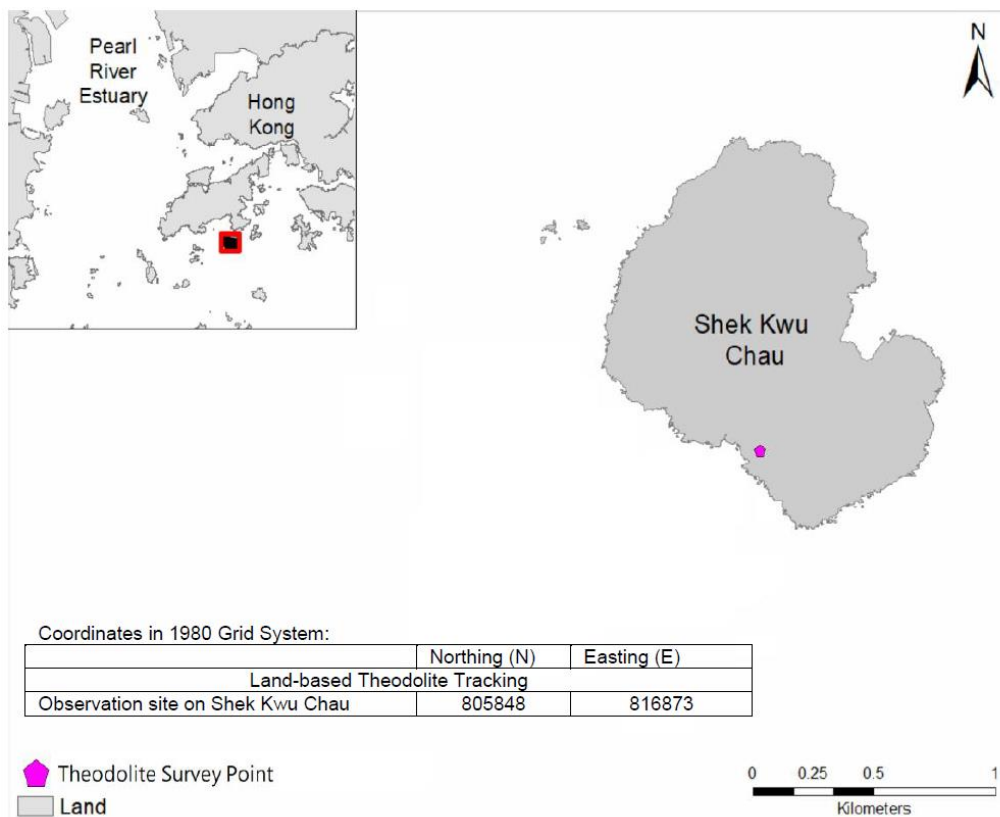


Figure 6.3 Locations of Land-based Theodolite Tracking

During the construction phase, Land-based Theodolite Tracking will be carried out for approximately six hours of tracking for each day of field work for a period listed as **Table 6.3** below, preferably at the initial stage of the construction period (i.e. December 2018 to May 2019).

Table 6.3 Land-based Theodolite Tracking Survey Period

Season	Months	Survey Period
Peak Season	December, January, February, March, April or May	30 days during the peak months of porpoise occurrence in South Lantau waters

6.2.4.2 The monitoring period for land-based theodolite tracking will be proposed to be overlapped with the PAM. The monitoring team consists of one experienced theodolite operator and at least two field observers for assistance. To conduct theodolite tracking, the observers will search systematically for Finless Porpoise using the unaided eye and 7 x 50 handheld binoculars on each survey day throughout the study area. When an individual or group of porpoises is located, a theodolite tracking session will be initiated and focal follow methods will be used to track the porpoise(s). Behavioural state data (i.e. resting, milling, travelling, feeding and socializing) shall also be recorded every 5 minutes for the focal individual or group. Positions of porpoises and boats shall be measured using a digital theodolite connected to a laptop computer. This tracking survey was conducted during the peak season between December 2018 and May 2019 for 30 surveys spanning across 15-16 weeks during the peak season to provide good temporal coverage during the initial stage of the construction period.

6.3 Specific Mitigation Measures

6.3.1 Monitored exclusion zones

6.3.1.1 A MMEZ with 250 m distance from silt curtain shall be established during the above situation. If 3 or more construction vessels are required with MMO's duty and operating in close proximity, for the purpose of avoiding accidental entrance to the works area by Marine Mammal, a cluster MMEZ plan will be implemented to form a MMEZ with 250 m distance from the boundary of a work area as indicated in Figure 1 for reference. A team of MMO (i.e. at least two MMOs per day/night shift teams) would be arranged at the out-lying construction vessels to form the cluster MMEZ. The MMEZ serves as a monitoring approach to provide appropriate and immediate actions once finless porpoise or Chinese White Dolphin is sighted within the MMEZ. All MMEZ will be monitored by competent Marine Mammal Observers (MMOs) to be provided by the Environmental Team for the IWMF and trained by the Marine Mammal Monitoring Specialist of the ET who is independent from KSZHJV. The marine mammal observer(s) shall be independent of the construction contractor and shall form part of the Environmental Team and have the power to call-off construction activities.

6.3.1.2 According to the Condition 2.25 of the FEP, MMEZ should be implemented during the installation/re-installation/relocation process of floating type silt curtains in order to avoid the accidental entrance and entrapment of marine mammals within the silt curtains. Also, marine construction works expected to produce underwater acoustic disturbance as per Condition 2.27 of the FEP, especially within December and May, would require the implementation of MMEZ, which currently all those specific construction activities have been replaced by less acoustically disturbing construction methods such as Deep Cement Mixing (DCM) and Precast Concrete Blocks

Installation as discussed in Section 5.3 of the Detailed Monitoring Programme on Finless Porpoise, however, MMEZ would also be implemented for precautionary purpose for DCM works.

6.3.1.3 A MMEZ with 250 m distance from the boundary of a work area shall be established during the above situation. A typical MMEZ is indicated in **Figure 6.4** for reference. The MMEZ serves as a monitoring approach to provide appropriate and immediate actions once finless porpoise or Chinese White Dolphin is sighted within the MMEZ. All MMEZ will be monitored by competent Marine Mammal Observers (MMOs) to be provided by the Environmental Team (ET) for the IWMF and trained by the Marine Mammal Monitoring Specialist of the ET who is independent from KSZHJV.

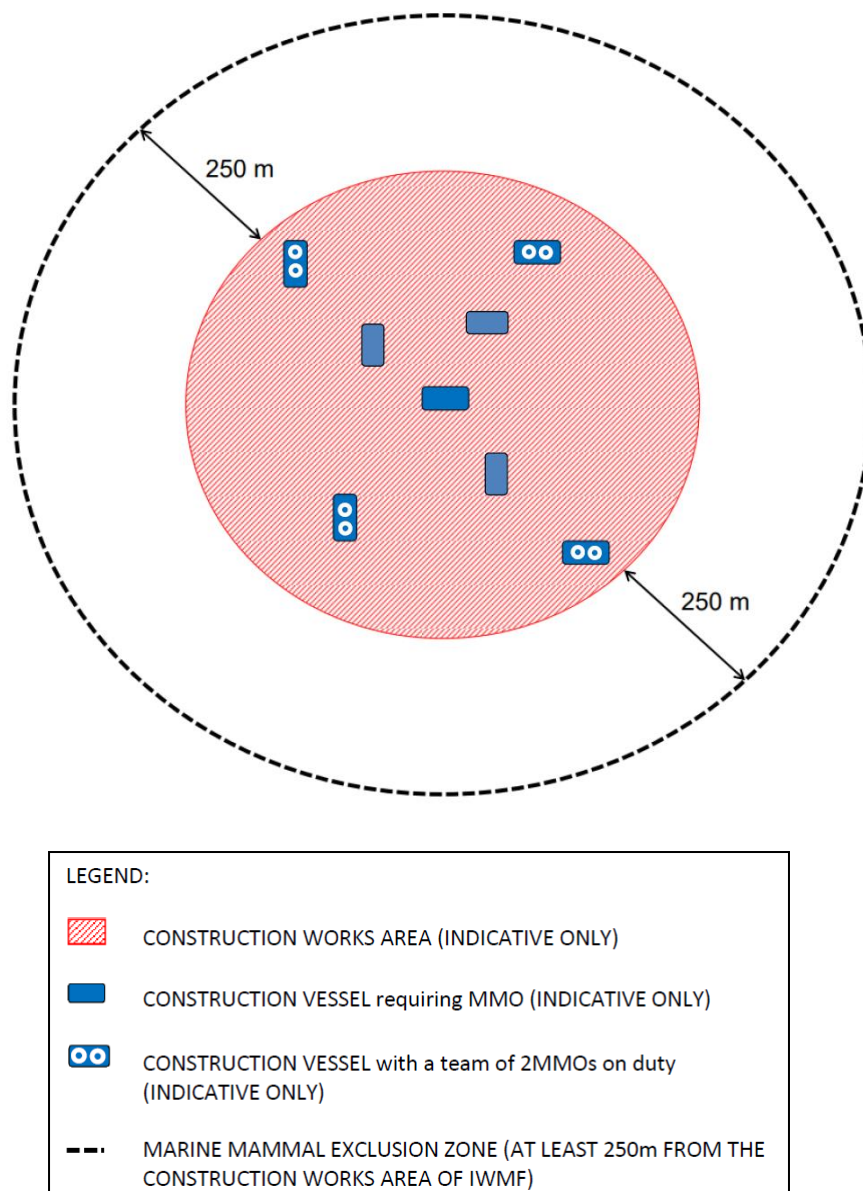


Figure 6.4 Illustration of Typical MMEZ

6.3.1.4 Prior to the commencement of construction activity, our MMOs shall ensure the boundary of a marine work area and setting up of the MMEZ for the work area and get access to the monitoring location on a barge or a lookout point where there is no obstructed views for monitoring the MMEZ during the construction activity. The

MMEZ shall be scanned thoroughly by a MMO for any presence of marine mammal e.g. finless porpoise for an initial period of 30 minutes. Construction activity shall only be commenced after the MMO has confirmed that the MMEZ is clear of the marine mammal for the initial period of 30 minutes. The MMO shall then inform the construction superintendent through mobile phone or handheld transceivers to certify the commencement of construction activity. The MMEZ monitoring shall be carried on throughout the period for all active construction activities requiring implementation of MMEZ.

- 6.3.1.5 When any mammal marine, e.g. Finless Porpoise, is detected by the MMO within the MMEZ during construction, the MMO shall inform the construction superintendent immediately through mobile phone or handheld transceivers to cease construction activity within the MMEZ. Construction activity shall not be re-commenced until the MMO confirms that the MMEZ is continuously clear of marine mammal for a period of 30 minutes. The MMO shall then inform the construction superintendent through mobile phone or handheld transceivers to certify the re-commencement of construction activity.
- 6.3.1.6 As there could be a number of Contractors working at the same time within a work area for the IWMF project, a full contact list of MMEZ monitoring team members of the ET and the relevant responsible construction superintendents of the Contractor at the site shall be prepared, updated regularly and circulated to all parties involved in the MMEZ monitoring. With a full contact list, our MMOs shall be able to find out the contacts of corresponding persons in case of marine mammal sighting within and near the MMEZ or emergent occurrence of any unpredictable impact on marine mammal.
- 6.3.1.7 If a marine mammal is still observed in close vicinity but outside the MMEZ, the MMO shall inform the construction superintendent about the presence of marine mammal. The MMO shall remain in position and closely observe the movement of the marine mammal as well as searching for the appearance of any other marine mammal within the MMEZ. No matter the marine mammal is observed within or in close vicinity but outside the MMEZ, the construction superintendent or relevant persons shall inform all vessel captains involved in construction activities around the MMEZ to pay special attention of the presence of the marine mammal in order to reduce chance of collision with them. In case of injury or live-stranded marine mammal being found within the MMEZ, the marine mammal observer shall immediately inform the construction superintendent to suspend construction activities within the works area and contact AFCD through “1823” marine mammal stranding hotline.
- 6.3.2 Marine mammal watching plan
- 6.3.2.1 Upon the completion of silt curtain installation/re-installation/relocation, the marine works would be conducted within an enclosed environment within the silt curtain. Subsequently, Visual Inspection of the Waters Surrounded by Silt Curtains (Section 2.1, MMWP) and Regular Inspection of Deployed Silt Curtain (Section 2.2, MMWP) inspection under Marine Mammal Watching Plan would be implemented (where applicable, Marine Mammal Exclusion Zone shall be conducted at the meantime).
- 6.3.2.2 Before commencement of dredging/sand blanket laying work at each designated area, a trained MMO shall check whether position frame silt curtains are ready, well prepared and operated without any obvious damage. Also, the MMO shall confirm the presence of the relevant frontline staff of the main contractor or its sub-contractors and engineers on board to ensure the effective communication, coordination and

implementation of the response plan in relation to any incidents involving marine mammals within the waters surrounded by the position frame type silt curtains and the work areas. Also, there are lookout points at an elevated level on each barge, clear and safe access at the edges of the derrick lighter/ flag-top barge for inspection during dredging/sand blanket laying works, provision of sufficient lighting is required if working at night.

- 6.3.2.3 During the operation, the inspection will be conducted daily. The MMO will walk along the edge of derrick lighter (DL) and flag-top barge (FB) along the position frame silt curtain or proper location without obstacles where appropriate to inspect the position frame silt curtain with naked eyes, the MMO will check that the position frame silt curtains are maintained in the correct positions with no obvious defects / entanglement and there is no observable muddy water passing through the position frame silt curtain system. Any floating refuse trapped by the silt curtain shall be removed as part of the regular inspection. For night inspection, spotlight will be used to provide sufficient brightness to assist the inspection in dark condition.
- 6.3.2.4 For the re-deployment of the localized silt curtains (frame-type, cage-type or enclosed floating-type silt curtains), MMO will conduct visual inspection to confirm that there is no presence of marine mammal within the localized silt curtains (frame-type, cage-type or enclosed floating-type silt curtains). Visual inspection will be conducted every an hour by MMO for confirming that there is no any marine mammal observed in the surrounding area of the deployed silt curtain during re-deployment of localized silt curtains (frame-type, cage-type or enclosed floating-type silt curtains). The duration will be subject to various conditions, e.g. weather or angle of observation. The works can only commence after confirming that the surrounding waters of the localized silt curtains has not contain any marine mammal. Thereafter, frontline staff, i.e. foremen, site agent, superintendents and engineers will assist our MMO in implementing the plan from the active work fronts within the waters surrounded by the silt curtains throughout the work period. The MMO will conduct regular check to observe the presence of any marine mammal around the localized silt curtain or being trapped by the localized silt curtain daily. The MMOs will also check if the localized silt curtains are in correct positions.
- 6.3.2.5 The MMO shall fill up our Marine Mammal Sighting Record Sheet. After inspection, those records should be kept properly and submitted to the project team. In case there is any marine mammal being found, the MMO should carry out the response actions and communicate with relevant parties to stop and then resume work after the discovered marine mammal leaves. After lifting up and mobilization of silt curtain, the MMO will repeat the procedures of regular and visual inspection until the end of the construction works.
- 6.3.2.6 Each lookout point will have an unobstructed view to waters around the DL and FB. The MMO will move around the DL and FB to establish a clear and unobstructed view as much as they can without compromising the safety concern. When appropriate, the lookout point can be replaced by a proper location if unobstructed view can be assured.
- 6.3.2.7 Installation of caisson No.19 was completed on 18 March 2021, which the reclamation area had been totally enclosed by permanent structure. Floating type silt curtain at marine access was removed on 18 March 2021. No enclosed area shall be formed by deployment of silt curtain for the remaining works programme.

6.4 Results and Observations

6.4.1 Vessel-based Line-transect Survey

The monthly surveys were conducted on 9 and 17 December 2021. As this is the designated peak season (December - May), two surveys were completed. A total of 80.1 km on effort (transects only) survey length was completed, 43.8% of which was conducted at Beaufort Sea State 2 or better (**Table 6.4**). One (1) on effort sighting of finless porpoise was recorded and confirmed by qualified ecologist (**Table 6.5, Figure 6.5**). The opportunistic sighting of finless porpoise documented in the 41st EM&A report (November 2021) was also recorded and confirmed by qualified ecologist.

Table 6.4 Summary of Vessel-based Line-transect Survey Effort

Date	Area*	Beaufort	Effort (km)	Season	Vessel	Effort Type**
9 December 2021	SEL	1	2.9	WINTER	SEAMAR HK	P
		2	15.0			
		3	11.7			
		4	10.6			
17 December 2021	SEL	1	1.0	WINTER	SEAMAR HK	P
		2	16.2			
		3	13.0			
		4	9.7			

* As shown in **Figure 6.1**

** P (from AFCD) denotes the ON EFFORT survey on the transect line, not the adjoining passages

Table 6.5 Sightings recorded during December 2021 Vessel-based Line-transect Survey

Date	Species	Sighting No.	Time	Group Size	PSD	Behaviour	Lat.	Long.	Area	Effort	Season
9 Dec 2021	Finless Porpoise	100	10:40	1	14	Unknown	22.1929	113.9437	SEL	On	WINTER

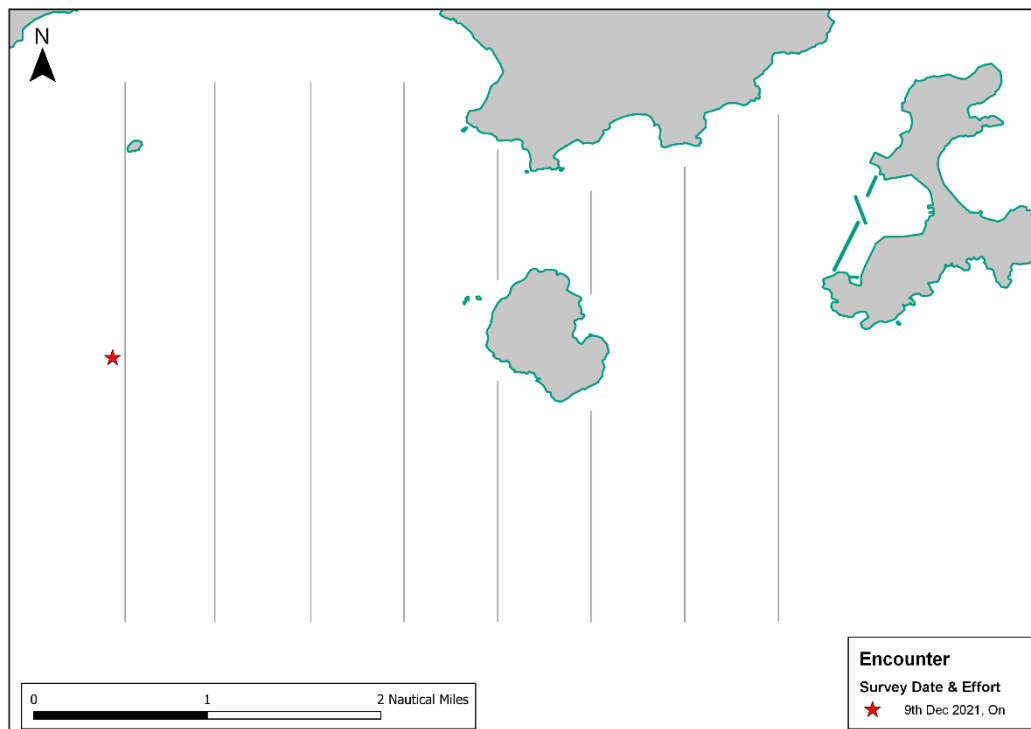


Figure 6.5 Location of sightings recorded during December 2021 Vessel-based Line-transect Survey

- 6.4.1.1 A review of the long term AFCD marine mammal monitoring programme, the EIA and pre-construction baseline monitoring was conducted. Pre-construction baseline monitoring and the EIA were conducted during the peak porpoise months, Feb-Apr 2018 and Dec-May 2008-09, respectively, and cannot be compared to the month of December. The EIA was conducted during the peak porpoise months (Dec-May 2008-09) and can be compared to the survey month of December. The AFCD long term monitoring data can also be compared directly to December 2020 Impact Survey results. The December 2018, 2019 & 2020 impact survey results could be compared directly to December 2021 impact survey results. It was noted that the 5th, 18th & 30th month of impact monitoring is December 2018, 2019 & 2020 respectively and these data were included.
- 6.4.1.2 A review of the Beaufort Sea State in December survey conditions between 2009 and 2017 (only data available from AFCD at time of writing; AFCD 2018¹; 2017²; 2016³; 2015⁴; 2014⁵; 2013⁶; 2012⁷; 2011⁸; 2010⁹) show that between 33.7% and 100% of survey effort has been conducted at Beaufort Sea State 2 or better in the past. For this project in December 2021, 43.8% of the survey was conducted at Beaufort Sea State 2 or better and, as such, survey conditions in December 2021 were within the % limits of previous AFCD long-term monitoring surveys.
- 6.4.1.3 A review of the porpoise sightings in the survey area for December between 2009-2017 indicated that there are fluctuations between the number of sightings usually recorded. For all weather conditions, and for the nine years data available, zero (0) sighting was recorded in two years (2011 and 2012 conducted by AFCD), one (1) sighting was recorded in two years (2010 and 2015 conducted by AFCD), two (2) sightings were recorded in two years (2016 and 2017 conducted by AFCD), three (3) sightings were recorded in one years (2013 conducted by AFCD), four (4) sightings

were recorded in one years (2009 conducted by AFCD) and five (5) sightings were recorded in one years (2014 conducted by AFCD) . For the first year of impact monitoring, three (3) on effort finless porpoise sightings (and two off effort sightings) were made. For the second year of impact monitoring, two (2) sightings, both on effort, were made. For the third year of impact monitoring, no (0) sightings were recorded. Effort varied considerably between years and the number of sightings per km ranged between 0 and 0.06 km⁻¹. There is no trend in encounter rates recorded by the AFCD long term monitoring programme, i.e., the highest encounter rate was recorded in 2009 and 2014 at 0.06 sightings km⁻¹ (4 and 5 sightings, respectively), with encounter rates of 0 sightings km⁻¹, in 2011 and 2012. For December 2021, an encounter rate of 0.02km⁻¹ is less average but within the bounds of previous AFCD long term marine mammal monitoring data (December average 0.03 sightings km⁻¹).

6.4.1.4 The impacts of the Project on marine mammals as predicted in the EIA were that construction activities would cause individuals to move away from the area. With only a small area being surveyed by vessels, with no control area, and as porpoise density is obviously low in such a small area, it is difficult to discern significant changes in sightings occurrence from vessel surveys alone. The sightings data presented in AFCD long term monitoring reports indicate that a very low sighting rate (0-0.06 sightings per km) for the month of December is not unusual. To increase the dataset for vessel-based surveys, acoustic towed array surveys have been conducted concomitantly with visual surveys and a separate report has been provided, showing trends in acoustic detections. As porpoise are easier to detect acoustically rather than visually, this larger data set provides more details of porpoise occurrence during vessel-based surveys.

6.4.1.5 The number of sightings in December 2021 is not unusual when compared to sightings recorded during AFCD long term monitoring studies, prior to the commencement of IWMF. It is noted that, in general, vessel traffic in the Southern Lantau area has been unusual in 2021 as border restrictions have changed non-site traffic and passenger ferries adjacent to the site have been reduced. Further, construction not related to IWMF is ongoing on the southern boundary of the study site.

6.4.2 PAM and Land-based Theodolite Tracking

6.4.2.1 30 days of PAM surveys were started at 1 May 2019 and completed until the end of May 2019. Multiple PAM systems were deployed at three sites. The PAM system located at the IWMF was lost, however, an alternative data set had been identified. The PAM systems at the two control sites Tai A Chau and Pui O were recovered on 3 August 2019. A summary of marine mammal detections showed that porpoise were recorded every day of deployment at each site, but at varying frequencies. The detailed theodolite result was presented in 17th Monthly EM&A report (November 2019) while detailed PAM result was presented in 18th Monthly EM&A report (December 2019).

6.4.2.2 For the baseline study, the DPM for each site was 11,160 (Shek Kwu Chau), 16,089 (Tai A Chau) and 3645 (Pui O Wan), totalling 30,894 DPM across all three sites, compared to DPMs of 4740 (Shek Kwu Chau), 7725 (Tai A Chau) and 23,986 (Pui O Wan), totalling 36,451 DPM, for the impact phase study. As the impact phase study was longer than the baseline study, it is not appropriate to directly compare total counts of DPM, however, the DPM rate (the average number of detections per day) for each site can be more directly compared. During the baseline study, Shek Kwu Chau averaged 338.2 DPM per day compared to 124.8 DPM per day, during the impact phase study. This showed a decrease in the daily average of porpoise detection

at Shek Kwu Chau. During the baseline study, Tai A Chau averaged 487.6 DPM per day compared to 179.7 DPM per day, during the impact phase study. This showed a decrease in the daily average of porpoise detection at Tai A Chau. During the baseline study, Pui O Wan averaged 98.5 DPM per day compared to 557.8 DPM per day, during the impact phase study. This showed a significant increase in the daily average of porpoise detections at Pui O Wan.

- 6.4.2.3 Overall, the PAM study showed that porpoise continue to consistently utilise the Shek Kwu Chau habitat immediately adjacent to the IWMF construction activities, although to a lesser degree than that prior to construction activities. In addition, the Pui O Wan site, which is 2.5 km away from the IWMF construction area, was also consistently utilised during the impact phase PAM study. A continued assessment of fine scale habitat use, particularly through PAM which yielded large quantities of data, would allow a more comprehensive assessment of the EIA predictions.
- 6.4.2.4 Theodolite surveys were completed in May 2019. In total, thirty four days of theodolite tracking were completed between February - May 2019, comprising 167 hours and 49 minutes of observation. No Chinese white dolphin was observed and only one finless was recorded. The finless porpoise encounter rate was calculated as 0.006 finless porpoise per hour, in all weather conditions.
- 6.4.2.5 A total of 2620 vessels of ten different types were observed and tracked within or in the proximity of the IWMF construction site. These comprised fishing boats (236), speed boats (29), container boats (155), government boats (22), high speed ferries (53), others (13) and IWMF-Related construction platforms (974), tug boats (240), transportation boats (363), construction boats (531) and approximately 8 buoys were present marking the site boundary.
- 6.4.2.6 The baseline theodolite tracking was conducted immediately prior to and during the site preparation activities of the site. The baseline data records a decrease in porpoise sightings as site preparation activities commenced and notes that the decrease was most likely due to the onset of site preparation activities. The impact theodolite tracking conducted for this study records a marked increase in the number of Project related vessels and platforms and, in agreement with baseline conclusions, shows a concomitant decrease in finless porpoise sightings.
- 6.4.3 Specific Mitigation Measures
- 6.4.3.1 Trainings for the MMO were provided by the ET prior to the monitoring of the Marine Mammal Exclusion Zone (MMEZ) for installation/re-installation/relocation process of silt curtains, with a cumulative total of 98 individuals being trained and the training records kept by the ET.

6.4.5 References

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2. Agriculture, Fisheries and Conservation Department (AFCD) 2017. *Annual Marine Mammal Monitoring Programme April 2016-March 2017*) The Agriculture, Fisheries and Conservation Department, Government of the Hong Kong SAR.
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7. WHITE-BELLIED SEA EAGLE

7.1 Monitoring Requirement

7.1.1 On Shek Kwu Chau Island, a nest of WBSE is located about 60 m above ground within a hillside shrubland habitat, 130 m in-land from shore, about 550 m away from the proposed reclaimed land, with no human access. 3 phases monitoring programme will be comprised of pre-construction phase, construction phase and operation phase.

7.1.2 The Pre-Construction WBSE monitoring was started on 30 January 2018 and the location of WBSE nest was confirmed on 21 February 2018 and it is located at the western part of SKC Island (Figure 7.1). Two adults and two chicks were also recorded on 5th March 2018 survey till the end of the Pre-construction monitoring on 15th May 2018. Construction Phase monitoring were carried out followed by the commencement of the Construction Phase on 28th June 2018.

7.2 WBSE Monitoring Parameters, Time, Frequency

7.2.1 The objective of the construction phase monitoring should be to verify the utilisation of the area by WBSE, their responses to construction disturbance, as well as the effectiveness of the proposed mitigation measures. Throughout the construction phase, field surveys should be conducted twice per month during their core breeding season (from December to May), and once per month outside their core breeding season (from June to November). The monitoring frequency should be increased to weekly during the incubation period of each year. In order to confirm their foraging ground near the construction site, it is necessary to conduct daily monitoring during the first week of nestling period in each year.

7.2.2 Since the location of the WBSE nest was located at the southwest of SKC within the hillside shrubland, it is impossible to observe the eggs during incubation period. Therefore, monitoring with increased frequency during incubation period will be continued until chick was seen in the nest. Daily monitoring will be carried out once any chick is recorded during the monitoring day. The monitoring schedule during the reporting period is provided in **Appendix C**.

7.3 Monitoring Location

7.3.1 Since there are no suitable land footings along the coast of SKC, only boat surveys were conducted. On Shek Kwu Chau Island, a nest of WBSE is located about 60 m above ground within a hillside shrubland habitat, 130 m in-land from shore, about 550 m away from the proposed reclaimed land, with no human access.

7.4 Monitoring Methodology

7.4.1 Information to be collected included feeding, perching/roosting, preening, soaring, flying, nesting and territorial guarding and the time spent on each activity. The responses and reactions to any disturbance to the WBSEs were also recorded and examined in conjunction with the construction noise and/or other events in the vicinity. Other disturbances such as weather condition, or invasion by other fauna species were also recorded.

7.4.2 Binocular, scope, camera, lens and GPS device used are summarized as **Table 7.1** below:

Table 7.1 List of Equipment Used during Construction Phase Monitoring

Equipment	Quantity
Swarovski EL 8.5 x 42 Binocular	1
Swarovski EL Range 8 x 42 Binocular	1
Swarovski ATX 25-60 x 85 Spotting Scope	1
Canon 1Dx Mark II Camera	1
Canon EF300mm F2.8 Lens with Canon 2x Teleconverter	1
Canon PowerShot G7X Camera	1
Garmin GPSMAP 64S	1

7.4.3 If event such as absence of White-bellied Sea Eagle during a whole day of monitoring was found during WBSE monitoring, the actions in accordance with the Event and Action Plan should be carried out according to **Appendix M**.

7.5 Results and Observations

7.5.1 To verify the utilization of the area by WBSE, their responses to construction disturbance, as well as the effectiveness of the proposed mitigation measures. Since there is no landing point along the western part of SKC, boat survey was used for the monitoring survey. In order to increase the chance of finding the WBSEs, monitoring survey was carried out early in the morning. The weather condition of monitoring survey was shown in **Table 7.2**.

Table 7.2 Weather Conditions during the WBSE Monitoring

Date	Condition	Temperature (°C)
2 December 2021	- Northeast wind force 3 to 4 - Sunny Day	25
9 December 2021	- North wind force 3 to 4 - Sunny Day	24
16 December 2021	- Northeast wind force 4 to 5 - Sunny Day	22
24 December 2021	- North wind force 3 to 4 - Sunny Day	22
30 December 2021	- North wind force 4 to 5 - Sunny Day	25

7.5.2 During the monitoring survey, two adult WBSEs were recorded near Shek Kwu Chau area. It was found that the WBSEs moved to new nest for incubation (**Figure 7.1**) since the early December 2021. No abnormal behavior of the recorded adults during the December 2021 construction phase monitoring. Only two adults of WBSE (**Figure 7.2**) were recorded during the morning surveys. All marine works during the monitoring period did not show any impact to the WBSE.

- 7.5.3 No disturbances from anthropogenic activities on the island were recorded during the monitoring survey. No invasion of other fauna species was recorded as well.
- 7.5.4 As incubation was recorded since the monitoring on 2nd December 2021, construction phase monitoring (twice per month) were changed to weekly monitoring in December 2021. Also, as it is not possible to record the number of eggs in the nest, weekly monitoring will be continued until chick was seen in the nest.



Figure 7.1 Location of WBSE Nest on SKK

- 7.5.5 Photo record of WBSE from the survey this month is shown below:



Adult WBSE staying in new nest for incubation on 9 December 2021



Adult WBSE recorded near the new nest area on 16 December 2021

Figure 7.2 Photo Records of WBSE on SKC During the Reporting Period

8. SUMMARY OF MONITORING EXCEEDANCE, COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTIONS

8.1 The Environmental Complaint Handling Procedure is shown in below **Figure 8.1**:

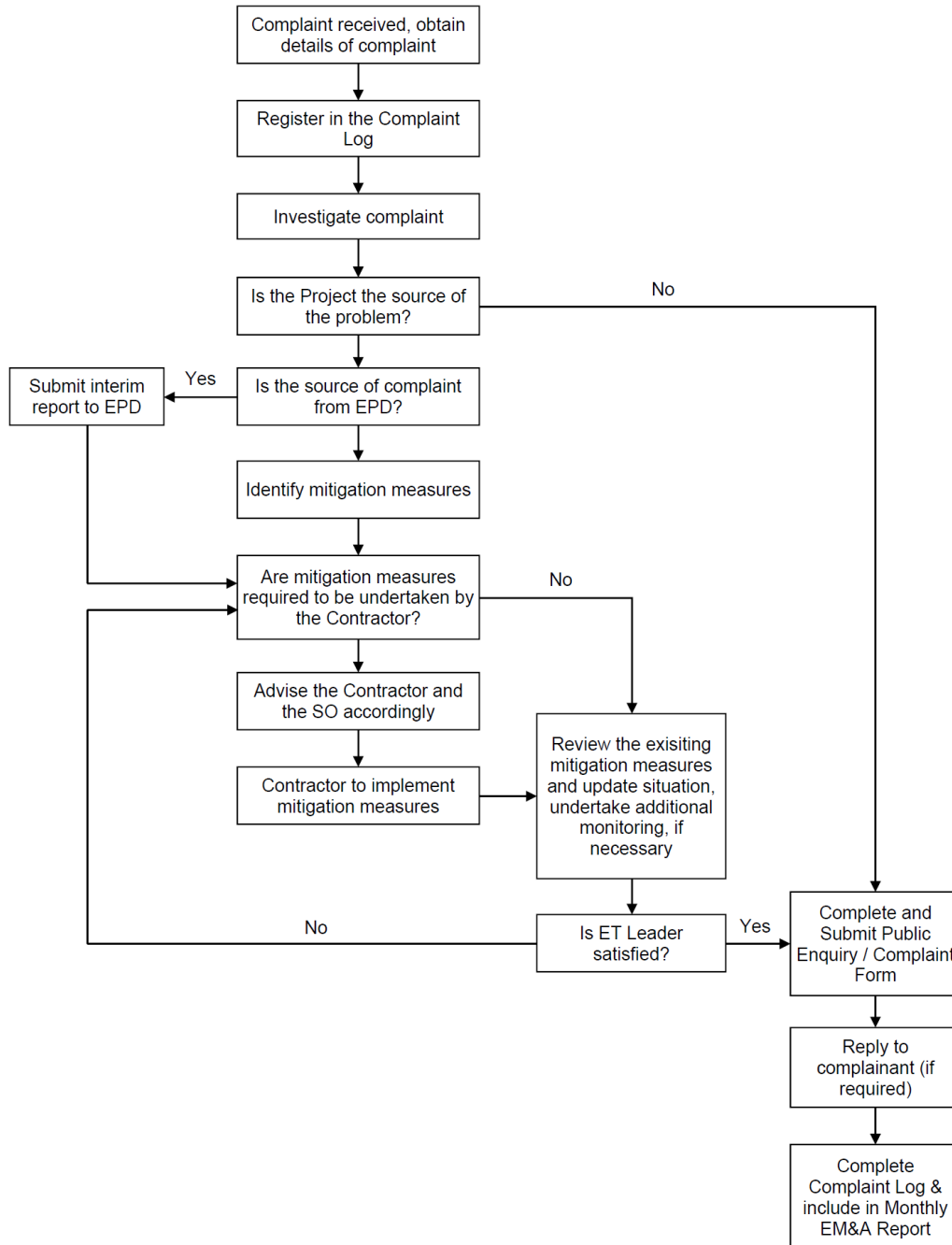


Figure 8.1 Environmental Complaint Handling Procedures

Table 8.1 Summary of SS Compliance Status at Impact Stations (Mid-Ebb Tide)

Date	B1	B2	B3	B4	CR1	CR2	F1A	H1	S1	S2A	S3	M1
01-12-2021												
03-12-2021												
06-12-2021												
08-12-2021												
10-12-2021												
13-12-2021												
15-12-2021												
17-12-2021												
20-12-2021												
22-12-2021												
24-12-2021												
27-12-2021												
29-12-2021												
31-12-2021												
No. of SS Exceedances	5	6	7	4	5	4	5	2	0	0	0	3

Note 1: Detailed results are presented in **Appendix D**

Legend:

	No exceedance of Action Level and Limit Level
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Action Level recorded at monitoring station located upstream/unrelated stream (neither upstream nor downstream, far away) of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located upstream/unrelated stream of the Project based on dominant tidal flow
	Upstream/unrelated stream station with respect to IWMF Project during the respective tide based on dominant tidal flow
	Downstream station with respect to IWMF Project during the respective tide based on dominant tidal flow/station within the Project site
	NA for measurement
	Cancelled due to incident or adverse weather

Table 8.2 Summary of SS Compliance Status at Impact Stations (Mid-Flood Tide)

Date	B1	B2	B3	B4	CR1	CR2	F1A	H1	S1	S2A	S3	M1
01-12-2021	Green	Light Blue	Light Blue	Light Blue	Dark Blue	Dark Red	Green	Light Red	Diagonal	Diagonal	Diagonal	Dark Blue
03-12-2021	Light Blue	Green	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
06-12-2021	Green	Green	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
08-12-2021	Light Blue	Green	Green	Green	Dark Blue	Green	Green	Dark Red	Diagonal	Diagonal	Diagonal	Green
10-12-2021	Green	Green	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
13-12-2021	Green	Green	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
15-12-2021	Green	Green	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
17-12-2021	Green	Dark Blue	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
20-12-2021	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Blue	Dark Red	Light Blue	Dark Red	Diagonal	Diagonal	Diagonal	Dark Blue
22-12-2021	Green	Light Blue	Green	Green	Light Blue	Light Red	Green	Green	Diagonal	Diagonal	Diagonal	Light Blue
24-12-2021	Green	Green	Light Blue	Light Blue	Green	Dark Red	Green	Green	Diagonal	Diagonal	Diagonal	Green
27-12-2021	Green	Green	Dark Blue	Dark Blue	Green	Green	Green	Light Red	Diagonal	Diagonal	Diagonal	Green
29-12-2021	Green	Green	Green	Green	Green	Green	Green	Green	Diagonal	Diagonal	Diagonal	Green
31-12-2021	Green	Green	Green	Green	Green	Dark Red	Green	Green	Diagonal	Diagonal	Diagonal	Green
No. of SS Exceedances	3	4	4	4	4	5	1	4	0	0	0	3

Note 1: Detailed results are presented in **Appendix D**

Legend:

Green	No exceedance of Action Level and Limit Level
Light Red	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
Light Blue	Exceedance of Action Level recorded at monitoring station located upstream/unrelated stream (neither upstream nor downstream, far away) of the Project based on dominant tidal flow
Dark Red	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
Dark Blue	Exceedance of Limit Level recorded at monitoring station located upstream/unrelated stream of the Project based on dominant tidal flow
Light Grey	Upstream/unrelated stream station with respect to IWMF Project during the respective tide based on dominant tidal flow
White	Downstream station with respect to IWMF Project during the respective tide based on dominant tidal flow/station within the Project site
Diagonal	NA for measurement
Black	Cancelled due to incident or adverse weather

Table 8.3 Summary of DO Compliance Status at Impact Stations (Mid-Flood Tide)

Date	B1	B2	B3	B4	CR1	CR2	F1A	H1	S1	S2A	S3	M1
01-12-2021												
03-12-2021												
06-12-2021												
08-12-2021												
10-12-2021												
13-12-2021												
15-12-2021												
17-12-2021												
20-12-2021												
22-12-2021												
24-12-2021												
27-12-2021												
29-12-2021												
31-12-2021												
No. of SS Exceedances	0	0	0	0	1	1	0	1	0	0	0	0

Note 1: Detailed results are presented in **Appendix D**

Legend:

	No exceedance of Action Level and Limit Level
	Exceedance of Action Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Action Level recorded at monitoring station located upstream/unrelated stream (neither upstream nor downstream, far away) of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located downstream of the Project based on dominant tidal flow
	Exceedance of Limit Level recorded at monitoring station located upstream/unrelated stream of the Project based on dominant tidal flow
	Upstream/unrelated stream station with respect to IW MF Project during the respective tide based on dominant tidal flow
	Downstream station with respect to IW MF Project during the respective tide based on dominant tidal flow/station within the Project site
	NA for measurement
	Cancelled due to incident or adverse weather

- 8.2 Twenty-six (26) of the general water quality monitoring results of suspended solids (SS) obtained had exceeded Action Level. Forty-seven (47) of general water quality monitoring results of SS obtained during the reporting period had exceeded the Limit Level. Three (3) of the general water quality monitoring results of dissolved oxygen (DO) obtained had exceeded Action Level. Investigations were carried out immediately for each of the exceedance cases during the reporting period.
- 8.3 No project-related Action Level & Limit Level exceedance was recorded from the 1 December 2021 to 31 December 2021 as shown in **Appendix N**.
- 8.4 No exceedance of the Action and Limit Levels of the regular WBSE monitoring and coral monitoring was recorded during the reporting period.
- 8.5 No notification of summons and prosecution was received in the reporting period.
- 8.6 A complaint was received by EPD on 01 December 2021 and referred to the ET, IEC and SO on 15 December 2021. The complaint was related to oil spillage/leakage and the use of restricted liquid fuel. Investigation including reviewing contract's precautionary measure and their training mechanism against chemical/ oil spillage, carrying out follow-up site visit of the oil filling operation and reviewing the laboratory report of the sulfur content of fuel oil used in the past five months has been conducted by ET. After the investigation, it was considered that no non-compliance had been found for the oil filling operation, chemical leakage/spillage and sulfur content of fuel oil.
- 8.7 Statistics on complaints, notifications of summons and successful prosecutions are summarized in **Appendix O**.

9. EM&A SITE INSPECTION

- 9.1 Site inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures under the Contract. In the reporting period, site inspections were carried out on 1, 7, 14, 23 and 29 December 2021 at the site portions listed in **Table 9.1** below.

Table 9.1 Site Inspection Record

Date	Inspected Site Portion	Time
1 December 2021	Portion 1, 1A & 1B (near SKC)	10:30 – 11:30 AM
7 December 2021	Portion 1, 1A & 1B (near SKC)	10:30 – 11:30 AM
14 December 2021	Portion 1, 1A & 1B (near SKC)	10:30 – 11:30 AM
23 December 2021	Portion 1, 1A & 1B (near SKC)	10:30 – 11:30 AM
29 December 2021	Portion 1, 1A & 1B (near SKC)	10:30 – 11:30 AM

- 9.2 One joint site inspection with IEC was carried out on 14 December 2021.
- 9.3 Environmental deficiencies were observed during weekly site inspection. Key observations during the site inspections and during the reporting period are summarized in **Table 9.2**.

Table 9.2 Site Observations

Date	Environmental Observations	Follow-up Status
1 December 2021 (Site inspection)	<p><u>Observation(s) and Recommendation(s)</u></p> <ol style="list-style-type: none"> At piling area, no NRMM label was presented on the power pack At grouting station near Bay 8, general rubbish should be removed from the working area and stored at sorting area. At site office, the chemical waste cabinet was not locked up, the rusted lock should be replaced. 	<ol style="list-style-type: none"> At piling area, the broken power pack had been shipped out of the site for repairing. The used cement bags had been covered by tarpaulins sheeting and pending for quantitative measurement for subcontractor payment. At site office, both the chemical waste cabinets had been locked up and the rusted lock had been replaced.
7 December 2021 (Site inspection)	<p><u>Observation(s) and Recommendation(s)</u></p> <ol style="list-style-type: none"> At piling area, chemical in use and oil pump should be placed on drip tray. 	<ol style="list-style-type: none"> At piling area, chemical in use and oil pump had been placed on drip tray.

Date	Environmental Observations	Follow-up Status
14 December 2021 (Site inspection)	<u>Observation(s) and Recommendation(s)</u> 1. At piling area, oil stain was observed on ground. 2. At piling area, the broken cement bag should be covered with impervious sheeting. 3. At piling area, chemical waste should be placed in chemical waste cabinet.	1. At piling area, the oil stain had been removed from ground and treated as chemical waste. 2. At piling area, the broken cement bag had been covered by tarpaulins sheeting immediately and removed on second day. 3. At piling area, chemical waste had been labeled and stored in chemical waste cabinet.
23 December 2021 (Site inspection)	<u>Observation(s) and Recommendation(s)</u> Nil	Nil
29 December 2021 (Site inspection)	<u>Observation(s) and Recommendation(s)</u> 1. In general, general waste should be stored in enclosed rubbish bin, general waste should be removed from site regularly. 2. At bar bending site, chemicals in-use should be placed on drip tray. 3. Near caisson 33&34, no NRMM label was displayed on generator. 4. Near caisson 33&34, stagnant water inside the drip tray should be removed and the drip tray of the generator was not plugged. 5. Near caisson 32&33, oil-water mixture inside the drip tray should be removed.	1. General waste had been stored in enclosed rubbish bin and removed from site regularly. 2. At bar bending site, chemicals in-use had been placed on drip tray. 3. Near caisson 33&34, NRMM label had been displayed on generator 4. Near caisson 33&34, the stagnant water inside the drip tray had been removed. Drip tray of generator had been plugged. 5. Near caisson 32&33, oil-water mixture inside the drip tray had been removed.

Date	Environmental Observations	Follow-up Status
	6. In general, chemical waste should be stored in chemical waste cabinet.	6. It was informed that those chemicals were not wastes. Those chemical in-use had been placed on drip tray.

9.4 The Contractor had rectified all the observations identified during environmental site inspections in the reporting period.

9.5 According to the EIA Study Report, Environmental Permit, contract documents and Updated EM&A Manual, the mitigation measures detailed in the documents are implemented as much as practical during the reporting period. An updated Implementation Status of Environmental Mitigation Measures (EMIS) is provided in **Appendix B**.

10. FUTURE KEY ISSUES

10.1 Works to be undertaken in the next reporting month are:

- Reclamation Area:
 - Reclamation works
 - PVD Remedial Works
 - Installation of Instrumentation
 - Site Investigation works for foundation
 - Foundation works
- Seawall Portion:
 - Installation of caisson
 - Installation of Chinese Pod
 - Caisson extension works, from +3mPD to +6mPD, at Seawall A and B

10.2 Potential environmental impacts arising from the above construction activities are mainly associated with water quality, construction noise, waste management and ecology.

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

- Reduction of noise from equipment and machinery on-site;
 - Sorting, recycling, storage and disposal of general refuse and construction waste;
 - Management of chemicals and avoidance of oil spillage on-site, especially under heavy rains and adverse weather;
 - Confirmation of the absence of silt content in the rock filling material and the filling work is properly conducted;
 - Dust control of exposed soil surface and stockpile of dusty material at reclaimed area;
 - Dust suppression measures for exposed earth surface and stockpile of dusty material;
 - Site runoff control measure during rainstorm.
- and
- Dust and noise control of foundation works.

10.4 The tentative schedule of regular construction noise, water quality and ecology monitoring in the next reporting period is presented in **Appendix P**. The regular construction noise, water quality and ecology monitoring will be conducted at the same monitoring locations in the next reporting period.

11. CONCLUSION AND RECOMMENDATIONS

- 11.1 This 42nd monthly Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 December to 31 December 2021, in accordance with the Updated EM&A Manual and the requirement under EP-429/2012/A and FEP-01/429/2012/A.
- 11.2 Construction noise, water quality, construction waste, marine mammal, WBSE monitoring and coral monitoring were carried out in the reporting period. No project-related exceedance of the Action and Limit Level was recorded from 1 December 2021 to 31 December 2021.
- 11.3 Weekly environmental site inspections were conducted during the reporting period. Environmental deficiencies were observed during site inspection and were rectified.
- 11.4 According to the environmental site inspections performed in the reporting month, the Contractor was reminded to pay attention on on-site housekeeping and the proper storage of the chemicals and construction waste and dust control measure by covering the stockpile of dusty material with impervious sheeting.
- 11.5 A complaint regarding oil spillage/leakage and the use of restricted liquid fuel was received by EPD on 1 December 2021. After the investigation, it was considered that no non-compliance had been found for the oil filling operation, chemical leakage/spillage and sulfur content of fuel oil.
- 11.6 No notification of summon or prosecution was received since commencement of the Contract.
- 11.7 The ET will keep track of the construction works to confirm compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Appendix A Master Programme

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021				2022			
														Dec	Jan	Feb	Mar	Dec	Jan	Feb	Mar
Project: EP_SP_66_12-WP6D-M49 Programme for Design and Construction Works WP6D-M49														49	50	51	52				
WBS: EP_SP_66_12-WP6D-M49.01 Key Dates																					
WBS: EP_SP_66_12-WP6D-M49.01.1 Contractual Key Dates																					
WBS: EP_SP_66_12-WP6D-M49.01.1.1 Design and Construction Phase																					
01-1000	Contract Award/Date of Acceptance of Tender	0	0	100%	100%	0	Mandatory Start	22-Nov-17 A		31-Dec-21											
01-1010	Date of Commencement of the Design and the Works	0	0	100%	100%	0	Mandatory Start	15-Dec-17 A		31-Dec-21											
01-1015(3)(M12)	Original Substantial Completion of the Works	0	0	0%	0%	0	Mandatory Finish		27-Jul-24*		27-Jul-24	0									
01-1020	Extended Substantial Completion of The Works	0	0	0%	0%	0	Mandatory Finish		07-Jun-25*		07-Jun-25	0									
WBS: EP_SP_66_12-WP6D-M49.01.1.3 Extension of Time Granted																					
01-1015-1(3)(M12)	Extension of time granted (Claim No.1 to No.72) *Claim No.9 excluded	315	315	0%	0%	315		27-Jul-24	07-Jun-25	27-Jul-24	07-Jun-25	0									
WBS: EP_SP_66_12-WP6D-M49.01.2 Operation Phase																					
01-1030	Commencement of Operation	0	0	0%	0%	0		30-Jun-25	02-Aug-25	08-Jun-25	02-Aug-25	0									
01-1230	Issue Certificate of Completion of the Works (56 days after Substantial Completion)	0	0	0%	0%	0	Finish On or Befo		02-Aug-25*		02-Aug-25	0									
WBS: EP_SP_66_12-WP6D-M49.01.2 Planned Completion Dates																					
01-1030(5a)	Grid Connection Agreement (GCA)	0	0	0%	0%	0	As Late As Possil		31-Oct-23		31-Oct-23	0									
01-1040	Incoming Power Energization to IWMF Substation	0	0	0%	0%	0	Finish On		31-Oct-24*		30-Oct-24	0									
01-1050	Export Power to Grid	0	0	0%	0%	0	Finish On or After		31-Oct-24*		13-Jan-25	75									
01-1060	Issuance of FS Certificate	0	0	0%	0%	0			04-Feb-25		07-Dec-24	-59									
01-1070	Completion of Civil Provision for Transmission	0	0	0%	0%	0	Finish On		29-Dec-23*		29-Dec-23	0									
01-1080	Commencement of C1.3.4.11 System Commissioning Test	0	0	0%	0%	0	As Late As Possil	20-Feb-25		08-Dec-24		-74									
01-1090	Completion of C1.3.4.11 System Commission Test	0	0	0%	0%	0			14-Mar-25		30-Dec-24	-74									
01-1100	Physical Completion of 90 Days Plant Commissioning Test Works	0	0	0%	0%	0	As Late As Possil		26-Jun-25		17-May-25	-40									
01-1110(3)(M15)	Planned Substantial Completion of the Works	0	0	0%	0%	0	Mandatory Finish		07-Jun-25*		07-Jun-25	0									
01-1110-1(5a)	Completion of 180 Days for Installation, T&C of CCTV System and Onshore Power System at Portion 2	0	0	0%	0%	0	Finish On		26-Dec-25*		04-Dec-25	-22									
01-1110-2(5a)	Replacement of Onshore Cranes within 2 yrs at Portion 2	0	0	0%	0%	0			29-Jun-27		29-Jun-27	0									
WBS: EP_SP_66_12-WP6D-M49.01.3 Dates of Site Possessions																					
01-1120	Possession of Portion 1	0	0	100%	100%	0			15-Dec-17		29-Jun-27										
01-1130	Possession of Portion 1A	0	0	100%	100%	0			15-Dec-17		29-Jun-27										
01-1140	Possession of Portion 1B	0	0	100%	100%	0			15-Dec-17		29-Jun-27										
01-1150	Possession of Portion 2	0	0	0%	0%	0		08-Jun-25		08-Jun-25		0									
01-1160	Possession of Portion 3	0	0	0%	0%	0	As Late As Possil		24-Apr-23		05-May-23	11									
01-1170	Possession of Portion 4	0	0	0%	0%	0	As Late As Possil		24-Apr-23		05-May-23	11									
01-1180	Possession of Portion 5	0	0	0%	0%	0	As Late As Possil		24-Apr-23		05-May-23	11									
01-1190	Possession of Portion 6	0	0	0%	0%	0	Start On or After	20-Oct-24*		08-Jun-25		231									
01-1200	Possession of Portion 7	0	0	100%	100%	0	Finish On or Befo		05-Jan-18		29-Jun-27										
01-1210	Possession of Portion 7A	0	0	100%	100%	0	Finish On or Befo		07-Dec-18		29-Jun-27										
01-1210(5a)	Possession of Portion 8	0	0	100%	100%	0		29-Apr-20 A		29-Jun-27											
WBS: EP_SP_66_12-WP6D-M49.02 Contract Preliminaries																					
WBS: EP_SP_66_12-WP6D-M49.02.3 Erection of Concrete Batching Plant on Artificial Island																					
02-1100	Operation of Concrete Batching Plant	697	835	0%	0%	697		15-Aug-21 A	27-Nov-23	13-May-22	08-Apr-24	133									
WBS: EP_SP_66_12-WP6D-M49.02.4 Establishment of Public Relation Office																					
WBS: EP_SP_66_12-WP6D-M49.02.4.2 South Lantau (SLIO)																					
02-1120-1(6C)	Establishment of IWMF Information Office(s)	61	138	75.41%	75.41%	15	Finish On or Befo	30-Aug-21 A	14-Jan-22	17-Jan-22	31-Jan-22	17									
WBS: EP_SP_66_12-WP6D-M49.03 Licence/Permit Applications																					
WBS: EP_SP_66_12-WP6D-M49.03.1 License/Permit for Construction																					
03-0900	Marine Department Notification for Ground Investigation Works	60	75	100%	100%	0		15-Dec-17 A	27-Feb-18	29-Jun-27	29-Jun-27										
03-1000	Marine Department Notification for Construction Works	90	76	100%	100%	0		20-Apr-18 A	05-Jul-18 A	22-Feb-22	22-Feb-22										
03-1010	EPD Waste Producer License for Construction Works	60	90	100%	100%	0		15-Dec-17 A	15-Mar-18	29-Jun-27	29-Jun-27										
03-1020	EPD Chemical Waste Producer License for Construction Works	60	78	100%	100%	0		15-Dec-17 A	03-Mar-18	29-Jun-27	29-Jun-27										
03-1030	EPD Waste Disposal License for Construction Materials	60	12	100%	100%	0		03-Jan-18 A	15-Jan-18	29-Jun-27	29-Jun-27										
03-1040	Labour Department Notification of Construction Works	14	5	100%	100%	0	Finish On or Befo	15-Dec-17 A	20-Dec-17	29-Jun-27	29-Jun-27										
03-1050	EPD (ACPO) Notification of Construction Works	14	14	100%	100%	0	Finish On or Befo	15-Dec-17 A	28-Dec-17	29-Jun-27	29-Jun-27										
03-1070	Notice of Commencement to CIC	14	5	100%	100%	0	Finish On or Befo	15-Dec-17 A	20-Dec-17	29-Jun-27	29-Jun-27										
03-1080	CNP for Percussive Piling Works	90	90	0%	0%	90		31-Dec-21	30-Mar-22	10-Mar-25	07-Jun-25	1165									
03-1300	Perpare and Submit EP Application to Clause 1.38(6) of Spec A	7	7	100%	100%	0	Finish On or Befo	15-Dec-17 A	21-Dec-17	29-Jun-27	29-Jun-27										
03-1310(2)	Dumping Permit Application for Dredging Works	90	107	100%	100%	0		06-Nov-18 A	21-Feb-19	29-Apr-22	29-Apr-22										
03-1360(1)	Marine Department Notification for Construction Works (Seawall)	90	15	100%	100%	0	Finish On or After	10-Jan-19 A	25-Jan-19	11-Jan-22	11-Jan-22										
03-1360(2)	CNP for 24Hrs	2120	2122	41.51%	41.51%	1240		02-Aug-19 A	23-May-25	15-Jan-22	07-Jun-25	15									
03-1370(5a)	EPD Discharge License for System Commissioning	60	60	0%	0%	60		31-Dec-21	28-Feb-22	21-Jul-24	18-Sep-24	933									
03-1370_1(M34)	Landscape and Visual Plan	180	722	33.33%	33.33%	120		08-May-20 A	29-Apr-22	11-Jul-22	07-Nov-22	192									
WBS: EP_SP_66_12-WP6D-M49.03.7 Notification of Commencement of Works																					
03-1060	EMSD Notification of Commencement of Works (Lifts & Escalators)	0	0	0%	0%	0	As Late As Possil	26-Nov-23		22-Jan-24		57									
03-1060-1(6D)	EMSD Notification of Commencement of Works	0	0	0%	0%	0	As Late As Possil	19-Feb-23		25-Mar-23		34									
WBS: EP_SP_66_12-WP6D-M49.03.2 DG Licence																					
WBS: EP_SP_66_12-WP6D-M49.03.2.1 Day Tank & Fuel Oil Storage (Cat 5)																					
03-1400	General Building Plans and FSI Provision Design Submission to FSD (Cat 5)	772	772	0%	0%	772		13-Jul-22	23-Aug-24	25-Sep-22	25-Jul-24	-29									

3-Month Rolling Programme (December 2021)

- Remaining Work
- Actual Work
- Critical Remaining Work
- Actual Milestone
- Critical Milestone
- Milestone

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021			2022			
														Dec	Jan	Feb	Mar	Apr	May	Jun
05-1570	Odour Control	135	1329	55.56%	25%	60		11-Jul-18 A	28-Feb-22	25-Jan-22	25-Mar-22	25								
05-1580	Plumbing (7 Packages)	210	1141	71.43%	25%	60		15-Jan-19 A	28-Feb-22	24-Feb-22	24-Apr-22	55								
05-1590	Drainage (7 Packages)	135	1141	55.56%	25%	60		15-Jan-19 A	28-Feb-22	20-Jan-22	20-Mar-22	20								
05-1600	ELV (7 Packages)	135	1146	55.56%	25%	60		10-Jan-19 A	28-Feb-22	12-Mar-22	10-May-22	71								
05-1610	Lifts and Escalators (2 Packages)	135	792	55.56%	5%	60		30-Dec-19 A	28-Feb-22	13-Mar-22	11-May-22	72								
05-1770	Vehicle & Container Wash System	105	105	0%	0%	105		31-Dec-21	14-Apr-22	14-Mar-22	26-Jun-22	73								
05-1770-1(M20)	Water Cannon System	135	964	77.78%	45%	30		11-Jun-19 A	29-Jan-22	12-Jan-22	10-Feb-22	12								
WBS: EP_SP_66_12-WP6D-M49.05.01.04 AIP Mechanical Treatment Plant Building (2.4)		1066	1107	91.56%		90		20-Mar-19 A	30-Mar-22	31-Dec-21	17-Aug-23	505								
05-1650	Foundation design (2.4.01)	135	968	55.56%	5%	60		07-Jul-19 A	28-Feb-22	24-Feb-22	24-Apr-22	55								
05-1660	Structural design (2.4.02)	457	1015	86.87%	5%	60		21-May-19 A	28-Feb-22	05-Jun-22	03-Aug-22	156								
05-1670	Electrical and instrumentation works design (2.4.03)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	30-Mar-22	17-Aug-23	505								
05-1680	Mechanical works design (2.4.04)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	29-Nov-22	26-Feb-23	333								
05-1690	Fire services installation design (2.4.05) (3 Packages)	135	1077	55.56%	5%	60		20-Mar-19 A	28-Feb-22	27-Jan-22	27-Mar-22	27								
WBS: EP_SP_66_12-WP6D-M49.05.01.04.7 Building services design (excluding fire services installation design) (2.4.06)		1051	1072	94.77%		55		20-Mar-19 A	23-Feb-22	31-Dec-21	10-Jun-22	107								
05-1710	MVAC	135	1042	77.78%	5%	30		25-Mar-19 A	29-Jan-22	24-Feb-22	25-Mar-22	55								
05-1720	Odour Control	75	75	26.67%	5%	55		11-Dec-21 A	23-Feb-22	31-Dec-21	23-Feb-22	0								
05-1740	Drainage	135	1047	77.78%	5%	30		20-Mar-19 A	29-Jan-22	19-Feb-22	20-Mar-22	50								
05-1760	Lifts	135	762	77.78%	5%	30		30-Dec-19 A	29-Jan-22	12-May-22	10-Jun-22	132								
05-1760-1(M20)	Building Management System (BMS)	5	166	0%	5%	30		17-Aug-21 A	29-Jan-22	04-Jan-22	02-Feb-22	4								
WBS: EP_SP_66_12-WP6D-M49.05.01.05 AIP Wastewater Treatment Plant (2.5)		1170	1165	92.74%		85		16-Jan-19 A	25-Mar-22	31-Dec-21	10-Apr-22	16								
05-2790	Fire services installation design (2.5.05)	135	1140	55.56%	5%	60		16-Jan-19 A	28-Feb-22	27-Jan-22	27-Mar-22	27								
WBS: EP_SP_66_12-WP6D-M49.05.01.05.7 Building services design (excluding fire services installation design) (2.5.06)		1170	1165	92.74%		85		16-Jan-19 A	25-Mar-22	31-Dec-21	10-Apr-22	16								
05-1830	LV and Emergency Power Distribution Design (2.5.06.01)	135	1140	55.56%	25%	60		16-Jan-19 A	28-Feb-22	10-Feb-22	10-Apr-22	41								
05-1840	MVAC (2.5.06.02)	135	1140	55.56%	25%	60		16-Jan-19 A	28-Feb-22	09-Feb-22	09-Apr-22	40								
05-1850	Odour Control (2.5.06.03)	105	206	19.05%	5%	85		01-Sep-21 A	25-Mar-22	31-Dec-21	25-Mar-22	0								
05-1860	Plumbing (2.5.06.04)	135	1140	55.56%	25%	60		16-Jan-19 A	28-Feb-22	25-Jan-22	25-Mar-22	25								
05-1870	Drainage (2.5.06.05)	135	1140	55.56%	25%	60		16-Jan-19 A	28-Feb-22	20-Jan-22	20-Mar-22	20								
05-1880	ELV (2.5.06.06)	135	1140	55.56%	25%	60		16-Jan-19 A	28-Feb-22	10-Feb-22	10-Apr-22	41								
WBS: EP_SP_66_12-WP6D-M49.05.01.06 AIP Water Treatment Plant Building (2.6)		1036	1107	91.31%		90		20-Mar-19 A	30-Mar-22	10-Jan-22	04-Jul-22	96								
05-1910	Foundation design (2.6.01)	60	60	0%	0%	60		31-Dec-21	28-Feb-22	24-Feb-22	24-Apr-22	55								
05-1920	Structural design (2.6.02)	90	708	33.33%	5%	60		23-Mar-20 A	28-Feb-22	06-May-22	04-Jul-22	126								
05-1950	Fire services installation design (2.6.05) (3 Packages)	135	1077	55.56%	5%	60		20-Mar-19 A	28-Feb-22	27-Jan-22	27-Mar-22	27								
WBS: EP_SP_66_12-WP6D-M49.05.01.06.7 Building services design (excluding fire services installation design) (2.6.06)		135	1107	33.33%		90		20-Mar-19 A	30-Mar-22	10-Jan-22	09-Apr-22	10								
05-1970	MVAC	135	1102	33.33%	5%	90		25-Mar-19 A	30-Mar-22	10-Jan-22	09-Apr-22	10								
05-2000	Drainage	135	1077	55.56%	5%	60		20-Mar-19 A	28-Feb-22	20-Jan-22	20-Mar-22	20								
WBS: EP_SP_66_12-WP6D-M49.05.01.07 AIP Administration Building (2.7)		882	976	89.8%		90		29-Jul-19 A	30-Mar-22	25-Jan-22	18-Jan-23	294								
05-2030	Foundation design (2.7.01)	60	60	0%	0%	60		31-Dec-21	28-Feb-22	01-Nov-22	30-Dec-22	305								
05-2040	Structural design (2.7.02)	135	946	55.56%	65%	60		29-Jul-19 A	28-Feb-22	20-Nov-22	18-Jan-23	324								
05-2050	Electrical and instrumentation works design (2.7.03)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	07-Sep-22	05-Dec-22	250								
05-2060	Fire services installation design (3 Packages) (2.7.04)	135	910	55.56%	5%	60		03-Sep-19 A	28-Feb-22	27-Jan-22	27-Mar-22	27								
WBS: EP_SP_66_12-WP6D-M49.05.01.07.6 Building services design (excluding fire services installation design) (2.7.05)		227	910	73.57%		60		03-Sep-19 A	28-Feb-22	25-Jan-22	11-May-22	72								
05-2080	MVAC	135	910	55.56%	65%	60		03-Sep-19 A	28-Feb-22	25-Jan-22	25-Mar-22	25								
05-2130	Lifts and Escalators	135	792	55.56%	5%	60		30-Dec-19 A	28-Feb-22	13-Mar-22	11-May-22	72								
WBS: EP_SP_66_12-WP6D-M49.05.01.08 AIP IWMF Substation (2.8)		135	1144	89.63%		14		27-Nov-18 A	13-Jan-22	14-Mar-22	27-Mar-22	73								
05-2190	Fire services installation design (2.8.05) (2 Packages)	135	1144	89.63%	5%	14		27-Nov-18 A	13-Jan-22	14-Mar-22	27-Mar-22	73								
WBS: EP_SP_66_12-WP6D-M49.05.01.1 AIP Chimney		151	192	40.4%		90		20-Sep-21 A	30-Mar-22	15-Feb-22	26-May-22	57								
WBS: EP_SP_66_12-WP6D-M49.05.01.1.1 Building services design (excluding fire services installation design)		151	192	40.4%		90		20-Sep-21 A	30-Mar-22	15-Feb-22	26-May-22	57								
05-5430(5a)	Electrical Services and Lighting	90	151	45.56%	5%	49		20-Sep-21 A	17-Feb-22	20-Feb-22	09-Apr-22	51								
05-5440(5a)	MVAC	90	151	45.56%	5%	49		20-Sep-21 A	17-Feb-22	20-Feb-22	09-Apr-22	51								
05-5450(5a)	Plumbing	90	151	45.56%	5%	49		20-Sep-21 A	17-Feb-22	22-Mar-22	09-May-22	81								
05-5460-1(5a)	Drainage	90	151	45.56%	5%	49		20-Sep-21 A	17-Feb-22	15-Feb-22	04-Apr-22	46								
05-5470(5a)	ELV	90	151	45.56%	5%	49		20-Sep-21 A	17-Feb-22	07-Apr-22	25-May-22	97								
05-5480-2(5a)	Lift	90	90	0%	0%	90		31-Dec-21	30-Mar-22	26-Feb-22	26-May-22	57								
05-5490(5a)	Building Management System (BMS)	90	90	72.22%	5%	25		27-Oct-21 A	24-Jan-22	23-Feb-22	19-Mar-22	54								
WBS: EP_SP_66_12-WP6D-M49.05.01.4 AIP Elevated Drive Way and Associated Structures Foundation		319	1191	67.08%		105		10-Jan-19 A	14-Apr-22	04-Jan-22	10-May-22	26								
WBS: EP_SP_66_12-WP6D-M49.05.01.4.1 Building services design (excluding fire services installation design)		319	1191	67.08%		105		10-Jan-19 A	14-Apr-22	04-Jan-22	10-May-22	26								
05-5550	Building Management System (BMS)	105	729	42.86%	25%	60		02-Mar-20 A	28-Feb-22	04-Jan-22	04-Mar-22	4								
05-7090	Electrical Services and Lighting	105	1146	42.86%	5%	60		10-Jan-19 A	28-Feb-22	25-Jan-22	25-Mar-22	25								
05-7100	MVAC	105	415	42.86%	5%	60		10-Jan-21 A	28-Feb-22	25-Jan-22	25-Mar-22	25								
05-7110	Plumbing	105	105	0%	0%	105		31-Dec-21	14-Apr-22	10-Jan-22	24-Apr-22	10								
05-7120	Drainage	105	1141	42.86%	5%	60		15-Jan-19 A	28-Feb-22	10-Jan-22	20-Mar-22	20								
05-7130	ELV	105	105	0%	0%	105		31-Dec-21	14-Apr-22	26-Jan-22	10-May-22	26	</							

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021		2022	
														Dec	Jan	Feb	Mar
05-7170	Drainage	105	1141	42.86%	5%	60		15-Jan-19 A	28-Feb-22	20-Jan-22	20-Mar-22	20					
05-7180	ELV	105	105	0%	0%	105		31-Dec-21	14-Apr-22	26-Jan-22	10-May-22	26					28-Feb-22, Drainage, Drainage
WBS: EP_SP_66_12-WP6D-M49.05.01.6 AIP CCCW Building																	
WBS: EP_SP_66_12-WP6D-M49.05.01.6.1 Building services design (excluding fire services installation design)																	
05-7190	Electrical Services and Lighting	105	1146	42.86%	5%	60		10-Jan-19 A	28-Feb-22	25-Jan-22	25-Mar-22	25					28-Feb-22, Electrical Services
05-7200	MVAC	105	1146	42.86%	5%	60		10-Jan-19 A	28-Feb-22	25-Jan-22	25-Mar-22	25					28-Feb-22, MVAC, MVAC, 28
05-7210	Plumbing	105	105	0%	0%	105		31-Dec-21	14-Apr-22	10-Jan-22	24-Apr-22	10					31-Dec-21
05-7220	Drainage	105	1141	42.86%	5%	60		15-Jan-19 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Drainage, Drainage
05-7230	ELV	105	105	0%	0%	105		31-Dec-21	14-Apr-22	26-Jan-22	10-May-22	26					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.01.09 AIP Air Quality Monitoring Stations (2.9)																	
05-2250	Design of the Air Quality Monitoring Stations (2.9.01)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	11-Jan-22	10-Apr-22	11					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.01.10 AIP Roads and Utilities (2.10)																	
WBS: EP_SP_66_12-WP6D-M49.05.01.10.4 Water supply system design on the Artificial Island (2.10.04)																	
05-2360	Water Tanks (2.10.04.05)	135	135	0%	0%	135		31-Dec-21	14-May-22	15-Jan-23	29-May-23	380					31-Dec-21
05-2370	External FS Systems (2.10.04.06)	135	848	55.56%	5%	60		04-Nov-19 A	28-Feb-22	31-Mar-23	29-May-23	455					28-Feb-22, External FS Systems
05-2370-2(M24)	Building Services system for seawater intake (2.10.04.09)	90	690	66.67%	5%	30		11-Mar-20 A	29-Jan-22	30-Apr-23	29-May-23	485					29-Jan-22, Building Services system for seawater intake (2
05-2370-3(5a)	Chemical scrubber system for odour control (2.10.04.10)	90	449	0%	45%	90		06-Jan-21 A	30-Mar-22	01-Mar-23	29-May-23	425					
WBS: EP_SP_66_12-WP6D-M49.05.01.10.6 Design of telecommunication and other utilities (2.10.06)																	
05-2380	Power Distribution System concept / schematics (2.10.06.01)	135	428	55.56%	5%	60		28-Dec-20 A	28-Feb-22	19-Aug-23	17-Oct-23	596					28-Feb-22, Power Distribution
05-2410	Site ELV Network System - Communications System concept / schematics (2.10.06.04)	135	722	55.56%	5%	60		09-Mar-20 A	28-Feb-22	19-Aug-23	17-Oct-23	596					28-Feb-22, Site ELV Network
05-2420	Site ELV Network System - Security Systems concept / schematics (2.10.06.05)	135	722	55.56%	5%	60		09-Mar-20 A	28-Feb-22	19-Aug-23	17-Oct-23	596					28-Feb-22, Site ELV Network
05-2430	Site ELV Network System - Navigation aids concept / schematics (2.10.06.06)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	20-Jan-23	02-Oct-23	536					31-Dec-21
05-2440	Microwave transmission of FS direct link (2.10.06.07)	135	1160	77.78%	45%	30		27-Nov-18 A	29-Jan-22	20-Jul-23	18-Aug-23	566					29-Jan-22, Microwave transmission of FS direct link (2.10.0
05-2450	Fuel Handling System concept / schematics (2.10.06.08)	135	767	55.56%	5%	60		24-Jan-20 A	28-Feb-22	31-Mar-23	29-May-23	455					28-Feb-22, Fuel Handling Sys
05-3840-1(M22)	Automatic Traffic Control System (ATCS) (2.10.06.12)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	15-Feb-24	14-May-24	776					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.01.10.7 Utility ducts/Pipebridges design (2.10.25)																	
05-2460	Design of Pipe / Utilities Trenches concept (2.10.06.09.01)	105	550	42.86%	5%	60		28-Aug-20 A	28-Feb-22	04-Aug-23	02-Oct-23	581					28-Feb-22, Design of Pipe / U
05-2470	Sitewide Utilities Trenches Design (2.10.06.09.02)	105	550	42.86%	5%	60		28-Aug-20 A	28-Feb-22	05-Feb-23	05-Apr-23	401					28-Feb-22, Sitewide Utilities
WBS: EP_SP_66_12-WP6D-M49.05.01.10.7.3 Layout Plan for Pipe Bridge Network																	
05-6010	Pipebridge B	60	60	0%	0%	60		31-Dec-21	28-Feb-22	31-Dec-21	20-Apr-22	51					28-Feb-22, Pipebridge B
05-6020	Pipebridge C	60	60	0%	0%	60		31-Dec-21	28-Feb-22	20-Feb-22	20-Apr-22	51					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.01.10.7.2 Structure Plan for Pipe Bridge B & C																	
05-6070	Pipebridge B	135	1239	55.56%	5%	60		09-Oct-18 A	28-Feb-22	31-Dec-21	20-Apr-22	51					Pipebridge B, 28-Feb-22, 28-
05-6080	Pipebridge C	135	1239	55.56%	5%	60		09-Oct-18 A	28-Feb-22	20-Feb-22	20-Apr-22	51					28-Feb-22, Pipebridge C, Pip
WBS: EP_SP_66_12-WP6D-M49.05.01.11 AIP Architectural Finishes and Landscaping Works (2.11)																	
WBS: EP_SP_66_12-WP6D-M49.05.01.11.1 External and internal finishes design for Incineration Plant Buildings																	
05-2510	External and internal finishes design for Incineration Plant Building (2.11.01)	105	636	71.43%	5%	30		04-May-20 A	29-Jan-22	03-Feb-22	04-Mar-22	34					29-Jan-22, External and internal finishes design for Incinerat
05-2530	External and internal finishes design for Turbine Hall Building	105	636	71.43%	5%	30		04-May-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for Turbine H
05-2540	External and internal finishes design for CCCW Building	105	636	71.43%	5%	30		04-May-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for CCCW B
05-2550	External and internal finishes design for Chimney	60	60	0%	5%	60		31-Dec-21	28-Feb-22	13-Jan-22	13-Mar-22	13					31-Dec-21
05-2560	External and internal finishes design for Reception Pavilion	105	671	71.43%	5%	30		30-Mar-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for Receptio
05-2570	External and internal finishes design for MT Plant Building (2.11.02)	105	643	71.43%	5%	30		27-Apr-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for MT Plan
05-2580	External and internal finishes design for the Wastewater Treatment Plant (2.11.03)	105	636	71.43%	25%	30		04-May-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for the Was
05-2590	External and internal finishes design for the Water Treatment Plant Building (2.11.04)	105	278	71.43%	25%	30		27-Apr-21 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for the Wate
05-2600	External and internal finishes design for the Administration Building (2.11.05)	105	643	71.43%	5%	30		27-Apr-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for the Adm
05-2610	External and internal finishes design for the IWMF Substation (2.11.06)	105	671	71.43%	45%	30		30-Mar-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for the IWM
WBS: EP_SP_66_12-WP6D-M49.05.01.11.7 Landscaping Works (2.11.07)																	
05-2620	Landscape Masterplan & Landscape Design for Water Feature (2.11.07.01)	105	620	42.86%	5%	60		19-Jun-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Maste
05-2920_1(M34)	Landscape Architectural Design for Turbine Hall Building (2.11.07.04)	105	662	42.86%	5%	60		08-May-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Archi
05-2920_2(M34)	Landscape Architectural Design for Reception Pavilion (2.11.07.06)	105	662	42.86%	5%	60		08-May-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Archi
05-2920_3(M34)	Landscape Architectural Design for MT Plant Building and Water Treatment Plant Building (2.11.07.07)	105	662	42.86%	5%	60		08-May-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Archi
05-2920_4(M34)	Landscape Architectural Design for Administration Building (2.11.07.08)	105	662	42.86%	5%	60		08-May-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Archi
05-2920_5(M34)	Landscape Architectural Design for IWMF Substation (2.11.07.09)	105	662	42.86%	5%	60		08-May-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Archi
05-2920_6(M34)	Landscape Architectural Design for Process Building (2.11.07.10)	105	662	42.86%	5%	60		08-May-20 A	28-Feb-22	20-Jan-22	20-Mar-22	20					28-Feb-22, Landscape Archi
WBS: EP_SP_66_12-WP6D-M49.05.01.11.9 External and internal finishes design for Elevated Driveway																	
05-5410	External and internal finishes design for Elevated Driveway	105	636	71.43%	25%	30		04-May-20 A	29-Jan-22	12-Feb-22	13-Mar-22	43					29-Jan-22, External and internal finishes design for Elevated
WBS: EP_SP_66_12-WP6D-M49.05.01.12 AIP Testing and Commissioning (2.12)																	
05-2650-1(5)	Factory Acceptance Testing plan (2.12.01.02-07) (8 Packages)	105	1043	42.86%	5%	60		23-Apr-19 A	28-Feb-22	29-Jun-22	27-Aug-22	180					28-Feb-22, Factory Acceptan
05-2660	Site Acceptance Testing plan (2.12.02)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	08-Sep-23	21-Dec-23	616					31-Dec-21
05-2670	System commissioning plan (2.12.03)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	22-Feb-24	05-Jun-24	783					31-Dec-21
05-2680	Plant commissioning plan (2.12.04)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	04-Jun-24	16-Sep-24	886					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.01.13 AIP Transportation Facilities for the Operation (2.13)																	
05-2690	Design of vehicles for MSW and Ash and Residues delivery (2.13.01)	105	610	42.86%	5%	60		29-Jun-20 A	28-Feb-22	15-Aug-23	13-Oct-23	592					28-Feb-22, Design of vehicles
05-2700	Design of marine vessels for the use of the Employer and visitors (2.13.02)	105	539	42.86%	5%	60		08-Sep-20 A	28-Feb-22	19-Sep-23	17-Nov-23	627					28-Feb-22, Design of marine
WBS: EP_SP_66_12-WP6D-M49.05.01.14 AIP Miscellaneous Works (2.14)																	
05-2720	Design of visitors and environmental education facilities (2.14.02)	105	603	42.86%	5%	60		06-Jul-20 A	28-Feb-22	12-Mar-23	10-May-23	436					28-Feb-22, Design of visitors
WBS: EP_SP_66_12-WP6D-M49.05.01.15 AIP Miscellaneous Detailing (2.15)																	
05-2730	Covered walkway at passenger berth (2.15.02)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	09-Jan-22	23-Apr-22	9					31-Dec-21

3-Month Rolling Programme (December 2021)

- Remaining Work
- Actual Work
- Critical Remaining Work
- Milestone
- Actual Milestone
- Critical Milestone

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021		2022	
														Dec 49	Jan 50	Feb 51	Mar 52
05-3390-8(M46)	Software Detail Design for Process Island SIL	105	447	42.86%	65%	60		09-Dec-20 A	28-Feb-22	26-Jun-22	24-Aug-22	177					
05-3420	Automatic License Plate and Container Recognition System (ALPCRS)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	27-May-22	24-Aug-22	147					28-Feb-22, Software Detail D
WBS: EP_SP_66_12-WP6D-M49.05.02.03.5 Mechanical works design (2.3.16)		1142	1947	21.63%		895		13-Feb-19 A	12-Jun-24	05-Feb-22	13-May-24	-30					
WBS: EP_SP_66_12-WP6D-M49.05.02.03.5.1 Plant and Equipment		1142	1947	21.63%		895		13-Feb-19 A	12-Jun-24	09-Jun-22	13-May-24	-30					
05-3580	Weightbridge Systems	105	105	0%	0%	105		31-Dec-21	14-Apr-22	09-Jun-22	21-Sep-22	160					
05-3590	Waste Crane and Grapple System	105	517	42.86%	5%	60		30-Sep-20 A	28-Feb-22	22-Oct-22	20-Dec-22	295					28-Feb-22, Waste Crane and
05-3600	Mechanical Shredder	105	553	0%	5%	105		09-Oct-20 A	14-Apr-22	07-Sep-22	20-Dec-22	250					
05-3610	Incineration System (9 Packages)	105	1096	58.1%	5%	44		13-Feb-19 A	12-Feb-22	25-Sep-22	07-Nov-22	268					12-Feb-22, Incineration System (9 Packages)
05-3620	Heat Recovery Boiler (8 Packages)	105	1003	58.1%	5%	44		17-May-19 A	12-Feb-22	10-Jun-22	23-Jul-22	161					12-Feb-22, Heat Recovery Boiler (8 Packages)
05-3630	Boiler Feed Water Systems (4 Packages)	105	929	71.43%	45%	30		16-Jul-19 A	29-Jan-22	10-Jan-23	08-Feb-23	375					29-Jan-22, Boiler Feed Water Systems (4 Packages), Boile
05-3640	Ash cranes	30	325	100%	65%	0		09-Feb-21 A	31-Dec-21	20-Dec-22	20-Dec-22	355					31-Dec-21, Ash cranes, Ash cranes, 31-Dec-21
05-3650	Leachate collection and treatment	105	1352	71.43%	5%	30	As Late As Possil	30-Sep-20 A	12-Jun-24	14-Apr-24	13-May-24	-30					
05-3790	Flue Gas Treatment System (12 Packages)	105	868	42.86%	25%	60		15-Oct-19 A	28-Feb-22	09-Sep-22	07-Nov-22	252					28-Feb-22, Flue Gas Treatme
05-3800	Boiler ash and APC residue handling and solidification	105	630	42.86%	45%	60		09-Jun-20 A	28-Feb-22	17-Dec-23	14-Feb-24	716					28-Feb-22, Boiler ash and AP
05-3810	Steam Turbine Generator (STG) and Pressure Reducing and Desuperheating Station (PRDS)	105	549	71.43%	5%	30		30-Jul-20 A	29-Jan-22	09-Oct-22	07-Nov-22	282					29-Jan-22, Steam Turbine Generator (STG) and Pressure Re
05-3820	Air cooled condenser	105	549	71.43%	5%	30		30-Jul-20 A	29-Jan-22	29-Oct-22	27-Nov-22	302					29-Jan-22, Air cooled condenser, Air cooled condenser, 29-
05-3825(3)	Closed Circuit Cooling Water System	105	519	100%	5%	0		30-Jul-20 A	31-Dec-21	27-Nov-22	27-Nov-22	332					31-Dec-21, Closed Circuit Cooling Water System, Closed Circuit Cooling Water System, 3
05-3830	Compressed Air Plants	105	1078	75.24%	5%	26		13-Feb-19 A	25-Jan-22	29-Aug-22	23-Sep-22	241					25-Jan-22, Compressed Air Plants, Compressed Air Plants, 25-
WBS: EP_SP_66_12-WP6D-M49.05.02.03.5.2 Process Pipeworks (Incl. Ductworks) and Valves		562	1020	89.32%		60		16-May-19 A	28-Feb-22	11-Mar-22	05-Feb-23	342					
05-3840	Process island (furnace-boiler-FGC)	105	990	71.43%	5%	30		16-May-19 A	29-Jan-22	11-Mar-22	09-Apr-22	70					29-Jan-22, Process island (furnace-boiler-FGC), Process is
05-4350	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	520	71.43%	5%	30		28-Aug-20 A	29-Jan-22	15-May-22	13-Jun-22	135					29-Jan-22, Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3), Pipe
05-4360	Compressed Air Plant area	105	501	89.52%	45%	11		28-Aug-20 A	10-Jan-22	13-Sep-22	23-Sep-22	256					10-Jan-22, Compressed Air Plant area, Compressed Air Plant area, 10-Jan-22
05-4370	Pipebridge B (Between CCCW Area & Turbine Hall)	105	550	42.86%	5%	60		28-Aug-20 A	28-Feb-22	15-Apr-22	13-Jun-22	105					28-Feb-22, Pipebridge B (Bet
05-4380	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	550	42.86%	5%	60		28-Aug-20 A	28-Feb-22	15-Apr-22	13-Jun-22	105					28-Feb-22, Pipebridge C (Bet
05-4950	Turbine Hall	105	520	71.43%	5%	30		28-Aug-20 A	29-Jan-22	07-Jan-23	05-Feb-23	372					29-Jan-22, Turbine Hall, Turbine Hall, 29-Jan-22
05-4960	ACC Equipment Yard	105	501	89.52%	65%	11		28-Aug-20 A	10-Jan-22	26-Jan-23	05-Feb-23	391					10-Jan-22, ACC Equipment Yard, ACC Equipment Yard, 10-Jan-22
05-4970	CCCW Area	105	501	89.52%	65%	11		28-Aug-20 A	10-Jan-22	13-Sep-22	23-Sep-22	256					10-Jan-22, CCCW Area, CCCW Area, 10-Jan-22
WBS: EP_SP_66_12-WP6D-M49.05.02.03.5.3 Process steel structure support (For equipment, piping & duct, cable tray etc)		376	609	76.06%		90		30-Jul-20 A	30-Mar-22	23-Apr-23	17-Sep-23	536					
05-3540	Pipe Rack C1, C2, C3, D1 & D2 (Prefab.3)	105	580	14.29%	5%	90		28-Aug-20 A	30-Mar-22	23-Apr-23	21-Jul-23	478					
05-3550	Turbine Hall	105	579	42.86%	5%	60		30-Jul-20 A	28-Feb-22	20-Jul-23	17-Sep-23	566					28-Feb-22, Turbine Hall, Turb
05-3560	Pipebridge B (Between CCCW Area & Turbine Hall)	105	550	42.86%	5%	60		28-Aug-20 A	28-Feb-22	23-May-23	21-Jul-23	508					28-Feb-22, Pipebridge B (Bet
05-3570	Pipebridge C (Between Turbine Hall & ACC Equipment Yard)	105	550	42.86%	5%	60		28-Aug-20 A	28-Feb-22	23-May-23	21-Jul-23	508					28-Feb-22, Pipebridge C (Bet
WBS: EP_SP_66_12-WP6D-M49.05.02.03.5.4 Equipment and piping insulation		105	105	0%		105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4500	Incineration System	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4510	Heat Recovery Boiler	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4520	Boiler Feed Water Systems	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4530	Flue Gas Treatment System	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4540	Boiler ash and APC residue handling and solidification	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4550	Steam Turbine Generator (STG) and Pressure Reducing and Desuperheating Station (PRDS)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4560	Air cooled condenser	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
05-4570	Closed Circuit Cooling Water System	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Feb-22	20-May-22	36					
WBS: EP_SP_66_12-WP6D-M49.05.02.03.6 Fire services installation design (2.3.17)		105	105	0%		105		14-Jan-22	28-Apr-22	11-Feb-22	26-May-22	28					
05-3680	FS schematics	105	105	0%	0%	105		14-Jan-22	28-Apr-22	11-Feb-22	26-May-22	28					14-Jan-22
WBS: EP_SP_66_12-WP6D-M49.05.02.03.7 Building services design (excluding fire services installation design) (2.3.18)		135	135	0%		135		30-Jan-22	13-Jun-22	11-Feb-22	24-Aug-22	72					
05-3690	Electrical Services and Lighting (7 Packages)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					01-Mar-22
05-3700	MVAC	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					01-Mar-22
05-3710	Odour Control	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					01-Mar-22
05-3720	Plumbing (7 Packages)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	25-Apr-22	07-Aug-22	55					01-Mar-22
05-3730	Drainage (7 Packages)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					01-Mar-22
05-3740	ELV (7 Packages)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	11-May-22	23-Aug-22	71					01-Mar-22
05-3750	Lifts and Escalators	105	105	0%	0%	105		01-Mar-22	13-Jun-22	12-May-22	24-Aug-22	72					01-Mar-22
05-3770	Building Management System (BMS)	105	105	0%	0%	105		30-Jan-22	14-May-22	11-Feb-22	26-May-22	12					30-Jan-22
05-3780-2(M20)	Water Cannon System	105	105	0%	0%	105		30-Jan-22	14-May-22	11-Feb-22	26-May-22	12					30-Jan-22
WBS: EP_SP_66_12-WP6D-M49.05.02.9 DDA Air Cool Condensers Equipment (2.3.06)		135	135	0%		135		31-Dec-21	14-May-22	03-Feb-22	23-Aug-22	101					
WBS: EP_SP_66_12-WP6D-M49.05.02.9.7 Building services design (excluding fire services installation design) (2.3.06)		135	135	0%		135		31-Dec-21	14-May-22	03-Feb-22	23-Aug-22	101					
05-5510	Electrical Services and Lighting	135	135	0%	0%	135		31-Dec-21	14-May-22	24-Feb-22	08-Jul-22	55					31-Dec-21
05-5520	Plumbing	135	135	0%	0%	135		31-Dec-21	14-May-22	26-Mar-22	07-Aug-22	85					31-Dec-21
05-5530	ELV	135	135	0%	0%	135		31-Dec-21	14-May-22	11-Apr-22	23-Aug-22	101					31-Dec-21
05-5540	Building Management System (BMS)	135	135	0%	0%	135		31-Dec-21	14-May-22	03-Feb-22	17-Jun-22	34					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.02.04 DDA Mechanical Treatment Plant Building (2.4)		165	165	0%		165		30-Jan-22	13-Jul-22	03-Feb-22	16-Nov-22	126					
05-5170	Foundation design (2.4.13)	135	135	0%	0%	135		01-Mar-22	13-Jul-22	25-Apr-22	06-Sep-22	55					01-Mar-22
05-5180	Structural design (2.4.14)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	04-Aug-22	16-Nov-22	156					01-Mar-22
05-5210	Fire services installation design (2.4.17)	60	60	0%	0%	60		01-Mar-22	29-Apr-22	28-Mar-22	26-May-22	27					01-Mar-22
WBS: EP_SP_66_12-WP6D-M49.05.02.04.7 Building services design (excluding fire services installation design) (2.4.18)		160	160	0%		160		30-Jan-22	08-Jul-22	03-Feb-22	23-Aug-22	46					
05-3850	LV and Emergency Power Distribution Design	135	135	0%	0%	135		30-Jan-22	13-Jun-22	11-Apr-22	23-Aug-22	71					30-Jan-22
05-3860	MVAC	90	90	0%													

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021		2022	
														Dec	Jan	Feb	Mar
05-3880	Plumbing	135	135	0%	0%	135		30-Jan-22	13-Jun-22	26-Mar-22	07-Aug-22	55					
05-3890	Drainage	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					
05-3900	Lighting and small power	135	135	0%	0%	135		30-Jan-22	13-Jun-22	24-Feb-22	08-Jul-22	25					
05-3910-1	Building Management System (BMS)	135	135	0%	0%	135		30-Jan-22	13-Jun-22	03-Feb-22	17-Jun-22	4					
WBS: EP_SP_66_12-WP6D-M49.05.02.05 DDA Wastewater Treatment Plant (2.5)		195	195	0%	0%	195		31-Dec-21	13-Jul-22	28-Feb-22	08-Apr-23	269					
05-3940	Structural design (2.5.14)	135	135	0%	0%	135		31-Dec-21	14-May-22	06-May-22	17-Sep-22	126					
05-3950	Electrical and instrumentation works design (2.5.15)	70	70	0%	0%	70		31-Dec-21	10-Mar-22	29-Jan-23	08-Apr-23	394					
05-3960	Mechanical works design (2.5.16) (2 Packages)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	28-Feb-22	12-Jun-22	59					
05-3970	Fire services installation design (2.5.17) (2 Packages)	60	60	0%	0%	60		01-Mar-22	29-Apr-22	28-Mar-22	26-May-22	27					
WBS: EP_SP_66_12-WP6D-M49.05.02.05.7 Building services design (excluding fire services installation design) (2.5.18)		135	135	0%	0%	135		01-Mar-22	13-Jul-22	21-Mar-22	23-Aug-22	41					
05-3980	LV and Emergency Power Distribution Design for IWMF Waste Water Treatment Plant	135	135	0%	0%	135		01-Mar-22	13-Jul-22	11-Apr-22	23-Aug-22	41					
05-3990	MVAC	90	90	0%	0%	90		01-Mar-22	29-May-22	10-Apr-22	08-Jul-22	40					
05-4000	Odour Control	105	105	0%	0%	105		26-Mar-22	08-Jul-22	26-Mar-22	08-Jul-22	0					
05-4010	Plumbing	135	135	0%	0%	135		01-Mar-22	13-Jul-22	26-Mar-22	07-Aug-22	25					
05-4020	Drainage	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					
05-4030	ELV	135	135	0%	0%	135		01-Mar-22	13-Jul-22	11-Apr-22	23-Aug-22	41					
WBS: EP_SP_66_12-WP6D-M49.05.02.06 DDA Water Treatment Plant Building (2.6)		195	195	0%	0%	195		31-Dec-21	13-Jul-22	24-Feb-22	16-Nov-22	126					
05-4060	Foundation design (2.6.13)	135	135	0%	0%	135		01-Mar-22	13-Jul-22	25-Apr-22	06-Sep-22	55					
05-4070	Structural design (2.6.14)	135	135	0%	0%	135		01-Mar-22	13-Jul-22	05-Jul-22	16-Nov-22	126					
05-4100	Fire services installation design (2.6.17)	60	60	0%	0%	60		01-Mar-22	29-Apr-22	28-Mar-22	26-May-22	27					
WBS: EP_SP_66_12-WP6D-M49.05.02.06.7 Building services design (excluding fire services installation design) (2.6.18)		165	165	0%	0%	165		31-Dec-21	13-Jun-22	24-Feb-22	23-Aug-22	71					
05-4110	Electrical Services and Lighting	135	135	0%	0%	135		31-Dec-21	14-May-22	24-Feb-22	08-Jul-22	55					
05-4140	Plumbing	135	135	0%	0%	135		31-Dec-21	14-May-22	26-Mar-22	07-Aug-22	85					
05-4150	Drainage	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					
05-4160	ELV	135	135	0%	0%	135		31-Dec-21	14-May-22	11-Apr-22	23-Aug-22	101					
WBS: EP_SP_66_12-WP6D-M49.05.02.07 DDA Administration Building (2.7)		165	165	0%	0%	165		31-Dec-21	13-Jun-22	05-Mar-22	03-May-23	324					
05-4180	Foundation design (2.7.11)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	01-Nov-22	13-Feb-23	305					
05-4190	Structural design (2.7.12)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	19-Jan-23	03-May-23	324					
05-4210	Fire services installation design (2.7.14)	60	60	0%	0%	60		01-Mar-22	29-Apr-22	28-Mar-22	26-May-22	27					
WBS: EP_SP_66_12-WP6D-M49.05.02.07.6 Building services design (excluding fire services installation design) (2.7.15)		165	165	0%	0%	165		31-Dec-21	13-Jun-22	05-Mar-22	24-Aug-22	72					
05-4220	Electrical Services and Lighting	105	105	0%	0%	105		31-Dec-21	14-Apr-22	26-Mar-22	08-Jul-22	85					
05-4230	MVAC	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					
05-4250	Plumbing	105	105	0%	0%	105		31-Dec-21	14-Apr-22	25-Apr-22	07-Aug-22	115					
05-4260	Drainage	105	105	0%	0%	105		31-Dec-21	14-Apr-22	21-Mar-22	03-Jul-22	80					
05-4270	ELV	105	105	0%	0%	105		31-Dec-21	14-Apr-22	11-May-22	23-Aug-22	131					
05-4280	Lifts and Escalators	105	105	0%	0%	105		01-Mar-22	13-Jun-22	12-May-22	24-Aug-22	72					
05-4280-1	Building Management System (BMS)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Mar-22	17-Jun-22	64					
WBS: EP_SP_66_12-WP6D-M49.05.02.08 DDA IWMF Substation (2.8)		456	808	70.39%	65%	135		27-Feb-20 A	14-May-22	24-Feb-22	06-Sep-23	480					
05-4310	Structural design (2.8.14)	195	673	100%	65%	0		27-Feb-20 A	31-Dec-21	22-Sep-22	22-Sep-22	266					
05-4320	Electrical and instrumentation works design (2.8.15)	75	75	0%	0%	75		31-Dec-21	15-Mar-22	24-Jun-23	06-Sep-23	540					
05-4340	Fire services installation design (2.8.17)	60	60	0%	0%	60		14-Jan-22	14-Mar-22	28-Mar-22	26-May-22	73					
WBS: EP_SP_66_12-WP6D-M49.05.02.08.7 Building services design (excluding fire services installation design) (2.8.18)		135	135	0%	0%	135		31-Dec-21	14-May-22	24-Feb-22	12-Jun-23	394					
05-4990	Electrical Services and Lighting	135	135	0%	0%	135		31-Dec-21	14-May-22	24-Feb-22	08-Jul-22	55					
05-5000	MVAC	90	90	0%	0%	90		15-Jan-22	14-Apr-22	25-Dec-22	24-Mar-23	344					
05-5010	Plumbing	135	135	0%	0%	135		31-Dec-21	14-May-22	29-Jan-23	12-Jun-23	394					
05-5020	Drainage	105	105	0%	0%	105		31-Dec-21	14-Apr-22	28-Feb-23	12-Jun-23	424					
05-5030	ELV	135	135	0%	0%	135		31-Dec-21	14-May-22	10-Nov-22	24-Mar-23	314					
05-5030-1	Building Management System (BMS)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Mar-22	17-Jun-22	64					
WBS: EP_SP_66_12-WP6D-M49.05.02.1 DDA Chimney		114	114	0%	0%	114		25-Jan-22	18-May-22	20-Mar-22	23-Aug-22	97					
WBS: EP_SP_66_12-WP6D-M49.05.02.1.1 Building services design (excluding fire services installation design)		114	114	0%	0%	114		25-Jan-22	18-May-22	20-Mar-22	23-Aug-22	97					
05-6000-1(5a)	Electrical Services and Lighting	90	90	0%	0%	90		18-Feb-22	18-May-22	10-Apr-22	08-Jul-22	51					
05-6010(5a)	MVAC	90	90	0%	0%	90		18-Feb-22	18-May-22	10-Apr-22	08-Jul-22	51					
05-6020-1(5a)	Plumbing	90	90	0%	0%	90		18-Feb-22	18-May-22	10-May-22	07-Aug-22	81					
05-6030-1(5a)	Drainage	90	90	0%	0%	90		18-Feb-22	18-May-22	05-Apr-22	03-Jul-22	46					
05-6040-1(5a)	ELV	90	90	0%	0%	90		18-Feb-22	18-May-22	26-May-22	23-Aug-22	97					
05-6060-1(5a)	Building Management System (BMS)	90	90	0%	0%	90		25-Jan-22	24-Apr-22	20-Mar-22	17-Jun-22	54					
WBS: EP_SP_66_12-WP6D-M49.05.02.4 DDA Elevated Drive Way and Associated Structures Foundation		105	105	0%	0%	105		01-Mar-22	13-Jun-22	05-Mar-22	08-Jul-22	25					
WBS: EP_SP_66_12-WP6D-M49.05.02.4.1 Building services design (excluding fire services installation design)		105	105	0%	0%	105		01-Mar-22	13-Jun-22	05-Mar-22	08-Jul-22	25					
05-5560	Building Management System (BMS)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	05-Mar-22	17-Jun-22	4					
05-7240	Electrical Services and Lighting	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					
05-7250	MVAC	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					
05-7270	Drainage	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					
WBS: EP_SP_66_12-WP6D-M49.05.02.5 DDA Reception Pavilion		165	165	0%	0%	165		31-Dec-21	13-Jun-22	05-Mar-22	08-Jul-22	25					
WBS: EP_SP_66_12-WP6D-M49.05.02.5.1 Building services design (excluding fire services installation design)		165	165	0%	0%	165		31-Dec-21	13-Jun-22	05-Mar-22	08-Jul-22	25					
05-2130-1	Building Management System (BMS)	105	105	0%	0%	105		31-Dec-21	14-Apr-22	05-Mar-22	17-Jun-22	64					
05-7290	Electrical Services and Lighting	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					
05-7300	MVAC	105	105	0%	0%	105		01-Mar-22	13-Jun-22	26-Mar-22	08-Jul-22	25					

3-Month Rolling Programme (December 2021)

- Remaining Work
- Actual Work
- Critical Remaining Work
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Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021		2022	
														Dec 49	Jan 50	Feb 51	Mar 52
05-4780-3(6C)	Landscape Architectural Design for MT Plant Building and Water Treatment Plant Building (2.11.07.08)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					01-Mar-22
05-4780-4(6C)	Landscape Architectural Design for Administration Building (2.11.07.09)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					01-Mar-22
05-4780-5(6C)	Landscape Architectural Design for IWMF Substation (2.11.07.10)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					01-Mar-22
05-4780-6(6C)	Landscape Architectural Design for Process Building (2.11.07.11)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	21-Mar-22	03-Jul-22	20					01-Mar-22
WBS: EP_SP_66_12-WP6D-M49.05.02.11.10 Facade Structural Design		212	303	57.55%		90		01-Jun-21 A	30-Mar-22	09-Feb-22	09-May-22	40					
05-8000(M45)	Chimney (2.3.14.05.01)	90	303	0%	5%	90		01-Jun-21 A	30-Mar-22	09-Feb-22	09-May-22	40					
05-8010(M45)	IWMF Sub-station	90	301	0%	5%	90		03-Jun-21 A	30-Mar-22	09-Feb-22	09-May-22	40					
05-8010(M45)10	Process Building & Wastewater Treatment Plant (2.6.14.01)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	09-Feb-22	09-May-22	40					31-Dec-21
05-8010(M45)20	Compressor & CCCW Building (2.3.14.04.01)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	09-Feb-22	09-May-22	40					31-Dec-21
05-8010(M45)30	Reception Pavilion (2.3.14.07.01)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	09-Feb-22	09-May-22	40					31-Dec-21
05-8010(M45)40	Mechanical Treatment Plant & Desalination Plant Building (2.4.14.01)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	09-Feb-22	09-May-22	40					31-Dec-21
05-8010(M45)50	Administration Building and Viewing Gallery (2.7.12.01)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	09-Feb-22	09-May-22	40					31-Dec-21
WBS: EP_SP_66_12-WP6D-M49.05.02.12 DDA Testing and Commissioning (2.12)		105	105	0%		105		01-Mar-22	13-Jun-22	28-Aug-22	10-Dec-22	180					
05-4810-1(5a)	Factory Acceptance Testing plan (2.12.09.02-07) (8 Packages)	105	105	0%	0%	105		01-Mar-22	13-Jun-22	28-Aug-22	10-Dec-22	180					01-Mar-22
WBS: EP_SP_66_12-WP6D-M49.05.02.13 DDA Transportation Facilities for the Operation (2.13)		409	409	0%		409		01-Mar-22	13-Apr-23	14-Oct-23	30-Dec-24	627					
05-4850	Design of vehicles for MSW and Ash and Residues delivery (2.13.05)	294	294	0%	0%	294		01-Mar-22	19-Dec-22	14-Oct-23	02-Aug-24	592					01-Mar-22
05-4860	Design of marine vessels for the use of the Employer and visitors (2.13.06)	409	409	0%	0%	409		01-Mar-22	13-Apr-23	18-Nov-23	30-Dec-24	627					01-Mar-22
WBS: EP_SP_66_12-WP6D-M49.05.02.14 DDA Miscellaneous Works (2.14)		434	434	0%		434		01-Mar-22	08-May-23	11-May-23	17-Jul-24	436					
05-4880	Design of visitors and environmental education facilities (2.14.06)	434	434	0%	0%	434		01-Mar-22	08-May-23	11-May-23	17-Jul-24	436					01-Mar-22
WBS: EP_SP_66_12-WP6D-M49.05.02.16 DDA Auxiliary Plant Systems (2.16)		165	165	0%		165		30-Jan-22	13-Jul-22	23-May-23	04-Oct-23	448					
05-4940-1(5a)	IWMF Laboratory (2.16.08)	135	135	0%	0%	135		01-Mar-22	13-Jul-22	23-May-23	04-Oct-23	448					01-Mar-22
05-4940-2(5a)	hoisting systems (2.16.10)	135	135	0%	0%	135		30-Jan-22	13-Jun-22	23-May-23	04-Oct-23	478					30-Jan-22
WBS: EP_SP_66_12-WP6D-M49.06 Procurement of Major Equipment		1545	1840	71.59%		439		01-Mar-18 A	14-Mar-23	18-Oct-21	13-Sep-23	183					
WBS: EP_SP_66_12-WP6D-M49.06.1 Off-site Fabrication of Incineration Modules		1438	1623	76.22%		342		29-Jun-18 A	07-Dec-22	18-Oct-21	01-Feb-23	56					
WBS: EP_SP_66_12-WP6D-M49.06.1.25 Material Procurement		911	1461	80.24%		180		29-Jun-18 A	28-Jun-22	10-Apr-22	06-Sep-22	70					
06-1000-1(1)	Mechanical Equipment Material Submission and Approval	180	1331	66.67%	58%	60		09-Jul-18 A	28-Feb-22	10-Apr-22	08-Jun-22	100					28-Feb-22, Mechanical Equip
06-1000-2(1)	Pipe Material Submission and Approval	180	884	66.67%	58%	60		29-Oct-19 A	30-Mar-22	10-Apr-22	08-Jun-22	70					28-Feb-22, Electrical and Ins
06-1000-3(1)	Electrical and Instrumentation Material Submission and Approval	180	854	66.67%	58%	60		29-Oct-19 A	28-Feb-22	10-Apr-22	08-Jun-22	100					28-Feb-22, Electrical and Ins
06-1010-1(1)	Mechanical Equipment Procurement (incl. FAT)	90	1431	33.33%	33.33%	60		29-Jun-18 A	29-May-22	09-Jul-22	06-Sep-22	100					
06-1010-2(1)	Pipe Material Procurement (incl. FAT)	90	974	33.33%	33.33%	60		29-Oct-19 A	28-Jun-22	09-Jul-22	06-Sep-22	70					
06-1010-3(1)	Electrical and Instrumentation Material Procurement (Incl. FAT)	90	944	33.33%	33.33%	60		29-Oct-19 A	29-May-22	09-Jul-22	06-Sep-22	100					
WBS: EP_SP_66_12-WP6D-M49.06.1.26 Fabrication of Module (TPU)		707	811	51.63%		342		18-Sep-20 A	07-Dec-22	18-Oct-21	18-Dec-22	11					
WBS: EP_SP_66_12-WP6D-M49.06.1.26.1 Process Island Furnace Boiler line 1		553	746	49.91%		277		18-Sep-20 A	03-Oct-22	18-Oct-21	20-Aug-22	-44					
06-2010(6)	Process Island Furnace Boiler Line 1 Structure Cutting, Painting & Fabrication	370	552	77.57%	77.57%	83		18-Sep-20 A	23-Mar-22	18-Oct-21	08-Jan-22	-74					Process
06-2020(6)	Process Island Furnace Boiler Line 1 Structure Erection	476	704	41.81%	41.81%	277		30-Oct-20 A	03-Oct-22	18-Oct-21	21-Jul-22	-74					
06-2030(6)	Process Island Furnace Boiler Line 1 Mechanical Fabrication	300	503	88.67%	88.67%	34		18-Sep-20 A	02-Feb-22	18-Oct-21	20-Nov-21	-74					Process Island Furnace Boiler Line 1 Mechanical Fabric
06-2030-1(6)	Process Island Furnace Boiler Line 1 Mechanical Erection	245	245	0%	0%	245		02-Jan-22	03-Sep-22	20-Oct-21	21-Jun-22	-74					02-Jan-22
06-2040(6)	Process Island Furnace Boiler Line 1 Piping Fabrication	350	473	49.71%	49.71%	176		09-Mar-21 A	24-Jun-22	18-Oct-21	11-Apr-22	-74					
06-2050(6)	Process Island Furnace Boiler Line 1 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	13-Jan-22	11-Jul-22	13					31-Dec-21
06-2050-1(6)	Process Island Furnace Boiler Line 1 Electrical & Instrumentation installation	190	190	0%	0%	190		30-Jan-22	07-Aug-22	12-Feb-22	20-Aug-22	13					30-Jan-22
WBS: EP_SP_66_12-WP6D-M49.06.1.26.2 Process Island Furnace Boiler line 2		556	753	48.92%		284		18-Sep-20 A	10-Oct-22	23-Oct-21	28-Aug-22	-43					
06-2100(6)	Process Island Furnace Boiler Line 2 Structure Cutting, Painting & Fabrication	370	510	70.81%	70.81%	108		24-Nov-20 A	17-Apr-22	23-Oct-21	07-Feb-22	-69					
06-2110(6)	Process Island Furnace Boiler Line 2 Structure Erection	437	365	35.01%	35.01%	284		11-Oct-21 A	10-Oct-22	23-Oct-21	02-Aug-22	-69					
06-2120(6)	Process Island Furnace Boiler Line 2 Mechanical Fabrication	300	542	75.67%	75.67%	73		18-Sep-20 A	13-Mar-22	23-Oct-21	03-Jan-22	-69					Process Island
06-2120-1(6)	Process Island Furnace Boiler Line 2 Mechanical Erection	200	200	0%	0%	200		19-Feb-22	06-Sep-22	12-Dec-21	29-Jun-22	-69					19-Feb-22
06-2130(6)	Process Island Furnace Boiler Line 2 Piping Fabrication	350	351	84.57%	84.57%	54		09-Mar-21 A	22-Feb-22	23-Oct-21	15-Dec-21	-69					Process Island Furnace Boiler Line
06-2140(6)	Process Island Furnace Boiler Line 2 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	10-Feb-22	08-Aug-22	41					31-Dec-21
06-2140-1(6)	Process Island Furnace Boiler Line 2 Electrical & Instrumentation installation	180	180	0%	0%	180		20-Jan-22	18-Jul-22	02-Mar-22	28-Aug-22	41					20-Jan-22
WBS: EP_SP_66_12-WP6D-M49.06.1.26.3 Process Island Furnace Boiler line 3		613	769	51.06%		300		18-Sep-20 A	26-Oct-22	22-Nov-21	17-Oct-22	-9					
06-2190(6)	Process Island Furnace Boiler Line 3 Structure Cutting, Painting & Fabrication	370	525	62.43%	62.43%	139		10-Dec-20 A	18-May-22	22-Nov-21	09-Apr-22	-39					
06-2200-1(6)	Process Island Furnace Boiler Line 3 Structure Erection	429	377	30.07%	30.07%	300		15-Oct-21 A	26-Oct-22	22-Nov-21	17-Sep-22	-39					
06-2210-1(6)	Process Island Furnace Boiler Line 3 Mechanical Fabrication	270	542	72.96%	72.96%	73		18-Sep-20 A	13-Mar-22	22-Nov-21	02-Feb-22	-39					Process Island
06-2215-1(6)	Process Island Furnace Boiler Line 3 Mechanical Erection	248	248	0%	0%	248		22-Jan-22	26-Sep-22	14-Dec-21	18-Aug-22	-39					22-Jan-22
06-2220-1(6)	Process Island Furnace Boiler Line 3 Piping Fabrication	350	442	58.57%	58.57%	145		09-Mar-21 A	24-May-22	22-Nov-21	15-Apr-22	-39					
06-2230-1(6)	Process Island Furnace Boiler Line 3 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	12-Mar-22	07-Sep-22	71					31-Dec-21
06-2235-1(6)	Process Island Furnace Boiler Line 3 Electrical & Instrumentation installation	190	190	0%	0%	190		30-Jan-22	07-Aug-22	11-Apr-22	17-Oct-22	71					30-Jan-22
WBS: EP_SP_66_12-WP6D-M49.06.1.26.4 Process Island Furnace Boiler line 4		638	781	51.1%		312		18-Sep-20 A	07-Nov-22	24-Nov-21	31-Oct-22	-7					
06-2280(6)	Process Island Furnace Boiler Line 4 Structure Cutting, Painting & Fabrication	370	478	67.3%	67.3%	121		08-Jan-21 A	30-Apr-22	24-Nov-21	24-Mar-22	-37					
06-2290-1(6)	Process Island Furnace Boiler Line 4 Structure Erection	485	368	35.67%	35.67%	312		05-Nov-21 A	07-Nov-22	24-Nov-21	01-Oct-22	-37					
06-2300-1(6)	Process Island Furnace Boiler Line 4 Mechanical Fabrication	270	561	65.93%	65.93%	92		18-Sep-20 A	01-Apr-22	24-Nov-21	23-Feb-22	-37					
06-2305-1(6)	Process Island Furnace Boiler Line 4 Mechanical Erection	250	250	0%	0%	250		01-Feb-22	08-Oct-22	26-Dec-21	01-Sep-22	-37					01-Feb-22
06-2310-1(6)	Process Island Furnace Boiler Line 4 Piping Fabrication	350	442	54.57%	54.57%	159		23-Mar-21 A	07-Jun-22	24-Nov-21	01-May-22	-37					
06-2320-1(6)	Process Island Furnace Boiler Line 4 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	26-Mar-22	21-Sep-22	85					31-Dec-21
06-2325-1(6)	Process Island Furnace Boiler Line 4 Electrical & Instrumentation installation	190	1														

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021		2022	
														Dec	Jan	Feb	Mar
06-2390(6)	Process Island Furnace Boiler Line 5 Mechanical Fabrication	270	560	66.3%	66.3%	91		18-Sep-20 A	31-Mar-22	03-Dec-21	03-Mar-22	-28					
06-2390-1(6)	Process Island Furnace Boiler Line 5 Mechanical Erection	283	283	0%	0%	283		07-Feb-22	16-Nov-22	10-Jan-22	19-Oct-22	-28					
06-2400-1(6)	Process Island Furnace Boiler Line 5 Piping Fabrication	350	442	54.57%	54.57%	159		23-Mar-21 A	07-Jun-22	03-Dec-21	10-May-22	-28					07-Feb-22
06-2410-1(6)	Process Island Furnace Boiler Line 5 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	13-Apr-22	09-Oct-22	103					
06-2415-1(6)	Process Island Furnace Boiler Line 5 Electrical & Instrumentation installation	190	190	0%	0%	190		01-Mar-22	06-Sep-22	12-Jun-22	18-Dec-22	103					
WBS: EP_SP_66_12-WP6D-M49.06.1.26.6 Process Island Furnace Boiler line 6		707	780	56.01%	56.01%	311		18-Sep-20 A	06-Nov-22	10-Jan-22	16-Nov-22	10					
06-2460(6)	Process Island Furnace Boiler Line 6 Structure Cutting, Painting & Fabrication	370	506	90%	90%	37		18-Sep-20 A	05-Feb-22	10-Jan-22	15-Feb-22	10					
06-2470(6)	Process Island Furnace Boiler Line 6 Structure Erection	462	392	32.68%	32.68%	311		11-Oct-21 A	06-Nov-22	10-Jan-22	16-Nov-22	10					
06-2480(6)	Process Island Furnace Boiler Line 6 Mechanical Fabrication	271	271	0%	0%	271		31-Dec-21	27-Sep-22	30-Jan-22	27-Oct-22	30					
06-2480-1(6)	Process Island Furnace Boiler Line 6 Mechanical Erection	320	560	71.56%	71.56%	91		18-Sep-20 A	31-Mar-22	10-Jan-22	10-Apr-22	10					
06-2490(6)	Process Island Furnace Boiler Line 6 Piping Fabrication	350	500	49.71%	49.71%	176		10-Feb-21 A	24-Jun-22	10-Jan-22	04-Jul-22	10					
WBS: EP_SP_66_12-WP6D-M49.06.1.7 Fabrication of Module (FGC)		702	714	53.13%	53.13%	329		11-Dec-20 A	24-Nov-22	20-Oct-21	01-Feb-23	69					
WBS: EP_SP_66_12-WP6D-M49.06.1.7.1 Process Island FGC line 1		649	684	52.39%	52.39%	309		21-Dec-20 A	04-Nov-22	20-Oct-21	24-Aug-22	-72					
06-2000(6)	Process Island FGC Line 1 Structure Cutting, Painting & Fabrication	274	510	27.37%	27.37%	199		23-Feb-21 A	17-Jul-22	20-Oct-21	06-May-22	-72					
06-2550(6)	Process Island FGC Line 1 Structure Erection	474	583	34.81%	34.81%	309		01-Apr-21 A	04-Nov-22	20-Oct-21	24-Aug-22	-72					
06-2560(6)	Process Island FGC Line 1 Mechanical Fabrication	270	392	93.7%	93.7%	17		21-Dec-20 A	16-Jan-22	20-Oct-21	05-Nov-21	-72					Process Island FGC Line 1 Mechanical Fabrication, 16-Jan-22, 16-Jan-22
06-2560-1(6)	Process Island FGC Line 1 Mechanical Erection	230	230	0%	0%	230		15-Feb-22	02-Oct-22	05-Dec-21	22-Jul-22	-72					15-Feb-22
06-2570(6)	Process Island FGC Line 1 Piping Fabrication	350	411	44.29%	44.29%	195		29-May-21 A	13-Jul-22	20-Oct-21	02-May-22	-72					
06-2580(6)	Process Island FGC Line 1 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	03-Dec-21	31-May-22	-28					
WBS: EP_SP_66_12-WP6D-M49.06.1.7.2 Process Island FGC line 2		594	622	55.89%	55.89%	262		05-Jan-21 A	18-Sep-22	02-Jan-22	27-Sep-22	9					
06-2630(6)	Process Island FGC Line 2 Structure Cutting, Painting & Fabrication	345	475	54.49%	54.49%	157		16-Feb-21 A	05-Jun-22	02-Jan-22	07-Jun-22	2					
06-2640(6)	Process Island FGC Line 2 Structure Erection	441	521	43.99%	43.99%	247		01-Apr-21 A	03-Sep-22	02-Jan-22	05-Sep-22	2					
06-2650(6)	Process Island FGC Line 2 Mechanical Fabrication	270	450	66.67%	66.67%	90		05-Jan-21 A	30-Mar-22	02-Jan-22	01-Apr-22	2					
06-2650-1(6)	Process Island FGC Line 2 Mechanical Erection	209	209	0%	0%	209		01-Jan-22	28-Jul-22	03-Jan-22	30-Jul-22	2					
06-2660(6)	Process Island FGC Line 2 Piping Fabrication	350	473	25.14%	25.14%	262		03-Jun-21 A	18-Sep-22	02-Jan-22	20-Sep-22	2					
06-2660-1(6)	Process Island FGC Line 2 Piping Installation	175	175	0%	0%	175		31-Dec-21	23-Jun-22	22-Mar-22	12-Sep-22	81					
06-2670(6)	Process Island FGC Line 2 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	07-Mar-22	02-Sep-22	66					
06-2670-1(6)	Process Island FGC Line 2 Electrical & Instrumentation installation	175	175	0%	0%	175		30-Jan-22	23-Jul-22	06-Apr-22	27-Sep-22	66					
WBS: EP_SP_66_12-WP6D-M49.06.1.7.3 Process Island FGC line 3		647	690	52.86%	52.86%	305		11-Dec-20 A	31-Oct-22	03-Jan-22	26-Nov-22	26					
06-2720(6)	Process Island FGC Line 3 Structure Cutting, Painting & Fabrication	345	525	59.42%	59.42%	140		11-Dec-20 A	19-May-22	03-Jan-22	22-May-22	3					
06-2730(6)	Process Island FGC Line 3 Structure Erection	494	549	38.26%	38.26%	305		01-May-21 A	31-Oct-22	03-Jan-22	03-Nov-22	3					
06-2740(6)	Process Island FGC Line 3 Mechanical Fabrication	270	451	66.3%	66.3%	91		05-Jan-21 A	31-Mar-22	03-Jan-22	03-Apr-22	3					
06-2740-1(6)	Process Island FGC Line 3 Mechanical Erection	228	228	0%	0%	228		25-Jan-22	09-Sep-22	28-Jan-22	12-Sep-22	3					
06-2750(6)	Process Island FGC Line 3 Piping Fabrication	350	473	25.14%	25.14%	262		03-Jun-21 A	18-Sep-22	03-Jan-22	21-Sep-22	3					
06-2760(6)	Process Island FGC Line 3 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	22-Mar-22	17-Sep-22	81					
06-2760-1(6)	Process Island FGC Line 3 Electrical & Instrumentation installation	190	190	0%	0%	190		01-Mar-22	06-Sep-22	21-May-22	26-Nov-22	81					
WBS: EP_SP_66_12-WP6D-M49.06.1.7.4 Process Island FGC line 4		647	649	55.33%	55.33%	289		05-Jan-21 A	15-Oct-22	17-Jan-22	03-Dec-22	49					
06-2810(6)	Process Island FGC Line 4 Structure Cutting, Painting & Fabrication	345	409	56.81%	56.81%	149		15-Apr-21 A	28-May-22	17-Jan-22	14-Jun-22	17					
06-2820(6)	Process Island FGC Line 4 Structure Erection	494	512	43.93%	43.93%	277		10-May-21 A	03-Oct-22	17-Jan-22	20-Oct-22	17					
06-2830(6)	Process Island FGC Line 4 Mechanical Fabrication	270	511	44.07%	44.07%	151		05-Jan-21 A	30-May-22	17-Jan-22	16-Jun-22	17					
06-2830-1(6)	Process Island FGC Line 4 Mechanical Erection	246	246	0%	0%	246		31-Dec-21	02-Sep-22	17-Jan-22	19-Sep-22	17					
06-2840(6)	Process Island FGC Line 4 Piping Fabrication	180	494	0%	0%	289		09-Jun-21 A	15-Oct-22	17-Jan-22	01-Nov-22	17					
06-2850(6)	Process Island FGC Line 4 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	28-Apr-22	24-Oct-22	118					
06-2850-1(6)	Process Island FGC Line 4 Electrical & Instrumentation installation	190	190	0%	0%	190		30-Jan-22	07-Aug-22	28-May-22	03-Dec-22	118					
WBS: EP_SP_66_12-WP6D-M49.06.1.7.5 Process Island FGC line 5		486	689	32.3%	32.3%	329		05-Jan-21 A	24-Nov-22	03-Feb-22	01-Feb-23	69					
06-2900(6)	Process Island FGC Line 5 Structure Cutting, Painting & Fabrication	345	483	30.72%	30.72%	239		01-May-21 A	26-Aug-22	03-Feb-22	29-Sep-22	34					
06-2910(6)	Process Island FGC Line 5 Structure Erection	455	410	27.69%	27.69%	329		11-Oct-21 A	24-Nov-22	03-Feb-22	28-Dec-22	34					
06-2920(6)	Process Island FGC Line 5 Mechanical Fabrication	270	510	44.44%	44.44%	150		05-Jan-21 A	29-May-22	03-Feb-22	02-Jul-22	34					
06-2920-1(6)	Process Island FGC Line 5 Mechanical Erection	260	260	0%	0%	260		31-Dec-21	16-Sep-22	03-Feb-22	20-Oct-22	34					
06-2930(6)	Process Island FGC Line 5 Piping Fabrication	350	515	8.86%	8.86%	319		18-Jun-21 A	14-Nov-22	03-Feb-22	18-Dec-22	34					
06-2940(6)	Process Island FGC Line 5 Electrical & Instrumentation Fabrication	180	180	0%	0%	180		31-Dec-21	28-Jun-22	01-Jun-22	27-Nov-22	152					
06-2940-1(6)	Process Island FGC Line 5 Electrical & Instrumentation installation	190	190	0%	0%	190		25-Feb-22	02-Sep-22	27-Jul-22	01-Feb-23	152					25-Feb-22
WBS: EP_SP_66_12-WP6D-M49.06.1.7.6 Process Island FGC line 6		549	680	41.71%	41.71%	320		05-Jan-21 A	15-Nov-22	10-Feb-22	24-Jan-23	70					
06-2990(6)	Process Island FGC Line 6 Structure Cutting, Painting & Fabrication	345	479	30.72%	30.72%	239		05-May-21 A	26-Aug-22	10-Feb-22	06-Oct-22	41					
06-3000(6)	Process Island FGC Line 6 Structure Erection	427	405	25.06%	25.06%	320		07-Oct-21 A	15-Nov-22	10-Feb-22	26-Dec-22	41					
06-3010(6)	Process Island FGC Line 6 Mechanical Fabrication	270	551	29.26%	29.26%	191		05-Jan-21 A	09-Jul-22	10-Feb-22	19-Aug-22	41					
06-3010-1(6)	Process Island FGC Line 6 Mechanical Erection	280	280	0%	0%	280		09-Jan-22	15-Oct-22	19-Feb-22	25-Nov-22	41					
06-3020(6)	Process Island FGC Line 6 Piping Fabrication	190	190	0%	0%	190		31-Dec-21	08-Jul-22	19-Jul-22	24-Jan-23	200					
06-3025(6)	Process Island FGC Line 6 Piping Installation	180	180	0%	0%	180		01-Mar-22	27-Aug-22	19-Jun-22	15-Dec-22	110					
06-3030(6)	Process Island FGC Line 6 Electrical & Instrumentation Fabrication	180	211	33.89%	33.89%	119		30-Sep-21 A	28-Apr-22	10-Feb-22	08-Jun-22	41					
WBS: EP_SP_66_12-WP6D-M49.06.2 Off-site Fabrication of Turbine Modules		995	1840	55.88%	55.88%	439		01-Mar-18 A	14-Mar-23	25-Apr-22	23-Jul-23	131					
WBS: EP_SP_66_12-WP6D-M49.06.2.1 Material Procurement		546	1581	67.03%	67.03%	180		01-Mar-18 A	28-Jun-22	08-Nov-22	05-Jun-23	342					
06-1050-2(1)	Pipe Material Submission and Approval	90	1461	33.33%	33.33%	60		01-Mar-18 A	28-Feb-22	08-Nov-22	06-Jan-23	312					
06-1050-3(1)	Electrical and Instrumentation Material Submission and Approval	90	1352	33.33%	33.33%	60		18-Jun-18 A	28-Feb-22	06-Feb-23	06-Apr-23	402					28-Feb-22, Pipe Material Sub
06-1060-1(1)	Mechanical Equipment Procurement (Incl. FAT)	380	246	84.21%	84.21%	60		27-Aug-21 A	29-Apr-22	07-Jan-23	07-Mar-23	312					28-Feb-22, Electrical and Ins
06-1060-2(1)	Pipe Material Procurement (Incl. FAT)	180	762	66.67%	66.67%												

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021				2022			
														Dec	Jan	Feb	Mar	Dec	Jan	Feb	Mar
WBS: EP_SP_66_12-WP6D-M49.06.2.2 Fabrication of Module (Power Island)		570	597	22.98%		439		26-Jul-21 A	14-Mar-23	25-Apr-22	23-Jul-23	131									
WBS: EP_SP_66_12-WP6D-M49.06.2.2.1 Turbine Module 1		518	553	23.67%		395		26-Jul-21 A	29-Jan-23	07-May-22	05-Jun-23	127									
06-4010(6)	Turbine Module 1 - Steam Turbine 1 Fabrication	450	553	12.22%	12.22%	395		26-Jul-21 A	29-Jan-23	07-May-22	05-Jun-23	127									
06-4020(6)	Turbine Module 1 - Generator & Equipment Installation	450	456	25.78%	25.78%	334		31-Aug-21 A	29-Nov-22	07-Jul-22	05-Jun-23	188									
06-4040(6)	Turbine Module 1 - TBS Tower 1 Fabrication & Installation	330	387	20.91%	20.91%	261		27-Aug-21 A	17-Sep-22	18-Sep-22	05-Jun-23	261									
WBS: EP_SP_66_12-WP6D-M49.06.2.2.2 Turbine Module 2		450	597	2.44%	2.44%	439		26-Jul-21 A	14-Mar-23	25-Apr-22	07-Jul-23	115									
06-4210(6)	Turbine Module 2 - Steam Turbine 2 Fabrication	450	597	2.44%	2.44%	439		26-Jul-21 A	14-Mar-23	25-Apr-22	07-Jul-23	115									
06-4220(6)	Turbine Module 2 - Generator & Equipment Installation	450	449	25.78%	25.78%	334		07-Sep-21 A	29-Nov-22	08-Aug-22	07-Jul-23	220									
06-4240(6)	Turbine Module 2 - TBS Tower 2 Fabrication & Installation	330	433	3.94%	3.94%	317		06-Sep-21 A	12-Nov-22	25-Aug-22	07-Jul-23	237									
WBS: EP_SP_66_12-WP6D-M49.06.2.2.3 Turbine Module 3		508	597	13.58%		439		26-Jul-21 A	14-Mar-23	11-May-22	23-Jul-23	131									
06-4410(6)	Turbine Module 3 - Steam Turbine 3 Fabrication	450	597	2.44%	2.44%	439		26-Jul-21 A	14-Mar-23	11-May-22	23-Jul-23	131									
06-4420(6)	Turbine Module 3 - Generator & Equipment Installation	450	449	25.78%	25.78%	334		07-Sep-21 A	29-Nov-22	24-Aug-22	23-Jul-23	236									
06-4440(6)	Turbine Module 3 - TBS Tower 3 Fabrication & Installation	330	330	0%	0%	330		31-Dec-21	25-Nov-22	28-Aug-22	23-Jul-23	240									
WBS: EP_SP_66_12-WP6D-M49.06.3 Procurement for ACC Units		492	597	18.7%		400		17-Jun-21 A	03-Feb-23	03-Jul-22	13-Sep-23	222									
06-1110	Material & Equipment Procurement	50	383	0%	0%	186		17-Jun-21 A	04-Jul-22	12-Dec-22	15-Jun-23	346									
06-1120	Off-site Fabrication of ACC-1 Units	400	326	47.5%	47.5%	210		06-Sep-21 A	28-Jul-22	18-Nov-22	15-Jun-23	322									
06-1120-1	Off-site Fabrication of ACC-2 Units	400	400	0%	0%	400		31-Dec-21	03-Feb-23	03-Jul-22	06-Aug-23	184									
06-1120-2	Off-site Fabrication of ACC-3 Units	400	400	0%	0%	400		31-Dec-21	03-Feb-23	10-Aug-22	13-Sep-23	222									
WBS: EP_SP_66_12-WP6D-M49.06.30 Procurement for Administration Building		90	90	0%		90		31-Dec-21	30-Mar-22	06-Dec-22	05-Mar-23	340									
06-2020	Electrical and Instrumentation Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	06-Dec-22	05-Mar-23	340									
WBS: EP_SP_66_12-WP6D-M49.06.26 Procurement for CCCW Equipment		90	90	0%		90		31-Dec-21	30-Mar-22	30-Aug-22	27-Nov-22	242									
06-1400(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	30-Aug-22	27-Nov-22	242									
WBS: EP_SP_66_12-WP6D-M49.06.4 Procurement for MT Plant Equipment		90	90	0%		90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
06-1150-1(1)	Mechanical Equipment Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
06-1150-2(1)	Pipe Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
06-1150-3(1)	Electrical and Instrumentation Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
WBS: EP_SP_66_12-WP6D-M49.06.5 Procurement for WWTP Equipment		421	581	7.36%		390		23-Jun-21 A	24-Jan-23	14-Jan-22	07-Feb-23	14									
06-1190-1(1)	Mechanical Equipment Material Submission and Approval	90	251	33.33%	33.33%	60		23-Jun-21 A	28-Feb-22	14-Apr-22	12-Jun-22	104									
06-1190-2(1)	Pipe Material Submission and Approval	90	251	33.33%	33.33%	60		23-Jun-21 A	28-Feb-22	14-Jan-22	14-Mar-22	14									
06-1190-3(1)	Electrical and Instrumentation Material Submission and Approval	90	215	33.33%	33.33%	60		29-Jul-21 A	28-Feb-22	14-Jan-22	14-Mar-22	14									
06-1200-2(1)	Pipe Material Procurement (Incl. FAT)	330	330	0%	0%	330		01-Mar-22	24-Jan-23	15-Mar-22	07-Feb-23	14									
06-1200-3(1)	Electrical and Instrumentation Material Procurement (Incl. FAT)	330	330	0%	0%	330		01-Mar-22	24-Jan-23	15-Mar-22	07-Feb-23	14									
WBS: EP_SP_66_12-WP6D-M49.06.6 Procurement for Desal & Demin Plant Equipment		370	1062	8.38%		339		08-Jan-20 A	04-Dec-22	17-Jul-22	24-Jun-23	202									
06-1230-1(1)	Mechanical Equipment Material Submission and Approval	90	812	1.11%	1.11%	89		08-Jan-20 A	29-Mar-22	21-Jul-22	17-Oct-22	202									
06-1230-2(1)	Pipe Material Submission and Approval	90	812	1.11%	1.11%	89		08-Jan-20 A	29-Mar-22	21-Jul-22	17-Oct-22	202									
06-1230-3(1)	Electrical and Instrumentation Material Submission and Approval	90	713	1.11%	1.11%	89		16-Apr-20 A	29-Mar-22	21-Jul-22	17-Oct-22	202									
06-1240-1(1)	Mechanical Equipment Procurement (Incl. FAT)	250	250	0%	0%	250		30-Mar-22	04-Dec-22	18-Oct-22	24-Jun-23	202									
06-1240-2(1)	Pipe Material Procurement (Incl. FAT)	250	250	0%	0%	250		30-Mar-22	04-Dec-22	18-Oct-22	24-Jun-23	202									
06-1240-3(1)	Electrical and Instrumentation Material Procurement (Incl. FAT)	250	250	0%	0%	250		30-Mar-22	04-Dec-22	18-Oct-22	24-Jun-23	202									
WBS: EP_SP_66_12-WP6D-M49.06.6.4 Procurement for MT Plant Equipment		90	90	0%		90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
06-1150-1(1)10	Mechanical Equipment Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
06-1150-2(1)10	Pipe Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
06-1150-3(1)10	Electrical and Instrumentation Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	17-Jul-22	14-Oct-22	198									
WBS: EP_SP_66_12-WP6D-M49.06.7 Procurement for HV Transformers and Associated Equipment		550	1020	77.45%		124		19-Jul-19 A	03-May-22	10-Jan-22	10-Dec-22	221									
WBS: EP_SP_66_12-WP6D-M49.06.7.1 Procurement of Transformers & EDG		550	1020	77.45%		124		19-Jul-19 A	03-May-22	09-Aug-22	10-Dec-22	221									
06-1280(1)	Procurement of Transformers	550	1020	77.45%	77.45%	124		19-Jul-19 A	03-May-22	09-Aug-22	10-Dec-22	221									
WBS: EP_SP_66_12-WP6D-M49.06.7.2 Procurement of Switchboard/Pannels and Cables		90	90	0%		90		31-Dec-21	30-Mar-22	10-Jan-22	09-Apr-22	10									
06-2090(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	10-Jan-22	09-Apr-22	10									
WBS: EP_SP_66_12-WP6D-M49.06.9 Procurement for Onshore Crane at Berth		90	90	0%		90		31-Dec-21	30-Mar-22	20-May-22	17-Aug-22	140									
06-1350	Supplier Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	20-May-22	17-Aug-22	140									
WBS: EP_SP_66_12-WP6D-M49.06.10 Procurement and Off-site Fabrication of Pipe Bridges (Incl. Pipings)		90	90	0%		90		31-Dec-21	30-Mar-22	16-Mar-22	13-Jun-22	75									
06-1390(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	16-Mar-22	13-Jun-22	75									
WBS: EP_SP_66_12-WP6D-M49.06.11 Procurement for LV Electrical System for On-site Installation		90	90	0%		90		31-Dec-21	30-Mar-22	26-May-22	23-Aug-22	146									
06-1430(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	26-May-22	23-Aug-22	146									
WBS: EP_SP_66_12-WP6D-M49.06.12 Procurement for Ventilation and Odor Treatment System		375	375	0%		375		31-Dec-21	09-Jan-23	14-Jan-22	23-Jan-23	14									
06-1470(1)	Material Submission and Approval	75	75	0%	0%	75		31-Dec-21	15-Mar-22	14-Jan-22	29-Mar-22	14									
06-1820(6C)	Material Submission & Equipment Procurement (for IWMF Substation)	300	300	0%	0%	300		16-Mar-22	09-Jan-23	30-Mar-22	23-Jan-23	14									
WBS: EP_SP_66_12-WP6D-M49.06.13 Procurement for Fire Services System		365	365	0%		365		31-Dec-21	30-Dec-22	13-Feb-22	12-Feb-23	44									
06-1510	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	06-Mar-22	03-Jun-22	65									
WBS: EP_SP_66_12-WP6D-M49.06.13.1 IWMF Substation		365	365	0%		365		31-Dec-21	30-Dec-22	13-Feb-22	12-Feb-23	44									
06-1810(6)	Material Submission & Equipment Procurement (For IWMF Substation)	365	365	0%	0%	365		31-Dec-21	30-Dec-22	13-Feb-22	12-Feb-23	44									
WBS: EP_SP_66_12-WP6D-M49.06.14 Procurement for Plumbing System		90	90	0%		90		31-Dec-21	30-Mar-22	19-Apr-22	17-Jul-22	109									
06-1550	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	19-Apr-22	17-Jul-22	109									
WBS: EP_SP_66_12-WP6D-M49.06.16 Procurement for Lighting System		90																			

Integrated Waste Management Facilities, Phase 1

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021		2022	
														Dec	Jan	Feb	Mar
WBS: EP_SP_66_12-WP6D-M49.06.18	Procurement for Cranage Equipment	240	240	0%	0%	240		31-Dec-21	27-Aug-22	22-Oct-22	18-Jun-23	295					
WBS: EP_SP_66_12-WP6D-M49.06.18.1	Waste Crane	240	240	0%	0%	240		31-Dec-21	27-Aug-22	22-Oct-22	18-Jun-23	295					
06-1710	Material Submission and Approval	60	60	0%	0%	60		31-Dec-21	28-Feb-22	22-Oct-22	20-Dec-22	295			31-Dec-21		28-Feb-22, Material Submiss
06-1720	Material & Equipment Procurement	180	180	0%	0%	180		01-Mar-22	27-Aug-22	21-Dec-22	18-Jun-23	295				01-Mar-22	
WBS: EP_SP_66_12-WP6D-M49.06.18.2	Ash Crane	240	240	0%	0%	240		31-Dec-21	27-Aug-22	22-Oct-22	18-Jun-23	295					
06-1820	Material Submission and Approval	60	60	0%	0%	60		31-Dec-21	28-Feb-22	22-Oct-22	20-Dec-22	295			31-Dec-21		28-Feb-22, Material Submiss
06-1830	Material & Equipment Procurement	180	180	0%	0%	180		01-Mar-22	27-Aug-22	21-Dec-22	18-Jun-23	295				01-Mar-22	
WBS: EP_SP_66_12-WP6D-M49.06.18.3	Shredder	60	60	0%	0%	60		31-Dec-21	28-Feb-22	22-Oct-22	20-Dec-22	295					
06-1860	Material Submission and Approval	60	60	0%	0%	60		31-Dec-21	28-Feb-22	22-Oct-22	20-Dec-22	295			31-Dec-21		28-Feb-22, Material Submiss
WBS: EP_SP_66_12-WP6D-M49.06.18.4	EOTC	240	240	0%	0%	240		31-Dec-21	27-Aug-22	22-Oct-22	18-Jun-23	295					
06-1900	Material Submission and Approval	60	60	0%	0%	60		31-Dec-21	28-Feb-22	22-Oct-22	20-Dec-22	295			31-Dec-21		28-Feb-22, Material Submiss
06-1910	Material & Equipment Procurement	180	180	0%	0%	180		01-Mar-22	27-Aug-22	21-Dec-22	18-Jun-23	295				01-Mar-22	
WBS: EP_SP_66_12-WP6D-M49.06.19	Procurement for Lift and Escalator Systems	90	90	0%	0%	90		31-Dec-21	30-Mar-22	27-May-22	24-Aug-22	147					
06-1750	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	27-May-22	24-Aug-22	147			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.20	Procurement for Soft Landscape Materials	120	120	0%	0%	120		31-Dec-21	29-Apr-22	21-Mar-23	18-Jul-23	445					
06-1790	Material Submission and Approval	120	120	0%	0%	120		31-Dec-21	29-Apr-22	21-Mar-23	18-Jul-23	445			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.22	Procurement for Air Compressor Equipment	90	90	0%	0%	90		31-Dec-21	30-Mar-22	26-Jun-22	23-Sep-22	177					
06-1870(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	26-Jun-22	23-Sep-22	177			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.23	Procurement for Weight Bridge System	90	90	0%	0%	90		31-Dec-21	30-Mar-22	24-Jun-22	21-Sep-22	175					
06-2210(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	24-Jun-22	21-Sep-22	175			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.24	Procurement for Pipes and Insulation for on site installations	90	90	0%	0%	90		31-Dec-21	30-Mar-22	20-Feb-22	20-May-22	51					
06-2250(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	20-Feb-22	20-May-22	51			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.25	Procurement for Truck Wash System	90	90	0%	0%	90		31-Dec-21	30-Mar-22	12-Jul-22	09-Oct-22	193					
06-2290(1)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	12-Jul-22	09-Oct-22	193			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.27	Procurement for Hard Landscape Materials (Paving, Greening, Furnit	90	90	0%	0%	90		31-Dec-21	30-Mar-22	05-Apr-22	03-Jul-22	95					
06-7000(6)	Material Submission and Approval	90	90	0%	0%	90		31-Dec-21	30-Mar-22	05-Apr-22	03-Jul-22	95			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.06.28	Procurement for Building Finishes Materials (Doors, windows and lo	90	90	0%	0%	90		31-Dec-21	30-Mar-22	14-Mar-22	11-Jun-22	73					
06-8000(6)	Material Submission and Approval (Other than IWMF Substation)	90	90	0%	0%	90		31-Dec-21	30-Mar-22	14-Mar-22	11-Jun-22	73			31-Dec-21		
WBS: EP_SP_66_12-WP6D-M49.08	Maritime Works	1010	1042	75.47%	75.47%	248		29-Oct-19 A	04-Sep-22	31-Dec-21	23-Dec-22	110					
WBS: EP_SP_66_12-WP6D-M49.08.1	Marine Construction	1010	1042	75.47%	75.47%	248		29-Oct-19 A	04-Sep-22	31-Dec-21	23-Dec-22	110					
WBS: EP_SP_66_12-WP6D-M49.08.1.1	Phase I - Construction of Perimeter Seawalls	927	984	79.5%	79.5%	190		29-Oct-19 A	08-Jul-22	11-Jan-22	04-Aug-22	27					
WBS: EP_SP_66_12-WP6D-M49.08.1.1.1	Seawall and Berth at DCM Area	927	984	79.5%	79.5%	190		29-Oct-19 A	08-Jul-22	11-Jan-22	04-Aug-22	27					
WBS: EP_SP_66_12-WP6D-M49.08.1.1.1.5	Seawall Structural Works	927	984	79.5%	79.5%	190		29-Oct-19 A	08-Jul-22	11-Jan-22	04-Aug-22	27					
08-1115(3)	Caisson infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	250	808	94.4%	94.4%	14		29-Oct-19 A	13-Jan-22	06-Jun-22	20-Jun-22	157					13-Jan-22, Caisson infill, Solid ballast, toe protection, precast concrete block
WBS: EP_SP_66_12-WP6D-M49.08.1.1.1.5.1	Remain Works	257	295	26.07%	26.07%	190		17-Sep-21 A	08-Jul-22	11-Jan-22	04-Aug-22	27					
08-1105-08(6)	Prefabrication of Precast Beam and Slab for Seawall A	140	126	82.14%	82.14%	25		21-Sep-21 A	24-Jan-22	11-Jan-22	05-Feb-22	11					24-Jan-22, Prefabrication of Precast Beam and Slab for Seawall
08-1105-09(6)	Prefabrication of Precast Beam & Slab for Seawall B	140	126	82.14%	82.14%	25		21-Sep-21 A	24-Jan-22	11-Jan-22	05-Feb-22	11					24-Jan-22, Prefabrication of Precast Beam & Slab for Seawall B
08-1105-11(6)	Prefabrication of Precast Copping for Vertical Seawall	140	140	0%	0%	140		25-Jan-22	13-Jun-22	08-Feb-22	27-Jun-22	14					25-Jan-22
08-1120	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall A	220	295	13.64%	13.64%	190		17-Sep-21 A	08-Jul-22	27-Jan-22	04-Aug-22	27					
08-1120-1(6)	Construction of Seawall and Wave Wall Extension from +3mPD to Deck Level for Seawall B	220	289	13.64%	13.64%	190		23-Sep-21 A	08-Jul-22	11-Jan-22	20-Jul-22	11					
WBS: EP_SP_66_12-WP6D-M49.08.1.2	Phase II - Reclamation, Breakwater and Berth Construction	671	808	63.11%	63.11%	248		19-Jun-20 A	04-Sep-22	31-Dec-21	23-Dec-22	110					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1	Reclamation	401	464	38.19%	38.19%	248		29-May-21 A	04-Sep-22	31-Dec-21	23-Dec-22	110					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.6	Reclamation Works	401	464	38.19%	38.19%	248		29-May-21 A	04-Sep-22	31-Dec-21	23-Dec-22	110					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.6.1	Reclamation Fill	198	261	77.4%	77.4%	45		29-May-21 A	13-Feb-22	08-Jan-22	31-Mar-22	46					
08-3030(6)	Fill up +2.5 to +7.5mPD at East Edge Area (91,000m3 @ 400m3/d)	32	219	90.63%	90.63%	3		29-May-21 A	02-Jan-22	08-Jan-22	11-Jan-22	8					02-Jan-22, Fill up +2.5 to +7.5mPD at East Edge Area (91,000m3 @ 400m3/d), Fill up
08-3040(6)	Fill up +2.5 to +7.5mPD at West Edge Area (91,000m3 @ 400m3/d)	32	174	51%	51%	16		29-Jul-21 A	18-Jan-22	11-Jan-22	26-Jan-22	8					18-Jan-22, Fill up +2.5 to +7.5mPD at West Edge Area (91,000m3 @ 400m3/d), Fill up
08-3070(6)	Fill up +2.5 to +7.5mPD at South Edge Area (102,000m3 @ 400m3/d)	26	26	0%	0%	26		18-Jan-22	13-Feb-22	06-Mar-22	31-Mar-22	46					18-Jan-22, Fill up +2.5 to +7.5mPD at South Edge Area (102,000m3 @ 400m3/d), Fill up
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.6.3	Surcharge Filling	49	49	0%	0%	49		18-Jan-22	08-Mar-22	10-Mar-22	23-Apr-22	46					
08-3060(6)	Fill up +7.5 to +11&12mPD at West Edge Area (Stage 6) (55,000m3 @ 2500m3/d)	22	22	0%	0%	22		18-Jan-22	09-Feb-22	10-Mar-22	31-Mar-22	50					18-Jan-22, Fill up +7.5 to +11&12mPD at West Edge Area (Stage 6) (55,000m3 @ 2500m3/d), Fill up
08-3080(6)	Fill up +7.5 to +11&13mPD at South Edge Area (Stage 7) (58,000m3 @ 2500m3/d)	23	23	0%	0%	23		13-Feb-22	08-Mar-22	01-Apr-22	23-Apr-22	46					13-Feb-22, Fill up +7.5 to +11&13mPD at South Edge Area (Stage 7) (58,000m3 @ 2500m3/d), Fill up
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.6.4	Surcharge Period	308	341	19.5%	19.5%	248		29-Sep-21 A	04-Sep-22	31-Dec-21	23-Dec-22	110					
08-3110(6)	Loading @ +12mPD at TH & CCCW Building (Stage 3)	180	122	83.89%	83.89%	29		29-Sep-21 A	28-Jan-22	08-Feb-22	08-Mar-22	39					28-Jan-22, Loading @ +12mPD at TH & CCCW Building (Stage 3)
08-3110-1(6)	Loading @ +12mPD at ACC Building & Substation (Stage 4)	180	180	20%	20%	144		25-Nov-21 A	23-May-22	31-Dec-21	23-May-22	0					
08-3120(6)	Loading @ +11&+13mPD at at East Edge Area (Stage 5)	180	199	1.11%	1.11%	178		29-Dec-21 A	15-Jul-22	27-Jan-22	23-Jul-22	8					
08-3120-1(6)	Loading @ +11&12mPD at West Edge Area (Stage 6)	180	180	0%	0%	180		09-Feb-22	08-Aug-22	27-Jun-22	23-Dec-22	137					
08-3130(6)	Loading @ +11&+13mPD at South Edge Area (Stage 7)	180	180	0%	0%	180		08-Mar-22	04-Sep-22	24-Apr-22	20-Oct-22	46					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.6.7	Surcharge Removal	49	49	0%	0%	49		31-Dec-21	17-Feb-22	09-Mar-22	10-Apr-22	52					
08-3190(6)	Remove Surcharge at CCCW (Stage 3a) (32,000m3 @ 4000m3/d)	8	8	0%	0%	8		31-Dec-21	07-Jan-22	03-Apr-22	10-Apr-22	93					07-Jan-22, Remove Surcharge at CCCW (Stage 3a) (32,000m3 @ 4000m3/d)
08-3190(6)-1	Remove Surcharge at Turbine Hall (Stage 3b) (63,000m3 @ 4000m3/d)	20	20	0%	0%	20		29-Jan-22	17-Feb-22	09-Mar-22	28-Mar-22	39					29-Jan-22, Remove Surcharge at Turbine Hall (Stage 3b) (63,000m3 @ 4000m3/d)
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.1	Instrumentation	218	286	59.16%	59.16%	89		17-Jun-21 A	30-Mar-22	25-Jan-22	20-Sep-22	175					
08-1370 (M23)	Extension of instruments to finished levels	42	224	28.57%	28.57%	30		14-Jul-21 A	23-Feb-22	18-Jul-22	16-Aug-22	175					23-Feb-22, Extension of instrumentation
08-1375 (M23)	Extension of instruments to surcharge top levels	65	245	46.15%	46.15%	35		28-Jul-21 A	30-Mar-22	17-Aug-22	20-Sep-22	175					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.1.1	Instruments above +2.5mPD	158	221	84.77%	84.77%	24		17-Jun-21 A	24-Jan-22	25-Jan-22	31-Mar-22	67					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.1.1.1.7	IWMF Substation (East)	88	157	97.73%	97.73%	2		29-Jul-21 A	01-Jan-22	25-Jan-22	26-Jan-22	25					
08-2060 (M42)																	

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021				2022			
														Dec	Jan	Feb	Mar	Dec	Jan	Feb	Mar
08-1390 (M34)15	Install Sand Drains at Zone D (approx. 62 nr @ 4nr/day/2 set of equipment)	16	16	0%	0%	16		03-Jan-22	18-Jan-22	22-Feb-22	09-Mar-22	50		03-Jan-22	18-Jan-22	Install Sand Drains at Zone D (approx. 62 nr @ 4nr/day/2 set					
08-1390 (M34)20	GI for ground condition verification at other Zone for PVD (10 nr approx @0.5 nr/day) Inc Report	28	28	0%	0%	28		03-Jan-22	30-Jan-22	10-Feb-22	09-Mar-22	38		03-Jan-22	30-Jan-22	GI for ground condition verification at other Zone					
08-1390 (M34)30	Lay Surcharge at remedial works area	30	30	0%	0%	30		31-Jan-22	01-Mar-22	10-Mar-22	08-Apr-22	38		31-Jan-22	01-Mar-22	Lay Surcharge at remedial works area					
08-1390 (M34)40	Surcharge Period at remedial area	180	180	0%	0%	180		02-Mar-22	28-Aug-22	09-Apr-22	05-Oct-22	38		02-Mar-22	05-Oct-22	Surcharge Period at remedial area					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.2 Breakwater		379	653	75.5%		93		19-Jun-20 A	02-Apr-22	14-Mar-22	05-Sep-22	156									
08-1280	Rubble Mound Laying (100,000m3 approx, @550m3/d)	188	511	84.04%	84.04%	30		06-Sep-20 A	29-Jan-22	09-Apr-22	08-May-22	99				29-Jan-22, Rubble Mound Laying (100,000m3 approx, @550					
08-1285(1)	Prefabrication for Caisson	180	616	69%	69%	56		19-Jun-20 A	24-Feb-22	14-Mar-22	08-May-22	73				24-Feb-22, Prefabrication for Cais					
08-1290	Caisson Laying (Total 29nrs, @2 nrs/week)	150	458	77.33%	77.33%	34		24-Dec-20 A	26-Mar-22	05-May-22	07-Jun-22	73				26-Mar-22, Caisson Laying (Total 29nrs, @2 nrs/week)					
08-1295(3)	Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	200	464	86.9%	86.9%	26		25-Dec-20 A	02-Apr-22	10-Aug-22	05-Sep-22	156				02-Apr-22, Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying					
WBS: EP_SP_66_12-WP6D-M49.08.1.2.3 Seawall and Berth at Marine Access		30	295	73.33%		8		19-Mar-21 A	07-Jan-22	21-Apr-22	28-Apr-22	111									
08-1320(5A)	Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc Laying	30	295	73.33%	73.33%	8		19-Mar-21 A	07-Jan-22	21-Apr-22	28-Apr-22	111				07-Jan-22, Caisson Infill, Solid ballast, toe protection, precast concrete blocks ..etc					
WBS: EP_SP_66_12-WP6D-M49.09 Foundation Works		253	337	36.36%		161		08-Jul-21 A	09-Jun-22	31-Dec-21	02-Sep-22	85									
WBS: EP_SP_66_12-WP6D-M49.09.0 Site Investigation and Preliminary Pile		207	197	89.86%		21		08-Jul-21 A	20-Jan-22	31-Dec-21	05-Mar-22	44									
09-1000	Ground Investigation	14	177	92.86%	92.86%	1	Finish On or Befo	08-Jul-21 A	31-Dec-21*	31-Dec-21	31-Dec-21	0				Ground Investigation, 31-Dec-21*, 31-Dec-21*, Ground Investigation					
WBS: EP_SP_66_12-WP6D-M49.09.13 Preliminary Percussive H Pile		113	125	81.42%		21		18-Sep-21 A	20-Jan-22	13-Feb-22	19-Feb-22	44									
09-1020	Preliminary Pile Installation	7	111	0%	0%	7		18-Sep-21 A	06-Jan-22	13-Feb-22	19-Feb-22	44				06-Jan-22, Preliminary Pile Installation, Preliminary Pile Installation, 06-Jan-22					
09-1030	Preliminary Pile Load Test	14	14	0%	0%	14		07-Jan-22	20-Jan-22	20-Feb-22	05-Mar-22	44				07-Jan-22, Preliminary Pile Load Test					
WBS: EP_SP_66_12-WP6D-M49.09.2 Process Building - Waste Bunker & Tipping Hall Bid Foundation		205	253	28.84%		146		15-Sep-21 A	25-May-22	31-Dec-21	02-Sep-22	100									
WBS: EP_SP_66_12-WP6D-M49.09.2.4 Piling Works (Driven H-pile)		133	230	7.52%		123		15-Sep-21 A	02-May-22	31-Dec-21	25-Jul-22	84									
WBS: EP_SP_66_12-WP6D-M49.09.2.4.1 Piling Stage 1 (Module 1)		51	156	3.92%		49		15-Sep-21 A	17-Feb-22	31-Dec-21	25-Jul-22	158									
WBS: EP_SP_66_12-WP6D-M49.09.2.4.1.2 Bunker		51	156	3.92%		49		15-Sep-21 A	17-Feb-22	31-Dec-21	25-Jul-22	158									
09-1120	Driven H Pile Installations (290 nrs ~40m(D), @60m/d 4 Workfronts)	49	148	16.33%	16.33%	41		15-Sep-21 A	09-Feb-22	31-Dec-21	09-Feb-22	0				Driven H Pile Installations (290 nrs ~40m(D), @60m/d 4 Workfronts)					
09-1130	Pile Load Test	8	8	0%	0%	8		10-Feb-22	17-Feb-22	18-Jul-22	25-Jul-22	158				10-Feb-22, Pile Load Test					
WBS: EP_SP_66_12-WP6D-M49.09.2.4.3 Piling Stage 3 (Module 3)		133	167	8.27%		122		17-Nov-21 A	02-May-22	10-Feb-22	02-May-22	0									
WBS: EP_SP_66_12-WP6D-M49.09.2.4.3.1 WWTP		27	55	64%		10		17-Nov-21 A	10-Jan-22	23-Apr-22	02-May-22	112									
09-1150(6)	Predrilling for Driven Pile founding determination (54nr ~60m, @15m/d, 8 Rigs)	27	55	64%	64%	10		17-Nov-21 A	10-Jan-22	23-Apr-22	02-May-22	112				10-Jan-22, Predrilling for Driven Pile founding determination (54nr ~60m, @15m/d, 8 Rigs)					
WBS: EP_SP_66_12-WP6D-M49.09.2.4.3.2 Bunker		82	82	0%		82		10-Feb-22	02-May-22	10-Feb-22	02-May-22	0									
09-2210	Driven H Pile Installations (244 nrs ~40m(D), @60m/d 4 Workfronts)	82	82	0%	0%	82		10-Feb-22	02-May-22	10-Feb-22	02-May-22	0				10-Feb-22, Driven H Pile Installations (244 nrs ~40m(D), @60m/d 4 Workfronts)					
WBS: EP_SP_66_12-WP6D-M49.09.2.1 Piling Works (Socket H-pile)		205	244	28.84%		146		24-Sep-21 A	25-May-22	31-Dec-21	28-Jun-22	34									
WBS: EP_SP_66_12-WP6D-M49.09.2.1.2 Piling Stage 1 (Module 1)		205	244	28.84%		146		24-Sep-21 A	25-May-22	03-Feb-22	28-Jun-22	34									
WBS: EP_SP_66_12-WP6D-M49.09.2.1.2.1 Tipping Hall		205	244	28.84%		146		24-Sep-21 A	25-May-22	03-Feb-22	28-Jun-22	34									
09-2190	Prebored H Pile Installations (43 nrs, 2 Workfronts @4d/no.) Workfront (1# 2#)	86	162	25.58%	25.58%	64		24-Sep-21 A	04-Mar-22	03-Feb-22	07-Apr-22	34				04-Mar-22, Prebored H Pile Installations (43 nrs, 2 Workfronts @4d/no.) Workfront (1# 2#)					
09-2230	Prebored H Pile Installations (41 nrs, 2 Workfronts @4d/no.) Workfront (1# 2#)	82	82	0%	0%	82		05-Mar-22	25-May-22	08-Apr-22	28-Jun-22	34				05-Mar-22, Prebored H Pile Installations (41 nrs, 2 Workfronts @4d/no.) Workfront (1# 2#)					
WBS: EP_SP_66_12-WP6D-M49.09.2.1.1 Piling Stage 2 (Module 2)		120	120	20.83%		95		06-Dec-21 A	04-Apr-22	31-Dec-21	04-Apr-22	0									
WBS: EP_SP_66_12-WP6D-M49.09.2.1.1.1 Tipping Hall		120	120	20.83%		95		06-Dec-21 A	04-Apr-22	31-Dec-21	04-Apr-22	0									
09-2240	Prebored H Pile Installations (60 nrs, 2 Workfronts @4d/no.) Workfront (3# 4#)	120	120	20.83%	20.83%	95		06-Dec-21 A	04-Apr-22	31-Dec-21	04-Apr-22	0				04-Apr-22, Prebored H Pile Installations (60 nrs, 2 Workfronts @4d/no.) Workfront (3# 4#)					
WBS: EP_SP_66_12-WP6D-M49.09.2.5 Pile Cap Construction		39	39	0%		39		18-Feb-22	28-Mar-22	26-Jul-22	02-Sep-22	158									
WBS: EP_SP_66_12-WP6D-M49.09.2.5.1 Pile Cap Stage 1 (Module 1)		39	39	0%		39		18-Feb-22	28-Mar-22	26-Jul-22	02-Sep-22	158									
WBS: EP_SP_66_12-WP6D-M49.09.2.5.1.2 Bunker		39	39	0%		39		18-Feb-22	28-Mar-22	26-Jul-22	02-Sep-22	158									
09-1200-1	Excavation to Pile Cap Formation	25	25	0%	0%	25		18-Feb-22	14-Mar-22	26-Jul-22	19-Aug-22	158				18-Feb-22, Excavation to Pile Cap Formation					
09-2400	Pile Cut-off & Capping Plate	19	19	0%	0%	19		03-Mar-22	21-Mar-22	08-Aug-22	26-Aug-22	158				03-Mar-22, Pile Cut-off & Capping Plate					
09-2410	Pile Caps and Raft Foundation Construction (50m x 36m 4set @100m2/7d)	32	32	0%	0%	32		25-Feb-22	28-Mar-22	02-Aug-22	02-Sep-22	158				25-Feb-22, Pile Caps and Raft Foundation Construction (50m x 36m 4set @100m2/7d)					
WBS: EP_SP_66_12-WP6D-M49.09.3 Process Building - Boiler & Flue Gas Treatment Bid Foundation		170	219	5.29%		161		03-Nov-21 A	09-Jun-22	31-Dec-21	09-Jun-22	0									
WBS: EP_SP_66_12-WP6D-M49.09.3.1 Boiler Building & Flue Gas Foundation		170	219	5.29%		161		03-Nov-21 A	09-Jun-22	31-Dec-21	09-Jun-22	0									
WBS: EP_SP_66_12-WP6D-M49.09.3.1.1 Piling Works (Socket H-pile)		110	117	0%		110		24-Dec-21 A	19-Apr-22	31-Dec-21	25-Apr-22	6									
WBS: EP_SP_66_12-WP6D-M49.09.3.1.1.2 Piling Stage 1 (Module 1)		59	66	0%		59		24-Dec-21 A	27-Feb-22	31-Dec-21	18-Mar-22	19									
09-2580	Prebored H Pile Installations (29 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)	58	58	12.07%	12.07%	51		24-Dec-21 A	19-Feb-22	31-Dec-21	19-Feb-22	0				Prebored H Pile Installations (29 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)					
09-2590	Pile Load Test	8	8	0%	0%	8		20-Feb-22	27-Feb-22	11-Mar-22	18-Mar-22	19				20-Feb-22, Pile Load Test					
WBS: EP_SP_66_12-WP6D-M49.09.3.1.1.1 Piling Stage 2 (Module 2)		40	40	0%		40		20-Feb-22	31-Mar-22	20-Feb-22	31-Mar-22	0									
09-2300	Prebored H Pile Installations (20 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)	40	40	0%	0%	40		20-Feb-22	31-Mar-22	20-Feb-22	31-Mar-22	0				20-Feb-22, Prebored H Pile Installations (20 nrs, 2 Workfronts @4d/no.) Workfront (5# 6#)					
WBS: EP_SP_66_12-WP6D-M49.09.3.1.1.3 Piling Stage 3 (Module 3)		110	110	0%		110		31-Dec-21	19-Apr-22	06-Jan-22	25-Apr-22	6									
09-2620	Prebored H Pile Installations (26 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)	52	52	0%	0%	52		31-Dec-21	20-Feb-22	06-Jan-22	26-Feb-22	6				31-Dec-21, Prebored H Pile Installations (26 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)					
09-2640	Prebored H Pile Installations (13 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)	26	26	0%	0%	26		21-Feb-22	18-Mar-22	27-Feb-22	24-Mar-22	6				21-Feb-22, Prebored H Pile Installations (13 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)					
09-2650	Prebored H Pile Installations (16 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)	32	32	0%	0%	32		19-Mar-22	19-Apr-22	25-Mar-22	25-Apr-22	6				19-Mar-22, Prebored H Pile Installations (16 nrs, 2 Workfronts @4d/no.) Workfront (7# 8#)					
WBS: EP_SP_66_12-WP6D-M49.09.3.1.2 Piling Works (Driven H-pile)		154	203	5.84%		145		03-Nov-21 A	24-May-22	31-Dec-21	24-May-22	0									
WBS: EP_SP_66_12-WP6D-M49.09.3.1.2.1 Piling Stage 1 (Module 1)		96	104	23.96%		73		30-Nov-21 A	13-Mar-22	31-Dec-21	13-Mar-22	0									
09-1320	Driven H Pile Installations (286 nrs ~40m(D), @60m/d 4 Workfronts)	96	96	32.29%	32.29%	65		30-Nov-21 A	05-Mar-22	31-Dec-21	05-Mar-22	0				Driven H Pile Installations (286 nrs ~40m(D), @60m/d 4 Workfronts)					
09-1330	Pile Load Test	8	8	0%	0%	8		06-Mar-22	13-Mar-22	06-Mar-22	13-Mar-22	0				06-Mar-22, Pile Load Test					
WBS: EP_SP_66_12-WP6D-M49.09.3.1.2.2 Piling Stage 2 (Module 2)																					

Activity ID	Activity Name	Original Duration	At Completion Duration	Duration % Complete	Activity % Complete	Remaining Duration	Primary Constraint	Current Start	Current Finish	Late Start	Late Finish	Total Float	M49 Remarks	2021				2022				
														Dec	Jan	Feb	Mar	Dec	Jan	Feb	Mar	
WBS: EP_SP_66_12-WP6D-M49.09.5.1	Piling Works (Driven H-pile)	16	16	0%	0%	16		18-Feb-22	05-Mar-22	03-May-22	18-May-22	74										
09-1720(6)	Predrilling for Driven Pile founding determination (32nr ~60m, @15m/d, 8 Rigs)	16	16	0%	0%	16		18-Feb-22	05-Mar-22	03-May-22	18-May-22	74										
WBS: EP_SP_66_12-WP6D-M49.09.6	Compressor & CCCW Bid Foundation	6	6	0%	0%	6		08-Jan-22	13-Jan-22	11-Apr-22	16-Apr-22	93										
WBS: EP_SP_66_12-WP6D-M49.09.6.1	Piling Works (Driven H-pile)	6	6	0%	0%	6		08-Jan-22	13-Jan-22	11-Apr-22	16-Apr-22	93										
09-2310(6)	Predrilling for Driven Pile founding determination (6nr ~60m, @15m/d, 4 Rigs)	6	6	0%	0%	6		08-Jan-22	13-Jan-22	11-Apr-22	16-Apr-22	93										
WBS: EP_SP_66_12-WP6D-M49.09.7	Chimney Foundation	71	146	0%	0%	88		03-Nov-21 A	28-Mar-22	29-Mar-22	06-May-22	39										
WBS: EP_SP_66_12-WP6D-M49.09.7.1	Piling Works (Bored Pile)	71	146	0%	0%	88		03-Nov-21 A	28-Mar-22	29-Mar-22	06-May-22	39										
09-1810	Predrilling for Bored Pile founding determination (8nr ~60m, @15m/d, 4 Rigs)	8	90	0%	0%	32		03-Nov-21 A	31-Jan-22	05-Apr-22	06-May-22	95										
09-1810-1(6D)	Mobilization of Piling Plants & Equipments and Site Setup	39	39	0%	0%	39		18-Feb-22	28-Mar-22	29-Mar-22	06-May-22	39										
WBS: EP_SP_66_12-WP6D-M49.15	Works By CLP	475	475	0%	0%	475		24-Jul-23	10-Nov-24	11-May-23	31-Dec-24	51										
WBS: EP_SP_66_12-WP6D-M49.15.1	Installation of Transmission System	335	335	0%	0%	335		24-Jul-23	22-Jun-24	11-May-23	02-Jul-24	10										
15-0800	450 days Prior to Commencement of System Commissioning Test	0	0	0%	0%	0		24-Jul-23		11-May-23		-74										
15-0900	Completion of Civil Provision for Transmission	0	0	0%	0%	0			29-Dec-23		02-Jun-24	156										
15-1000	Construction of Transmission System	90	90	0%	0%	90		01-Oct-23	29-Dec-23	04-Feb-24	03-May-24	126										
15-1002	Cable Testing	30	30	0%	0%	30		24-May-24	22-Jun-24	03-Jun-24	02-Jul-24	10										
WBS: EP_SP_66_12-WP6D-M49.15.2	Remaining Installation Works by CLP	150	150	0%	0%	150		30-Apr-24	26-Sep-24	04-May-24	30-Sep-24	4										
15-1005	Handover of CLP Equipment Room for Telecom / Digital s / Security / Metering equipment Installation and test	60	60	0%	0%	60	As Late As Possil	30-Apr-24	28-Jun-24	04-May-24	02-Jul-24	4										
15-1010	132kV cable termination at IWMF 132kV switchgear (2 panels) and associated HVAC circuits	30	30	0%	0%	30		29-Jun-24	28-Jul-24	03-Jul-24	01-Aug-24	4										
15-1010-1(6)	Overall testing and commissioning of 2 x CHS-IWMF circuits	60	60	0%	0%	60		29-Jul-24	26-Sep-24	02-Aug-24	30-Sep-24	4										
WBS: EP_SP_66_12-WP6D-M49.15.3	Metering & Energization	44	44	0%	0%	44		27-Sep-24	10-Nov-24	01-Oct-24	31-Dec-24	51										
15-1020	Incoming Power System Final Inspection and Metering works	30	30	0%	0%	30		27-Sep-24	26-Oct-24	01-Oct-24	30-Oct-24	4										
15-1030	Energization of Incoming Power Supply Main System	0	0	0%	0%	0	Start On or After	27-Oct-24*		30-Oct-24		4										
15-1040	Energization of Incoming Power Supply Sub System	0	0	0%	0%	0	Start On or After	10-Nov-24*		31-Dec-24		51										
15-1050	Export Power System Final Inspection and Metering works	30	30	0%	0%	30		27-Sep-24	26-Oct-24	01-Oct-24	30-Oct-24	4										
15-1060	Connection to Grid	0	0	0%	0%	0			26-Oct-24		21-Dec-24	56										
WBS: EP_SP_66_12-WP6D-M49.16	Testing & Commissioning	305	305	0%	0%	305		31-Dec-21	31-Oct-22	29-May-22	29-Mar-23	149										
WBS: EP_SP_66_12-WP6D-M49.16.22	SAT & System Commissioning Tests	305	305	0%	0%	305		31-Dec-21	31-Oct-22	29-May-22	29-Mar-23	149										
WBS: EP_SP_66_12-WP6D-M49.16.22.20	Civil and Builder Works Completion Inspections	305	305	0%	0%	305		31-Dec-21	31-Oct-22	29-May-22	29-Mar-23	149										
16-1900-1(6)	Soil resistivity test	30	30	0%	0%	30		31-Dec-21	29-Jan-22	29-May-22	27-Jun-22	149										
16-1900-2(6)	Installation of Ground Earthing Mesh	275	275	0%	0%	275		30-Jan-22	31-Oct-22	28-Jun-22	29-Mar-23	149										

3-Month Rolling Programme (December 2021)

Remaining Work
 Actual Work
 Critical Remaining Work
 Milestone
 Actual Milestone
 Critical Milestone

Appendix B Summary of Implementation Status of Environmental Mitigation

Appendix B

Table B.1 Implementation Schedule for Air Quality Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S3b.8.1	<p><u>Air Pollution Control (Construction Dust) Regulation & Good Site Practices</u></p> <ul style="list-style-type: none"> • Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading 	Work site / During the construction period	Contractor		✓			Air Pollution Control (Construction Dust) Regulation	Deficiency of Mitigation Measures but rectified by the Contractor. N/A for dust control measures for transportation outside site boundary.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.</p> <ul style="list-style-type: none"> • Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 								
S3b.6.3	<p><u>Odour Removal by Deodorizers</u></p> <ul style="list-style-type: none"> • Deodorizers with 95% odour removal efficiency would be installed for the air ventilated from the mechanical treatment plant before discharge to the atmosphere 	<p>Waste reception halls, the waste storage area, the mechanical treatment plant / During design & operation phase</p>	IWMF Operator	✓		✓		EIAO-TM	N/A
S3b.8.2	<p><u>Air Pollution Control and Stack Monitoring</u></p>	<p>IWMF stack emissions / During</p>	IWMF Operator	✓		✓		EIAO-TM, Supporting Document for	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> • Air pollution control and stack monitoring system will be installed for the IWMF to ensure that the emissions from the IWMF stack will meet the proposed target emission limits. • Voluntary Enhancement Measures in Flue Gas Cleaning and Emission Monitoring: <ol style="list-style-type: none"> 1. Two-stage bag filter system with reagent recirculation; 2. In addition to SCR, provide SNCR for removal of NO_x; tighten emission limit for half-hourly and daily NO_x to 160 mg/m³ and 80 mg/m₃ respectively; 3. Well-mixed feed waste: to minimize the fluctuation of pollutant loading on the flue gas treatment system; 4. Two more AQMSs would be set up at South Lantau and Shek Kwu Chau respectively; 5. Limit levels will be set under the IWMF DBO contract to require that waste feed shall cease if any of the air pollutant has exceeded 95% of the emission concentration limit as stipulated in the Special Process license; and 6. Each incineration chamber shall be fitted with auxiliary burners to ensure complete burn out of the combustion gases. 	design & operation phase					Application for Variation of Environmental Permit (EP-429/2012)		

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
-	<p><u>Treated Fly Ash and Air Pollution Control Residues:</u></p> <ul style="list-style-type: none"> • During testing and commissioning, the Contractor shall sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every container of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months. • During the first six months of operation, if the requirements in (a) could be fully conformed with, the Contractor shall sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit. The Contractor shall take two samples from each shipload for testing and the Contractor shall not dispose of any of that shipload of treated fly ash and air 	IWMF stack emissions / During design & operation phase	IWMF Operator	✓		✓		Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>pollution control residues until the test results confirm that the two samples conform to the limits and the criteria. If a test result confirms that any one of the two samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria for the next six months. The Contractor shall make due allowance in the Design and the Operation for the time to sample and test treated fly ash and air pollution control residues before disposal.</p> <ul style="list-style-type: none"> • Provided that there is no non-conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit throughout a continuous sixmonth period in the Operation Period, the testing frequency shall be reduced to monthly interval. Two samples from one shipload of treated fly ash and air pollution control residues shall be collected and tested for conformance to the Incineration Residue Pollution Control Limits and leachability criteria. The Contractor shall not dispose of any of the treated fly ash and air pollution 								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	control residues in the shipload which the samples are taken until the test results confirm that the samples conform to the limits and the criteria. If the test result confirm that any one of the samples does not conform to the limits and the criteria, the Contractor shall be required to sample and test every shipload of treated fly ash and air pollution control residues for conformance to the Incineration Residue Pollution Control Limits and leachability criteria shown in Table 2 of the Environmental Permit for the next six months.								
-	<p><u>Bottom Ash:</u></p> <ul style="list-style-type: none"> During testing and commissioning, the Contractor shall sample and test every container of bottom ash for conformance to the leachability criteria shown in Table 2 of the Environmental Permit. If a test result confirms that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test every container of bottom ash for conformance to the leachability criteria for the next six months. During the first six months of operation, if the requirements in (d) could be fully conformed with, the Contractor shall sample and test one shipload of bottom ash each month for 	IWMF stack emissions / During design & operation phase	IWMF Operator	✓		✓		Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>conformance to the leachability criteria shown in Table 2 of the Environmental Permit. The Contractor shall take two samples from the shipload for testing and the Contractor shall not dispose of any of that shipload of bottom ash until the test results confirm that the two samples conform to the criteria. If a test result confirms that any one of the two samples does not conform to the criteria, the Contractor shall be required to sample and test each shipload of bottom ash for conformance to the leachability criteria for the next six months. The Contractor shall make due allowance in the Design and the Operation for the time to sample and test bottom ash before disposal.</p> <ul style="list-style-type: none"> • Provided that there is no non-conformance to the leachability criteria shown in Table 2 of the Environmental Permit throughout a continuous six month period in the Operation Period, the Contractor shall be allowed to take two samples from any one shipload of bottom ash once every six months for conformance to the leachability criteria. The Contractor shall not dispose of any of the bottom ash in the shipload which the samples are taken until the test 								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	results confirm that the samples conform to the criteria. If the test result confirm that any one of the samples does not conform to the criteria, the Contractor shall be required to sample and test one shipload of bottom ash each month for conformance to the leachability criteria shown in Table 2 of the Environmental Permit for the next six months as stipulated above.								

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.2 Implementation Schedule for Noise Impact Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S4b.8	Good site practices to limit noise emissions at source and use of quiet plant and working methods, whenever practicable.	Work Sites / Construction Period	EPD and its contractors		✓			EIAO-TM	Implemented
S4b.6 & S4b.8	<p>All the ventilation fans installed in the below will be provided with silencers or acoustics treatment.</p> <p>(i) Stack of the incinerator (ii) Ventilation systems within the IWMF Enclosure and discharge silencer or other acoustic treatment equipment should be installed in the air-cooled chillers</p> <p>Other than provision of silencer or other acoustic treatment equipment for the stack of the incinerator and ventilation system, the detailed design should incorporate the following good practice in order to minimize the nuisance on the neighboring NSRs.</p> <p>(i) The exhaust of the ventilation system and any opening of the building should be located facing away from any NSRs; and (ii) Louver or other acoustic treatment equipment could also be applied to the exhaust of the ventilation system.</p>	Within IWMF area / Construction Period	EPD and its contractors	✓		✓		EIAO-TM	N/A

-	<p><u>Voluntary Enhancement Measure</u></p> <ul style="list-style-type: none"> Provision of air-conditioner and double glazed windows to nearby NSR at Shek Kwu Chau (i.e. SARDA) as precautionary measures. 	IWMF site	Design team, contractor, IWMF operator	✓	✓			Supporting Document for Application for Variation of Environmental Permit (EP-429/2012)	Implemented
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* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.3 Implementation Schedule for Water Quality Measures for the Artificial Island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.1	<p><u>Drainage and Construction Site Runoff</u></p> <p>The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. These practices include the following items:</p> <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented <p>Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> Boundaries of earthworks should be surrounded by dykes or embankments for flood protection, as necessary. 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. The design of efficient silt removal facilities 	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Implemented.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. The detailed design of the sand/silt traps shall be undertaken by the contractor prior to the commencement of construction.</p> <ul style="list-style-type: none"> • Water pumped out from foundation piles must be discharged into silt removal facilities. • Measures should be taken to minimize the ingress of site runoff and drainage into excavations. Drainage water pumped out from excavations should be discharged into storm drains via silt removal facilities. • During rainstorms, exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC PN 1/94. • Exposed soil areas should be minimized to reduce potential for increased siltation and contamination of runoff. • Earthwork final surfaces should be well compacted and subsequent permanent work or surface protection should be immediately performed. 								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. 								
S5b.8.1.2	<p><u>General Construction Activities</u></p> <p>Construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby watercourses and public drainage system. Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area.</p> <p>It is recommended to clean the construction sites on a regular basis.</p>	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Deficiency of Mitigation Measures but rectified by the Contractor.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S5b.8.1.3	There is a need to apply to EPD for a discharge license for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge license. All the run-off and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression and general cleaning etc., can minimize water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO license which is under the ambit of regional office of EPD.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	Discharge License was issued on 22/08/2019.
S5b.8.1.4	<u>Accidental Spillage</u> Contractor must register as a chemical waste producer if chemical wastes would be produced from construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor.
S5b.8.1.5	Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas which	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Implemented.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	appropriately equipped to control these discharges.								
S5b.8.1.6	Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor.
S5b.8.1.7	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: <ul style="list-style-type: none"> • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO; WDO	Deficiency of Mitigation Measures but rectified by the Contractor.
S5b.8.1.8	<u>Sewage Effluent</u> Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to	Work site / During the construction period	Contractor		✓			EIAO-TM; ProPECC PN 1/94; WPCO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	handle sewage from the workforce. A licensed contractor would be responsible for appropriate disposal and maintenance of these facilities.								
S5b.8.1.9	<p><u>Reclamation and Construction of Breakwaters</u></p> <ul style="list-style-type: none"> The proposed dredging and reclamation should be commenced in phases. The breakwaters and seawalls should be constructed and the reclamation should be started within the enclosed breakwaters after the completion of the breakwater. Silt curtain should be applied around caissons / blockwork during the filling of the cell to prevent the loss of fine in the filling material. The maximum production rate for dredging for the anti-scouring protection layer shall not exceed the permitted maximum daily dredging rate and carried out within its respective distance from the nearest non-translocatable coral community by the dredging contractor as specified in S.2.18 of the Further Environmental Permit (no.:FEP-01/429/2012/A). It is recommended to employ closed grab with small capacity of 2 m³ to control the dredging rate. Any gap that may need to be provided for marine access will be located at the middle of the North Western seawall, away from the identified coral communities and will be shielded by silt curtains systems to control sediment plume dispersion. The silt curtain system at marine access opening should be closed as soon as the 	Work site / During the marine construction period	Contractor		✓			EIAO-TM; WPCO, Supporting Document for Application for Variation of Environmental Permit (EP-429/2012) Further Environmental Permit No. FEP-01/429/2012/A	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>barges passes through the marine access opening in order to minimize the period of curtain opening. Filling should only be carried out behind the silt curtain when the silt curtain is completely closed.</p> <ul style="list-style-type: none"> To enhance the effectiveness of the silt curtain at the marine access, the northern breakwater would be built before the commencement of the reclamation to reduce the current velocity towards the marine access opening. The silt curtain system at marine access opening should be regularly checked and maintained to ensure proper functioning. Where public fill is proposed for filling below +2.5mPD, the fine content in the public fill will be controlled to 25% which is in line with the CEDD's General Specification; The filling for reclamation should be carried out behind the seawall. The filling material should only consist of public fill, rock and sand. The filling composition and filling rates at each filling area should follow those delineated in Table 1 of the FEP-01/429/2012/. The filling above high watermark is not restricted; No dredging should be carried out within 16m to the nearest non-translocatable coral community; Daily site audit including full-time on-site monitoring by the ET is recommended during the dredging for anti-scouring protection layer 								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>for checking the compliance with the permitted no. of grab;</p> <ul style="list-style-type: none"> • Closed grab dredger should be used to minimize the loss of sediment during the raising of the loaded grabs through the water column; • Frame-type silt curtains should be deployed around the dredging operations; • Floating-type silt curtains should be used to surround the circular cell during the sheetpiling work; • The descent speed of grabs should be controlled to minimize the seabed impact speed; • Barges should be loaded carefully to avoid splashing of material; • All barges used for the transport of dredged materials should be fitted with tight bottom seals in order to prevent leakage of material during loading and transport; • All barges should be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action. • No DCM works should be carried out within 100m to the nearest non-translocatable coral colony / colonies. 								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> Silt curtains should be employed to enclose DCM field trial and any full scale DCM work to minimize the potential impacts on water aspect. A sand blanket is to be placed on top of the marine deposit using tremie pipes prior to the DCM ground treatment to avoid seabed sediment disturbance. 								
S5b.8.2.3	<p><u>Operational Phase Discharges</u></p> <p>A pipeline drainage system will serve the development area collecting surface runoff from paved areas, roof, etc. Sustainable drainage principle would be adopted in the drainage system design to minimize peak surface runoff, maximize permeable surface and maximize beneficial use of rainwater.</p>	Within IWMF site / During the operational phase	IWMF Operator	✓		✓		WPCO	N/A
S5b.8.2.4	Oil interceptors should be provided in the drainage system of any potentially contaminated areas (such as truck parking area and maintenance workshop) and regularly cleaned to prevent the release of oil products into the storm water drainage system in case of accidental spillages. Accidental spillage should be cleaned up as soon as practicable and all waste oils and fuels should be collected and handled in compliance with the Waste Disposal Ordinance.	Within IWMF site / During the operational phase	IWMF Operator	✓		✓		WPCO; WDO	N/A
S5b.8.2.5	<p><u>Refuse Entrapment</u></p> <p>Collection and removal of floating refuse should be performed at regular intervals for keeping the water within the Project site</p>	Within the Project site / During the operational phase	IWMF Operator			✓		WPCO	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	boundary and the neighboring water free from rubbish.								
S5b.8.2.6	<p><u>Transportation of bottom ash, fly ash and APC residues to WENT Landfill for disposal</u></p> <p>Covered container should be used in the shipping of the incineration waste to limit the contact between the incineration waste and the marine water. A comprehensive emergency response plan for any accidental spillage should be submitted by the operation contractor to the EPD for agreement before the operation of the facilities. Salvage and cleanup action to recover the spilled incineration waste containers following the spillage should be carried out according to the emergency response plan to mitigate the environmental impact in case of spillage.</p>	Transportation of Incineration Ash / During the operational phase	IWMF Operator			✓			N/A

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.4 Implementation Schedule for Waste Management Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.5.1.2	<p><u>Good Site Practices</u></p> <p>Adverse environmental impacts in relation to waste management are not expected, provided that good site practices are strictly followed. Recommendations for good site practices during the construction activities would include:</p> <ul style="list-style-type: none"> • Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Provide staff training for proper waste management and chemical handling procedures; • Provide sufficient waste disposal points and regular waste collection; • Provide appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and • Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and • Employ licensed waste collector to collect waste. 	Work Site/ During Construction Period	Contractor		✓			WDO; LDO; ETWB TCW No. 19/2005; EIAO-TM	Implemented.

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				Des	C	O	Dec		
6b.5.1.3	<p><u>Waste Reduction Measures</u></p> <p>Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices.</p> <p>Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> • Design foundation works that could minimize the amount of excavated material to be generated. • Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; • Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc.); • Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Encourage the collection of aluminum cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force; • Proper storage and site practices to minimize the potential for damage or contamination of construction materials; and 	Work Site/ During Design & Construction Period	Contractor	✓	✓			Implemented. N/A for foundation and demolition items	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> Plan and stock construction materials carefully to minimize amount of waste to be generated and to avoid unnecessary generation of waste. 								
6b.5.1.7	<p><u>Dredged Sediment – Application of Dumping Permit</u></p> <p>The project proponent should agree in advance with MFC of CEDD on the site allocation. The project proponent or contractor for the dredging works shall then apply for the site allocations of marine sediment disposal based on the prior agreement with MFC/CEDD. The project proponent or contractor should also be responsible for the application of all necessary permits from relevant authorities, including the dumping permit as required under DASO from EPD, for the disposal of dredged sediment prior to the commencement of the dredging works.</p>	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓	✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.8	<p><u>Dredged Sediment – Sediment Quality Report</u></p> <p>The project proponent or contractor will need to satisfy the appropriate authorities that the quality of the marine sediment to be dredged has been identified according to the requirements of ETWB TCW 34/2002. This should be completed well before the dredging works and would include at least the submission of a formal Sediment Quality Report under Tier I of ETWB TCW No. 34/2002 to DEP for approval. Subject to advice from DEP, it is possible that further marine SI in accordance with ETWB TCW 34/2002 might be necessary for the</p>	Seawall and Reclamation site / Construction Period	EPD and its contractor	✓				DASO ETWB TCW 34/2002	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	application of dumping permit under DASO. In such case, a sediment sampling and testing proposal shall be submitted to and approved by DEP before the additional marine SI works.								
6b.5.1.9	<p><u>Dredged Sediment – Sediment Transportation</u></p> <p>The barge transporting the sediments to the designated disposal sites should be equipped with tight fitting seals to prevent leakage and should not be filled to a level that would cause overflow of materials or laden water during loading or transportation. In addition, 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 the DEP.</p>	Seawall and Reclamation site / Construction Period	EPD and its contractor		✓			DASO ETWB TCW 34/2002	Implemented
6b.5.1.10	<p><u>Construction and Demolition Materials</u></p> <p>In order to minimize the impact resulting from collection and transportation of C&D materials for off-site disposal, the excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below:</p> <ul style="list-style-type: none"> • A Waste Management Plan (WMP), which becomes part of the Environmental Management Plan (EMP), should be prepared in accordance with ETWB TCW No.19/2005; 	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be adopted for easy tracking; and In order to monitor the disposal of C&D materials at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to <i>ETWB TCW No. 31/2004</i>). 								
6b.5.1.11 – 6b.5.1.12	<p>The Contactor should prepare and implement an EMP in accordance with ETWB TCW No.19/2005, which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. Such a management plan should incorporate site specific factors, such as the designation of areas for segregation and temporary storage of reusable and recyclable materials. The EMP should be submitted to the Engineer for approval. The Contractor should implement waste management practices in the EMP throughout the construction stage of the Project. The EMP should be reviewed regularly and updated by the Contractor, preferably on a monthly basis.</p> <p>All surplus C&D materials arising from or in connection with construction works should become the property of the Contractor when it is removed unless otherwise stated. The Contractor would be responsible for devising a</p>	Work Site/ During Design & Construction Period	Contractor	✓	✓			ETWB TCW No. 19/2005	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	system to work for on-site sorting of C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.								
6b.5.1.13	<p><u>Chemical Wastes</u></p> <p>Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should 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, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	Work Site/ During Construction Period	Contractor		✓			Waste Disposal (Chemical Waste) (General) Regulation	Implemented.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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6b.5.1.14	<p><u>General Refuse</u></p> <p>General refuse should be stored in enclosed bins or compaction units separate from C&D materials. A licensed waste collector should be employed by the Contractor to remove general refuse from the site, separately from C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	Work Site/ During Construction Period	Contractor		✓			Public Health and Municipal Services Ordinance	Deficiency of Mitigation Measures but rectified by the Contractor.
6b.5.1.16 – 6b.5.1.33	<p><u>Biogas Generation</u></p> <p>The Contractor shall review the data and analysis results, and the data from further Site Investigation, if any. Subject to the review findings, the following gas protection measures may be considered if necessary:</p> <ul style="list-style-type: none"> - gas monitoring after reclamation; - passive ventilation; - gas impermeable membrane; - ventilation with "at risk" rooms; - protection of utilities or below ground services; - precautions during construction works; - precautions prior to entry of belowground services 	Reclamation site (if dredging at the reclamation site is not required) / Design & Construction Period	Designer and/or contractor	✓	✓			EPD/TR8/97	N/A
6b.5.2.1	<p><u>Good Site Practices</u></p>	IWMF Site/During	IWMF Operator			✓		Waste Disposal Ordinance (Cap.354);	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>It is recommended that the following good operational practices should be adopted to minimise waste management impacts:</p> <ul style="list-style-type: none"> Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and Waste Disposal (Chemical Waste) (General) Regulation; Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; Use of a waste haulier licensed to collect specific category of waste; A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at landfills, and to control fly tipping. Reference should be made to ETWB TCW No. 31/2004. Training of site personnel in proper waste management and chemical waste handling procedures; Separation of chemical wastes for special handling and appropriate treatment at a licensed facility; Routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors; 	Operation Period					Waste Disposal (Chemical Waste) (General) Regulation; ETWB TCW No. 1/2004		

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> Provision of sufficient waste disposal points and regular collection for disposal; Adoption of appropriate measures to minimize windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and Implementation of a recording system for the amount of wastes generated, and disposed of (including recycled the disposal sites). 								
6b.5.2.2	<p><u>Waste Reduction Measures</u></p> <p>Good management and control can prevent the generation of significant amounts of waste. It is recommended that the following good operational practices should be adopted to ensure waste reduction:</p> <ul style="list-style-type: none"> 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 aluminum cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and Any unused chemicals or those with remaining functional capacity should be reused as far as practicable. 	IWMF Site/ During Operation Period	IWMF Operator			✓		Implemented	

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6b.5.2.3	<p><u>Storage, Handling, Treatment, Collection and Disposal of Incineration By-Products</u></p> <p>The following measures are recommended for the storage, handling and collection of the incineration by-products:</p> <ul style="list-style-type: none"> Ash should be stored in storage silos; Ash should be handled and conveyed in closed systems fully segregated from the ambient environment; Ash should be wetted with water to control fugitive dust, where necessary; All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal; The ash should be transported in covered trucks or containers to the designated landfill site. <p>The Contractor should provide EPD with chemical analysis results of the bottom ash, and treated fly ash and APC residues to confirm that the ash/residue can comply with the proposed Incineration Residue Pollution Control Limits before disposal.</p>	IWMF Site/ During Operation Period	IWMF Operator			✓		Incineration Residue Pollution Control Limits	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
6b.6.3.1	<p><u>Fuel Oil Tank Construction and Test</u></p> <ul style="list-style-type: none"> The fuel tank to be installed should be of specified durability. Double skin tanks are preferred. Underground fuel storage tank should be placed within a concrete pit. The concrete pit shall be accessible to allow regular tank integrity tests to be carried out at regular intervals. Tank integrity tests should be conducted by an independent qualified surveyor or structural engineer. Any potential problems identified in the test should be rectified as soon as possible. 	Fuel Oil Storage Tank/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A
6b.6.3.1	<p><u>Fuel Oil Pipeline Construction and Test</u></p> <ul style="list-style-type: none"> Installation of aboveground fuel oil pipelines is preferable; if underground pipelines are unavoidable, concrete lined trenches should be constructed to contain the pipelines. Double skin pipelines are preferred. Distance between the fuel oil refuelling points and the fuel oil storage tank shall be minimized. 	Fuel Oil Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> Integrity tests for the pipelines should be conducted by an independent qualified surveyor or structural engineer at regular intervals. Any potential problems identified in the test should be rectified as soon as possible. 								
6b.6.3.1	<p><u>Fuel Oil Leakage Detection</u></p> <ul style="list-style-type: none"> Installation of leak detection device at storage tank and pipelines. Installation and use of pressure gauges (e.g. at the two ends of a filling line) in fuel filling, which allows unexpected pressure drop or difference and sign of leakage to be detected. 	Fuel Oil Storage Tank and Pipelines/ During Design, Construction and Operation Periods	IWMF Contractor	✓	✓	✓		N/A	
6b.6.3.1	<p><u>Fuel Oil Storage Tank Refuelling</u></p> <ul style="list-style-type: none"> Storage tank refuelling (from road tanker) should only be conducted by authorized staff of the oil company using the company's standard procedures. 	Fuel Oil Refuelling Point/ During Operation Period	IWMF Operator			✓		N/A	
6b.6.3.1	<p><u>Fuel Oil Spillage Response</u></p> <p>An Oil Spill Response Plan should be prepared by the operator to document the appropriate response procedures for oil spillage incidents in detail. General procedures to be taken in case of fuel oil spillage are presented below.</p> <ul style="list-style-type: none"> Training 	IWMF Site/ During Operation Period	IWMF Operator			✓		N/A	

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	<p>- Training on oil spill response actions should be given to relevant staff. The training shall cover the followings:</p> <ul style="list-style-type: none"> ➤Tools & resources to combat oil spillage and fire, e.g. locations of oil spill handling equipment and fire fighting equipment; ➤General methods to deal with oil spillage and fire incidents; ➤Procedures for emergency drills in the event of oil spills and fire; and ➤Regular drills shall be carried out. <ul style="list-style-type: none"> • Communication <ul style="list-style-type: none"> -Establish communication channel with the Fire Services Department (FSD) and EPD to report any oil spillage incident so that necessary assistance from relevant department can be quickly sought. • Response Procedures <ul style="list-style-type: none"> -Any fuel oil spillage within the IWMF site should be immediately reported to the Plant Manager with necessary details including location, source, possible cause and extent of the spillage. -Plant Manager should immediately attend to the spillage and initiate any appropriate action to confine and clean up the spillage. The response 								

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	<p>procedures shall include the following:</p> <ul style="list-style-type: none"> ➤ Identify and isolate the source of spillage as soon as possible. ➤ Contain the oil spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels. ➤ Remove the oil spillage. ➤ Clean up the contaminated area. ➤ If the oil spillage occurs during storage tank refuelling, the refueling operation should immediately be stopped. ➤ Recovered contaminated fuel oil and the associated material to remove the spilled oil should be considered as chemical waste. The handling and disposal procedures for chemical wastes are discussed in the following paragraphs. 								
6b.6.3.2	<p><u>Chemicals and Chemical Wastes Handling & Storage</u></p> <ul style="list-style-type: none"> • Chemicals and chemical wastes should only be stored in suitable containers in purpose-built areas. • The storage of chemical wastes should comply with the requirements of the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • The storage areas for chemicals and chemical wastes shall have an 	Chemicals and Chemical Wastes Storage Area / During Operation Period	IWMF Operator			✓		N/A	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>impermeable floor or surface. The impermeable floor/ surface shall possess the following properties:</p> <ul style="list-style-type: none"> - Not liable to chemically react with the materials and their containers to be stored. - Able to withstand normal loading and physical damage caused by container handling - The integrity and condition of the impermeable floor or surface should be inspected at regular intervals to ensure that it is satisfactorily maintained <ul style="list-style-type: none"> ➤ For liquid chemicals and chemical wastes storage, the storage area should be bunded to contain at least 110% of the storage capacity of the largest containers or 20% of the total quantity of the chemicals/chemical wastes stored, whichever is the greater. ➤ Storage containers shall be checked at regular intervals for their structural integrity and to ensure that the caps or fill points are tightly closed. ➤ Chemical handling shall be conducted by trained workers under supervision. 								
6b.6.3.2	<u>Chemicals and Chemical Wastes Spillage Response</u>	IWMF Site/ During	IWMF Operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<p>A Chemicals and/ or Chemical Wastes Spillage Response Plan shall be prepared by the operator to document in detail the appropriate response procedures for chemicals or chemical wastes spillage incidents. General procedures to be undertaken in case of chemicals/ chemical waste spillages are presented below.</p> <ul style="list-style-type: none"> • Training <ul style="list-style-type: none"> - Training on spill response actions should be given to relevant staff. The training shall cover the followings: <ul style="list-style-type: none"> ➢ Tools & resources to handle spillage, e.g. locations of spill handling equipment; ➢ General methods to deal with spillage; and ➢ Procedures for emergency drills in the event of spills. • Communication <ul style="list-style-type: none"> - Establish communication channel with FSD and EPD to report the spillage incident so that necessary assistance from relevant department can be quickly sought. • Response Procedures 	Operation Period							

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> - Any spillage within the IWMF site should be reported to the Plant Manager. - Plant Manager shall attend to the spillage and initiate any appropriate actions needed to confine and clean up the spillage. The response procedures shall include the followings: <ul style="list-style-type: none"> ➢ Identify and isolate the source of spillage as soon as possible; ➢ Contain the spillage and avoid infiltration into soil/ groundwater and discharge to storm water channels (in case the spillage occurs at locations out of the designated storage areas); ➢ Remove the spillage; the removal method/ procedures documented in the Material Safety Data Sheet (MSDS) of the chemicals spilled should be observed; ➢ Clean up the contaminated area (in case the spillage occurs at locations out of the designated storage areas); and 								

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	<ul style="list-style-type: none"> ➤ The waste arising from the cleanup operation should be considered as chemical wastes. 								
6b.6.3.3	<p><u>Preventive Measures for Incineration By-products Handling</u></p> <p>The recommended measures listed below can minimize the potential contamination to the surrounding environment due to the incineration by-products:</p> <ul style="list-style-type: none"> Ash should be stored in storage silos; Ash should be handled and conveyed in closed systems fully segregated from the ambient environment; Ash should be wetted with water to control fugitive dust, where necessary; All fly ash and APC residues should be treated, e.g. by cement solidification or chemical stabilization, for compliance with the proposed Incineration Residue Pollution Control Limits and leachability criteria prior to disposal; The ash should be transported in covered trucks or containers to the designated landfill site. 	Storage, Handling & Collection of Incineration Ash at IWMF/ During Operation Period	IWMF Operator			✓			N/A
6b.6.3.4 - 6b.6.3.6	<u>Incident Record</u>	IWMF Site/ During	IWMF Operator			✓		Guidance Manual for Use of Risk-based Remediation	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	<p>After any spillage, an incident report should be prepared by the Plant Manager. The incident report should contain details of the incident including the cause of the incident, the material spilled and estimated spillage amount, and also the response actions undertaken. The incident record should be kept carefully and able to be retrieved when necessary.</p> <p>The incident report should provide sufficient details for the evaluation of any environmental impacts due to the spillage and assessment of the effectiveness of measures taken.</p> <p>In case any spillage or accidents results in significant land contamination, EPD should be informed immediately and the IWMF operator should be responsible for the cleanup of the affected area. The responses procedures described in Section 6b.6.3.1 and Section 6b.6.3.2 of EIA report should be followed accordingly together with the land contamination assessment and remediation guidelines stipulated in the <i>Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation</i>.</p>	Operation Period					Goals for Contaminated Land Management and the Guidance Note for Contaminated Land and Remediation.		

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.5 Implementation Schedule for Ecological Quality Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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7b.8.2.1	<p><u>Measures to avoid direct loss of intertidal habitat</u></p> <ul style="list-style-type: none"> The site boundary has been proposed to avoid direct contact with the intertidal natural rocky shore of Shek Kwu Chau. It avoids direct loss of intertidal communities and the existing natural rocky shore habitat, where Reef Egret and White-bellied Sea Eagle have been recorded within and in the vicinity of this habitat. 	IWMF site	Design team	✓				EIAO-TM	N/A
7b.8.2.2	<p><u>Measures to minimise loss of coastal subtidal habitat</u></p> <ul style="list-style-type: none"> Extensive coral colonies were recorded at the coastal hard bottom habitat at Shek Kwu Chau. To avoid and minimise the extensive direct impact on the coral colonies, the proposed reclamation area has been moved further offshore to minimise loss of subtidal habitat near shore. 	IWMF site	Design team	✓				EIAO-TM	N/A
7b.8.2.3	<p><u>Zero Discharge Scheme</u></p> <ul style="list-style-type: none"> The design scheme of the Project has avoided discharge of wastewater into the marine environment. <p>A zero discharge scheme would be adopted during the operation of the Project. An on-site wastewater treatment plant would be provided to treat the wastewater generated from the IWMF (mainly human sewage). The treated effluent would be re-used in the incineration</p>	IWMF site	Design team, IWMF operator	✓		✓		WPCO	N/A

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	plant and mechanical treatment plant, or for onsite washdown and landscape.								
7b.8.2.4	<p><u>Measures to avoid loss of plant species of conservation importance</u></p> <ul style="list-style-type: none"> Landing portal construction works would not cause direct loss to the recorded individual of protected plant species, <i>Aquilaria sinensis</i>, at the coastal shrubland habitat at Cheung Sha. As a precautionary measure, the plant should be tagged with eye-catching tape and fenced off prior to works, in order to avoid any damage by workers. 	Cheung Sha landing portal	Design team, Contractor	✓	✓		✓	EIAO-TM	N/A
7b.8.3.1-7b.8.3.15	<p><u>Measures to minimise water quality impact</u></p> <ul style="list-style-type: none"> Measures for water quality as recommended in Section 5b of the EIA Report should be implemented. 	Work site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM; ProPECC PN 1/94; WPCO	Implemented
7b.8.3.16 - 7b.8.3.30	<p><u>Measures to minimise disturbance on Finless Porpoise</u></p> <p><i>Minimisation of Habitat Loss for Finless Porpoise</i></p> <ul style="list-style-type: none"> Substantial revision has been made on the layout plan and form of the breakwater, in order to minimise the potential loss of important habitat for Finless Porpoise. The revision has greatly reduced the size of the embayment area, as well as the Project footprint. As a result, the size of habitat loss for Finless Porpoise has 	IWMF site, work site, marine traffic route	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM, Supporting Document for Application for Variation of the Environmental Permit (EP-429/2012)	Implemented for avoidance of construction works that may produce underwater acoustic disturbance, Vessel Travel Route implementation, training of staff; N/A for others

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	<p>reduced from the original ~50 ha, down to ~31 ha.</p> <p><i>Avoidance of peak season for finless porpoise occurrence</i></p> <ul style="list-style-type: none"> • To minimise potential acoustic disturbance from construction activities on Finless Porpoise, construction works that may produce underwater acoustic disturbance should be scheduled outside the months with peak Finless Porpoise occurrence (December to May), including: <ul style="list-style-type: none"> - sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1); - sheet piling works for construction of the shorter section of breakwater (Phase 1); - sheet piling works for construction of the remaining section of breakwater (Phase 3) and - bored piling works for berth area (Phase 3) <p>Such works should be restricted within June to November. This approach would not only avoid the peak season for Finless Porpoise occurrence, the magnitude of impacts arise from acoustic disturbance would also be minimised.</p>								

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	<ul style="list-style-type: none"> Since the DCM ground treatment and the installation of precast seawalls and breakwaters should generate no underwater acoustic disturbance to Finless Porpoise, no specific mitigation measures are required. <p><i>Opt for quieter construction methods and plants</i></p> <ul style="list-style-type: none"> Considering the sensitivity of marine mammals to underwater acoustic disturbance, instead of the previously proposed conventional breakwater and reclamation peripheral structure, which requires noisy piling works, the current circular cells structure for breakwater and reclamation peripheral structure is proposed. A quieter sheet piling method using vibratory hammer or hydraulic impact hammer, should be adopted for the installation of circular cells for cellular cofferdam and northern breakwater during Phase 1, and southern breakwater Phase 3; Non-percussive bore piling method would be adopted for the installation of tubular piles for the berth construction during Phase 3. <p><i>Monitored exclusion zones</i></p> <ul style="list-style-type: none"> During the installation/re-installation/relocation process of floating type silt curtains, in order to avoid the accidental 								

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	<p>entrance and entrapment of marine mammals within the silt curtains, a monitored exclusion zone of 250 m radius from silt curtain should be implemented. The exclusion zone should be closely monitored by an experienced marine mammal observer at least 30 minutes before the start of installation/re-installation/relocation process. If a marine mammal is noted within the exclusion zone, all marine works should stop immediately and remain idle for 30 minutes, or until the exclusion zone is free from marine mammals.</p> <ul style="list-style-type: none"> The experienced marine mammal observer should be well trained to detect marine mammals. Binoculars should be used to search the exclusion zone from an elevated platform with unobstructed visibility. The observer should also be independent from the project proponent and has the power to call-off construction activities. In addition, as marine mammals cannot be effectively monitored within the proposed monitored exclusion zone at night, or during adverse weather conditions (i.e. Beaufort 5 or above, visibility of 300 meters or below), marine works should be avoided under weather conditions with low visibility. 								

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	<p><i>Marine mammal watching plan</i></p> <ul style="list-style-type: none"> Upon the completion of the installation/re-installation/relocation of floating type silt curtain, all marine works would be conducted within a fully enclosed environment within the silt curtain, hence exclusion zone monitoring would no longer be required. Subsequently, a marine mammal watching plan should be implemented. <p>The plan should include regular inspection of silt curtains, and visual inspection of the waters surrounded by the curtains. Special attention should be paid to Phase 2 (reclamation) where the floating type still curtain would be opened occasionally for vessel access, leaving a temporary 50 m opening. An action plan should be devised to cope with any unpredicted incidents such as the case when marine mammals are found within the waters surrounded by the silt curtains.</p> <p><i>Small openings at silt curtains</i></p> <ul style="list-style-type: none"> The openings for vessel access at the silt curtains should be as small as possible to minimise the risk of accidental entrance. <p><i>Adoption of regular travel route</i></p>								

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	<ul style="list-style-type: none"> During construction and operation, captains of all vessels should adopt regular travel route, in order to minimize the chance of vessel collision with marine mammals, which may otherwise result in damage to health or mortality. The regular travel route should avoid areas with high sighting density of Finless Porpoise as much as possible. <p><i>Vessel speed limit</i></p> <ul style="list-style-type: none"> The frequent vessel traffic in the vicinity of works area may increase the chance of mammal mammals being killed or seriously injured by vessel collision. A speed limit of ten knots should be strictly enforced within areas with high density of Finless Porpoise. Passive acoustic monitoring and land-based theodolite monitoring surveys should be adopted to verify the predicted impacts and effectiveness of the proposed mitigation measures. <p><i>Training of Staff</i></p> <ul style="list-style-type: none"> Staff, including captains of vessels, should be aware of the guidelines for safe vessel operations in the presence of cetaceans during construction and 								

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	operation phases. Adequate trainings should be provided								
7b.8.3.31 - 7b.8.3.34	<p><u>Measures to minimise impact on corals</u></p> <p><i>Coral translocation</i></p> <ul style="list-style-type: none"> • Coral communities within and in proximity to the proposed dredging sites would be disturbed by the Project due to the dredging operations. In order to minimise direct loss of coral communities, translocation of corals that are attached to movable rocks with diameter less than 50 cm are recommended. In order to avoid disturbance to corals during the spawning period, the spawning season of corals (June to August) should be avoided; and that translocation should be carried out during the winter season (November-March). • The REA survey results suggest that the 198 directly affected coral colonies were attached to movable rocks (less than 50 cm in diameter). It is technically feasible to translocate them to avoid direct loss. • Prior to coral translocation, a more detailed baseline survey, including a coral mapping survey, is recommended to further confirm the exact number and location of 	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	<p>Implemented, tagged coral found missing after hitting by typhoons</p> <p>Re-tagging of 10 coral colonies at indirect impact site and control site were conducted in November and December 2018 respectively.</p>

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	<p>coral colonies within the potentially affected area. A more detailed coral translocation plan, including selection of suitable recipient site, plan for coral translocation, and event / action plan for coral monitoring should be submitted upon approval of this Project, prior to commencement of construction works. Advice from relevant governmental departments (i.e. AFCD) and professionals would be sought after, in order to identify a desirable location for the relocation of coral communities. Post-translocation monitoring on the translocated corals should also be considered.</p> <p><i>Coral monitoring programme</i></p> <ul style="list-style-type: none"> A coral monitoring programme is recommended to assess any adverse and unacceptable impacts to the coral communities at the coasts of Shek Kwu Chau during construction of the Project. <p><i>Phasing of Works</i></p> <ul style="list-style-type: none"> To minimize environmental impacts, the proposed phasing of construction works has been carefully designed to reduce the amount of concurrent works, hence minimize SS elevation and the associated impacts on corals. 								

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7b.8.3.35 - 7b.8.3.41	<p><u>Specific measures to minimize disturbance on breeding White-bellied Sea Eagle</u></p> <p><i>Avoidance of noisy works during the breeding season of White-bellied Sea Eagle</i></p> <ul style="list-style-type: none"> To minimize potential noise disturbance from construction activities on WBSE, noisy construction works should be scheduled outside their breeding season (December to May) to minimise potential degradation in breeding ground quality and breeding activities, including: <ul style="list-style-type: none"> sheet piling works for construction of cofferdam surrounding the reclamation area (Phase 1); sheet piling works for construction of the shorter section of breakwater (Phase 1); sheet piling works for construction of the remaining section of breakwater (Phase 3); and bored piling works for berth area (Phase 3). <p><i>Opt for quieter construction methods and plants</i></p> <ul style="list-style-type: none"> To minimise potential construction noise disturbance on WBSE, quieter construction methods and plants should be adopted. The recommended noise mitigation measures in 	IWMF site, marine traffic route	Design Team, Contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	<p>the Noise chapter (Section 4b.8 of the EIA Report) should be implemented to minimise potential noise disturbance to acceptable levels.</p> <p><i>Restriction on vessel access near the nest of White-bellied Sea Eagle</i></p> <ul style="list-style-type: none"> During construction and operation, in order to minimize disturbance on the existing WBSE nest, a pre-defined practical route to restrict vessel access near the nest should be adopted to keep vessels and boats as far away from the nest as possible. <p><i>White-bellied Sea Eagle monitoring programme</i></p> <ul style="list-style-type: none"> A WBSE monitoring programme is recommended to assess any adverse and unacceptable impacts to the breeding activities of WBSE during construction and operation of the Project. Monitoring surveys for WBSE would include pre-construction phase (twice per month for duration of three months during their breeding season -between December and May, immediately before the commencement of works), construction phase, and operation phase (two years after the completion of construction works). 								

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	<ul style="list-style-type: none"> Surveys should be conducted twice per month during their breeding season (from December to May); and once per month outside breeding season (June to November). More details on monitoring for WBSE are presented in the EM&A Manual. <p><i>Education of staff</i></p> <ul style="list-style-type: none"> Staff, including captains of all vessels during construction and operation phases, should be aware of the ecological importance of WBSE. Awareness should be raised among staff to minimise any intentional or unintentional disturbance to the nest. <p><i>Minimisation of Glare Disturbance</i></p> <ul style="list-style-type: none"> To minimise glare disturbance on WBSE, which may cause disorientation of birds by interfering with their magnetic compass, and disruption in behavioural patterns such as reproduction, fat storage and foraging pattern, any un-necessary outdoor lighting should be avoided, and in-ward and downward pointing of lights should be adopted. 								
-	<p><u>Construction of Seawall/Breakwaters</u></p> <ul style="list-style-type: none"> To widen the open channel between the Artificial Island and Shek Kwu Chau. 	IWMF site	Design team, contractor, IWMF operator	✓	✓			Supporting Document for Application for Variation of Environmental	N/A

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	<ul style="list-style-type: none"> To design the precast concrete seawall with environmental friendly features. 							Permit (EP-429/2012)	
7b.8.3.42	<p><u>Opt for Quieter Construction Methods and Plants</u></p> <ul style="list-style-type: none"> Quieter construction methods and plants should be used to minimise disturbance to the nearby terrestrial habitat and the associated wildlife. 	Work site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented
7b.8.3.43	<p><u>Measures to minimize impacts from artificial lighting</u></p> <ul style="list-style-type: none"> Unnecessary lighting should be avoided, and shielding of lights should be provided to minimize disturbance from light pollution on fauna groups. 	IWMF site	Design team, contractor, IWMF operator	✓	✓	✓		EIAO-TM	Implemented
7b.8.3.44 - 7b.8.3.45	<p><u>Measures to minimize accidental spillage</u></p> <ul style="list-style-type: none"> Regular maintenance of vessels, vehicles and equipment that may cause leakage and spillage should only be undertaken within pre-designated areas, which are appropriately equipped to control the associated discharges. Oils, fuels and chemicals should be contained in suitable containers, and only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby 	Work site	Contractor, IWMF operator		✓	✓	✓	EIAO-TM	Deficiency of Mitigation Measures but rectified by the Contractor.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.								
7b.8.3.46	<p><u>Measures to minimise sewage effluent</u></p> <ul style="list-style-type: none"> Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. 	Work site	Contractor		✓			EIAO-TM	N/A
7b.8.3.47	<p><u>Measures to minimise drainage and construction runoff</u></p> <ul style="list-style-type: none"> Potential ecological impacts resulted from potential degradation of water quality due to unmitigated surface runoff could be minimised via the detailed mitigation measures in Section 5b.8 of the EIA Report. The following presents some of the mitigation measures: <ul style="list-style-type: none"> On-site drainage system with implemented sedimentation control facilities. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. Provision of embankment at boundaries of earthworks for flood protection. Water pumped out from foundation piles must be discharged into silt removal facilities. 	Work site	Contractor		✓		✓	EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> - During rainstorms, exposed slope/soil surfaces should be covered by tarpaulin or other means, as far as practicable. - Exposed soil surface should be minimized to reduce siltation and runoff. - Earthwork final surfaces should be well compacted. Subsequent permanent surface protection should be immediately performed. - Open stockpiles of construction materials, and construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. 								
7b.8.3.48	<p><u>Measures to minimise impacts from general construction activities</u></p> <ul style="list-style-type: none"> • To avoid the entering of construction solid waste into the nearby habitats, construction solid waste should be collected, handled and disposed of properly to avoid entering to the nearby habitats. It is recommended to clean the construction sites on a regular basis. 	Work site	Contractor		✓			EIAO-TM	Implemented
7b.8.3.49	<p><u>Pest Control</u></p> <p>Good waste management practices should be adopted at the IWMF in order to minimise the risk of introduction of pest to the island:</p> <ul style="list-style-type: none"> - Transportation of wastes in enclosed containers 	IWMF site	IWMF operator			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
	<ul style="list-style-type: none"> - Waste storage area should be well maintained and cleaned - Waste should only be disposed of at designated areas - Timely removal of the newly arrived waste - Removal of items that are capable of retaining water - Rapid clean up of any waste spillages - Maintenance of a tidy and clean site environment - Regular application of pest control - Education of staff the importance of site cleanliness 								
7b.8.3.50	<p><u>Control of Marine Habitat Quality during Operation Phase</u></p> <ul style="list-style-type: none"> • Depending on the seabed condition of the approach channel for marine vessels during operation phase of the IWMF, maintenance dredging may be required to ensure safe access. In order to avoid degradation in water quality due to elevation in SS and dispersion of sediment plume due to dredging works, it is recommended that any future maintenance dredging works should not be carried out within 100 m from the shore, similar to that of the dredging for anti-scouring protection layer during construction phase. All maintenance dredging works should be carried out with the implementation of silt curtain to control the dispersion of SS. The 	IWMF site	IWMF operator			✓		EIAO-TM; WPCO N/A	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	production rate should comply with the permit dredging rate and number of grab per hour.								
7b.8.4.1 – 7b.8.4.8	<p><u>Compensation of loss of important habitat of Finless Porpoise</u></p> <p><i>Designation of Marine Park</i></p> <ul style="list-style-type: none"> The Project Proponent has made a firm commitment to seek to designate a marine park of approximately 700 ha in the waters between Soko Islands and Shek Kwu Chau, in accordance with the statutory process stipulated in the Marine Parks Ordinance, as a compensation measure for the habitat loss arising from the construction of the IWMF at the artificial island near SKC. The Project Proponent shall seek to complete the designation by 2018 to tie in with the operation of the IWMF at the artificial island near SKC. A further study should be carried out to review relevant previous studies and collate available information on the ecological characters of the proposed area for marine park designation; and review available survey data for Finless Porpoise, water quality, fisheries, marine traffic and planned development projects in the vicinity. Based on the findings, ecological profiles of 	Waters between Shek Kwu Chau and Soko Islands	Project Proponent	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	<p>the proposed area for marine park designation should be established, and the extent and location of the proposed marine park be determined. The adequacy of enhancement measures should also be reviewed.</p> <ul style="list-style-type: none"> In addition, a management plan for the proposed marine park should be proposed, covering information on the responsible departments for operation and management (O&M) of the marine park, as well as the O&M duties of each of the departments involved. Consultation with relevant government departments and stakeholders should be conducted under the study. The study should be submitted to Director of Environmental Protection (DEP) for approval before the commencement of construction works. The Project Proponent should provide assistance to AFCD during the process of the marine park designation. 								
7b.8.5.1 – 7b.8.5.4	<p><u>Additional Enhancement or Precautionary Measures Deployment of Artificial Reefs</u></p> <ul style="list-style-type: none"> Deployment of artificial reefs (ARs) is an enhancement measure for the marine habitats. ARs are proposed to be deployed within the proposed marine park under 	<p>Within the proposed marine park under this study</p>	Project Proponent	✓		✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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	<p>this Project. The exact location, dimension and type of ARs to be deployed are to be further investigated along with the further study of the proposed marine park under this Project. The proposed ARs would be deployed at the same time as the complete designation of marine park.</p> <p><i>Release of Fish Fry at Artificial Reefs and Marine Park</i></p> <ul style="list-style-type: none"> Release of fish fry at the proposed ARs, as well as the proposed marine park under this study, should enhance the fish resources in the nearby waters, and subsequently food sources for Finless Porpoise. The proposed ARs with various micro-habitats would have the potential to provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD. 								

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table B.6 Implementation Schedule for Fisheries Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
8b.8.1.2	<p><u>Measure to minimize loss of and disturbance on fisheries resources</u></p> <ul style="list-style-type: none"> Alteration to the phasing of works, construction method, and layout plan of the IWMF at the artificial island near SKC has been made. The total fishing ground to be permanently lost due to the project has been significantly reduced from ~50 ha to ~31 ha. By adopting the current circular cells instead of the conventional seawall construction method, SS elevation would be greatly reduced, minimizing adverse impact on the health of fisheries resources. 	IWMF site	Design team, contractor	✓	✓		✓	EIAO-TM	N/A
8b.8.1.3	<p><u>Measure to minimize impingement and entrainment</u></p> <ul style="list-style-type: none"> Provision of a screen at the water intake point for desalination plant would be essential to minimize the risk of impingement and entrainment of fisheries resources (including fish, larvae and egg) through the intake point. 	IWMF site	Design team, contractor, IW MF operator	✓	✓	✓		EIAO-TM	N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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8b.8.1.4-8b.8.1.6	<p><u>Measures to control water quality</u></p> <ul style="list-style-type: none"> No wastewater effluent, anti-fouling agent, heavy metals and other contaminants would be released during operation phase of the Project. Mitigation measures recommended in the water quality impact assessment during construction and operation would serve to protect fisheries resources from indirect impacts resulted from the Project 	Work site, IWMF site	Design team, contractor, IWMF operator	✓	✓	✓	✓	EIAO-TM	Implemented
8b.8.1.7 – 8b.8.1.8	<p><u>Additional Enhancement / Precautionary Measures</u></p> <ul style="list-style-type: none"> Artificial Reefs (ARs) are proposed to be deployed within the proposed marine park under this Project as an enhancement measure for the marine habitats. This enhancement feature would bring positive impacts to the previously identified important spawning and nursery ground for fisheries resources. <p><i>Release of Fish Fry at Artificial Reefs</i></p> <ul style="list-style-type: none"> Release of fish fry has been proposed under this Project. The proposed deployment of ARs within the proposed marine park would provide shelter and nursery ground for the released fish fry. The frequency and quantity of fry to be released should be agreed by AFCD. 	Within the proposed marine park in the waters between Soko Islands and Shek Kwu Chau	Project Proponent	✓		✓		EIAO-TM	N/A

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Table B.7 Implementation Schedule for Landscape and Visual Measures for the IWMF at the artificial island near SKC

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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S10b.10 MLVC- 01	Grass-hydroseeded bare soil surface and stock pile area	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MLVC-02	<p><u>Landscape Design</u></p> <ol style="list-style-type: none"> 1) Early planting using fast grow trees and tall shrubs at strategic locations within site as buffer to block view corridors to the site from the VSRs, and to locally screen haul roads, excavation works and site preparation works. 2) Use of tree species of dense tree crown to serve as visual barrier. 3) Hard and soft landscape treatment (e.g. trees and shrubs) of open areas within development to provide a background for the outdoor containers from open view, shade and shelter, and a green appearance from surrounding viewpoints. 4) Planting strip along the periphery of the project site. 5) Selected tree species suitable for the coastal condition. 	Work site / During design & construction phases	Contractor	✓	✓				N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MLVC-03	<p><u>Adoption of Natural Features of the Existing Shoreline</u></p> <p>1) Use of boulders in different sizes and with the similar textures of the existing rocky shores for the construction of breakwater and artificial shoreline in order to blend into the existing natural shoreline.</p> <p>2) Use of cellular cofferdam together with the natural boulders to form a curvature shoreline for the reclamation area to echo with the natural shoreline of SKC.</p>	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MLVC-04	<p><u>Greening Design (Rooftop & Vertical Greening)</u></p> <p>1) Implementation of rooftop and vertical greening (vertical building envelope) along the periphery of each building block to increase the amenity value of the work, moderate temperature extremes and enhance building energy performance. The greening appearance of the building shall enhance its visual harmony with the natural surroundings as well as reduce the apparent visual mass of the structure.</p> <p>2) Sufficient space between concrete enclosure and stack to minimize heat transfer.</p> <p>3) Introduction of landscape decks at the stack to further enhance the overall natural and green concept unique for this site.</p>	Work site / During design & construction phases	Contractor	✓	✓				N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVC-01	<p><u>Visual Mitigation and Aesthetic Design</u></p> <ol style="list-style-type: none"> 1) Use of natural materials with recessive color to minimize the bulkiness of the building. 2) Adoption of innovative aesthetic design to the chimney to minimize or visually mitigate the massing of the chimney so as to reduce its visual impact to the surroundings. 3) Color of the chimney in a gradual changing manner to match with the color of the sky. 4) Provision of observation deck for public enjoyment at the top of the chimney to diminish the feeling of chimney. 5) Provision of sky gardens between the two stacks to allow additional greening for enhancing the aesthetic quality. Maintenance access (elevator and staircase) from the ground floor to the sky gardens will be provided to allow maintenance of the sky gardens. 6) Integration of the visitor’s walkway with different material façade design of incinerator plant to enhance the aesthetic quality. 	Structures in IWMF / During design & construction phases	Contractor	✓	✓			N/A	
S10b.10 MVC-02	Control of the security floodlight for construction areas at night to avoid excessive glare to the surrounding receiver.	Work site / During construction phase	Contractor		✓			Implemented	

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
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S10b.10 MVC-03	Optimization of the construction sequence and construction programme to minimize the duration of impact.	Work site / During design & construction phases	Contractor	✓	✓				Implemented
S10b.10 MVC-04	Storage of the backfilling materials for site formation & construction materials / wastes on site at a maximum height of 2m, covered with an impermeable material of visually unobtrusive material (in earth tone).	Work site / During construction phase	Contractor		✓				N/A
S10b.10 MVC-05	Reduction of the number of construction traffic at the site to practical minimum.	Work site / During construction phase	Contractor		✓				Implemented
S10b.10 MLVO-01	<u>Planting Maintenance</u> Provision of proper planting maintenance and replacement of defective plant species on the new planting areas to enhance aesthetic and landscape quality.	Project site / During Operation phase	Contractor			✓			N/A
S10b.10 MVO-01	<u>Environmental Education Centre</u> Development of an Environmental Education Center, in which regular exhibitions and lectures to promote environmental awareness and waste reduction concept would be provided, as a part of the IWMF for the general public to alleviate negative public perceptions of the development.	Project site / During Operation phase	Contractor			✓			N/A
S10b.10 MVO-02	<u>Control of Light</u> Control the numbers of lights and their intensity to a level that is good enough to meet the safety requirements at night but not excessive.	Project site / During Operation phase	Contractor			✓			N/A

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	Implementation Status and Remarks
				Des	C	O	Dec		
S10b.10 MVO-03	<u>Control of Operation Time</u> Minimization of the frequency of waste transportation to practical minimum (e.g. limit the reception of MSW from 8 am to 8 pm)	Project site / During Operation phase	Contractor			✓			N/A

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Appendix C Impact Monitoring Schedule of the Reporting Month

Impact Monitoring Schedule for IWMF

Dec-21

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 06:45 - 12:36 Flood Tide: 12:36 - 19:10 Monitoring Time: *Mid-ebb: 08:00 - 11:25 Mid-flood: 14:08 - 17:38	2 Impact Ecology monitoring for WBSE	3 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 09:05 - 14:00 Flood Tide: 14:00 - 20:07 Monitoring Time: Mid-ebb: 09:47 - 13:17 Mid-flood: 15:18 - 18:48	4
5	6 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:14 - 16:00 Flood Tide: 05:00 - 12:14 Monitoring Time: Mid-ebb: 12:22 - 15:52 *Mid-flood: 08:00 - 10:22 Daytime & Evening Noise monitoring for M1, M2 & M3	7 Impact Night time Noise monitoring for M1, M2 & M3	8 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 14:10 - 17:03 Flood Tide: 07:00 - 14:10 Monitoring Time: #Mid-ebb: 14:18 - 16:54 Mid-flood: 08:50 - 12:20	9 Impact Ecology monitoring for Marine Mammals by Vessel-based Line-Transsect Survey	10 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 16:00 - 19:00 Flood Tide: 08:39 - 16:00 Monitoring Time: &Mid-ebb: 15:45 - 19:00 Mid-flood: 10:34 - 14:04	11
12	13 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 05:00 - 11:13 Flood Tide: 11:13 - 19:00 Monitoring Time: *Mid-ebb: 08:00 - 10:54 Mid-flood: 13:21 - 16:51 Daytime & Evening Noise monitoring for M2 & M3	14 Impact Night time Noise monitoring for M2 & M3 Daytime & Evening Noise monitoring for M1	15 Impact Night time Noise monitoring for M1 Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 07:20 - 12:25 Flood Tide: 12:25 - 19:31 Monitoring Time: Mid-ebb: 08:07 - 11:37 Mid-flood: 14:13 - 17:43	16 Impact Ecology monitoring for WBSE	17 Impact Ecology monitoring for Marine Mammals by Vessel-based Line-Transsect Survey Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 09:21 - 13:11 Flood Tide: 13:11 - 20:00 Monitoring Time: *Mid-ebb: 09:31 - 13:01 Mid-flood: 14:50 - 18:20	18
19	20 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 11:00 - 15:00 Flood Tide: 05:00 - 11:00 Monitoring Time: Mid-ebb: 11:15 - 14:45 *Mid-flood: 08:00 - 10:42 Daytime & Evening Noise monitoring for M1, M2 & M3	21 Impact Night time Noise monitoring for M1, M2 & M3	22 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 12:41 - 15:02 Flood Tide: 05:50 - 12:41 Monitoring Time: #Mid-ebb: 12:48 - 14:54 *Mid-flood: 08:00 - 11:00	23	24 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 14:00 - 16:15 Flood Tide: 07:09 - 14:00 Monitoring Time: #Mid-ebb: 14:06 - 16:08 Mid-flood: 08:49 - 12:19 12th Quarterly Coral Monitoring at Indirect Impact Site and Control Site Ecology monitoring for WBSE	25
26	27 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 16:45 - 21:00 Flood Tide: 09:23 - 16:45 Monitoring Time: #Mid-ebb: 16:57 - 19:00 Mid-flood: 11:19 - 14:49	28 Impact Daytime & Evening Noise monitoring for M1, M2 & M3	29 Impact Night time Noise monitoring for M1, M2 & M3 Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 05:10 - 11:00 Flood Tide: 11:00 - 17:52 Monitoring Time: *Mid-ebb: 08:00 - 10:42 Mid-flood: 12:41 - 16:11	30 Impact Ecology monitoring for WBSE	31 Impact Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1 Tidal Period: Ebb Tide: 08:14 - 12:23 Flood Tide: 12:23 - 18:56 Monitoring Time: Mid-ebb: 08:33 - 12:03 Mid-flood: 13:54 - 17:24	

Remarks:
1. Daytime Noise Monitoring (07:00-19:00), Evening Time Noise Monitoring (19:00-23:00), Night Time Noise Monitoring (23:00-07:00)
2. Water Quality Monitoring for S1,S2 and S3 will only conduct during DCM works, refer to Detailed DCM Plan

Note:
* - as per Marine Department Notice No 107 of 2018, all vessels employed for the works should stay in the works area outside the hours of works (0700 to 2300). Due to safety concern, Water Quality Monitoring would start at 0800.
- Prioritized routing: Mid-Ebb: C1→S3→CR2→CR1→H1→Remaining stations and Mid-Flood: C2→CR1→S3→CR2→H1→Remaining stations
5 - Since predicted tide is shorter than 3.5 hours, method of 90% tidal period as monitoring time is approached.
& - Due to safety concern for sampling event in night-time, method of 90% tidal period as monitoring time is approached and end at 1900.

Appendix D Water Quality Monitoring Data

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	08:49	9.11	8.25	31.48	26.02	2.92	20
B1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	08:49	8.96	8.28	31.17	26.05	2.77	22
B1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	4.2	08:48	8.18	8.39	30.6	26.23	3.21	21
B1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	4.2	08:48	8.17	8.42	30.24	26.35	2.78	24
B2	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	09:06	9.29	8.23	30.92	26.14	2.31	22
B2	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	09:06	9.41	8.19	30.78	26.01	2.71	21
B2	20211201	Sunny	Moderate	Mid-Ebb	Bottom	4.6	09:05	8.89	8.27	31.32	26.05	2.05	22
B2	20211201	Sunny	Moderate	Mid-Ebb	Bottom	4.6	09:05	9.07	8.23	31.37	26.16	2.17	19
B3	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	8.94	8.24	30.94	27.06	4.3	20
B3	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	11:19	8.91	8.27	31.2	27.02	4.21	20
B3	20211201	Sunny	Moderate	Mid-Ebb	Bottom	3.7	11:18	9.07	8.23	31.08	27.03	3.67	17
B3	20211201	Sunny	Moderate	Mid-Ebb	Bottom	3.7	11:18	9.03	8.24	31.12	27.02	3.14	20
B4	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	11:07	8.96	8.3	30.89	27.15	2.62	13
B4	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	11:07	8.91	8.24	30.95	27.12	2.87	9
B4	20211201	Sunny	Moderate	Mid-Ebb	Bottom	3.6	11:06	8.63	8.35	30.06	26.98	2.58	8
B4	20211201	Sunny	Moderate	Mid-Ebb	Bottom	3.6	11:06	8.61	8.31	29.99	27.04	2.68	8
C1A	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	08:19	8.26	8.37	30.56	26.29	4.5	9
C1A	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	08:19	8.18	8.36	30.36	26.2	4.21	10
C1A	20211201	Sunny	Moderate	Mid-Ebb	Middle	4.9	08:18	8.56	8.48	31.11	26.78	5.46	11
C1A	20211201	Sunny	Moderate	Mid-Ebb	Middle	4.9	08:18	8.52	8.46	31.1	26.85	4.98	10
C1A	20211201	Sunny	Moderate	Mid-Ebb	Bottom	8.8	08:17	8.36	8.52	31.38	26.84	5.59	10
C1A	20211201	Sunny	Moderate	Mid-Ebb	Bottom	8.8	08:17	8.32	8.48	31.14	26.75	5.54	9
C2A	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:21	9.24	8.45	29.87	26.94	3.66	8
C2A	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:21	9.4	8.45	30.18	27.11	3.16	11
C2A	20211201	Sunny	Moderate	Mid-Ebb	Middle	5.9	10:20	9.42	8.45	30.28	26.99	3.78	11
C2A	20211201	Sunny	Moderate	Mid-Ebb	Middle	5.9	10:20	9.27	8.52	29.88	27.03	3.59	9
C2A	20211201	Sunny	Moderate	Mid-Ebb	Bottom	10.8	10:19	9.05	8.28	30.61	26.96	4	11
C2A	20211201	Sunny	Moderate	Mid-Ebb	Bottom	10.8	10:19	8.91	8.33	30.71	26.83	3.51	10
CR1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:00	8.02	8.44	29.57	26.14	3.84	7
CR1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:00	8.12	8.39	29.86	26.19	3.76	10
CR1	20211201	Sunny	Moderate	Mid-Ebb	Middle	6.85	09:59	8.27	8.42	29.79	26.15	2.66	8
CR1	20211201	Sunny	Moderate	Mid-Ebb	Middle	6.85	09:59	8.12	8.4	29.76	26.13	3.1	10
CR1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	12.7	09:58	9.28	8.16	29.96	26.27	2.97	9
CR1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	12.7	09:58	9.35	8.18	30.03	26.37	3.27	8
CR2	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	09:46	9.33	8.21	29.88	26.27	4.17	8
CR2	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	09:46	9.25	8.22	30.09	26.16	4.16	9
CR2	20211201	Sunny	Moderate	Mid-Ebb	Middle	5.7	09:45	9.24	8.19	30.07	26.24	4.43	11
CR2	20211201	Sunny	Moderate	Mid-Ebb	Middle	5.7	09:45	9.45	8.23	29.99	26.21	4.65	10
CR2	20211201	Sunny	Moderate	Mid-Ebb	Bottom	10.4	09:44	8.55	8.36	30.94	26.3	3.59	11
CR2	20211201	Sunny	Moderate	Mid-Ebb	Bottom	10.4	09:44	8.44	8.42	30.64	26.31	3.67	10

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
F1A	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:42	8.83	8.33	29.99	27.06	3.23	11
F1A	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:42	8.73	8.35	30.08	27.07	3.56	10
F1A	20211201	Sunny	Moderate	Mid-Ebb	Middle	4.45	10:41	8.71	8.35	30.09	27.12	2.55	12
F1A	20211201	Sunny	Moderate	Mid-Ebb	Middle	4.45	10:41	8.63	8.29	30.05	27.07	2.99	12
F1A	20211201	Sunny	Moderate	Mid-Ebb	Bottom	7.9	10:40	9.43	8.47	29.9	27.05	3.12	7
F1A	20211201	Sunny	Moderate	Mid-Ebb	Bottom	7.9	10:40	9.21	8.52	30.27	27.18	3.22	11
H1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	09:31	8.56	8.41	30.74	26.36	2.91	6
H1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	09:31	8.47	8.38	30.95	26.18	2.94	7
H1	20211201	Sunny	Moderate	Mid-Ebb	Middle	3.9	09:30	8.39	8.41	30.77	26.38	2.68	12
H1	20211201	Sunny	Moderate	Mid-Ebb	Middle	3.9	09:30	8.62	8.38	30.83	26.36	2.51	12
H1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	6.8	09:29	9.31	8.19	30.71	26.14	2.45	8
H1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	6.8	09:29	9.38	8.21	30.88	25.95	2.05	9
M1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:14	8.91	8.35	30.56	26.95	4.57	9
M1	20211201	Sunny	Moderate	Mid-Ebb	Surface	1	10:14	8.9	8.28	30.48	26.93	4.01	10
M1	20211201	Sunny	Moderate	Mid-Ebb	Middle	4.7	10:13	9.06	8.33	30.72	26.95	4.88	9
M1	20211201	Sunny	Moderate	Mid-Ebb	Middle	4.7	10:13	9.08	8.33	30.66	26.93	5.2	10
M1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	8.4	10:12	8.03	8.42	29.8	26.16	4.22	10
M1	20211201	Sunny	Moderate	Mid-Ebb	Bottom	8.4	10:12	8.15	8.45	29.6	26.27	4.08	8
B1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:38	8.81	8.36	31.03	26.66	3.41	8
B1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:38	8.97	8.36	30.93	26.73	3.39	8
B1	20211201	Sunny	Moderate	Mid-Flood	Bottom	3.6	14:37	8.21	8.39	31.96	26.68	4.33	6
B1	20211201	Sunny	Moderate	Mid-Flood	Bottom	3.6	14:37	8.24	8.43	31.83	26.73	4.12	9
B2	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:55	8.77	8.35	30.99	26.71	2.54	9
B2	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:55	8.84	8.39	31.23	26.72	2.77	8
B2	20211201	Sunny	Moderate	Mid-Flood	Bottom	3.7	14:54	8.82	8.31	31.21	26.72	3.37	11
B2	20211201	Sunny	Moderate	Mid-Flood	Bottom	3.7	14:54	8.94	8.39	30.94	26.67	3.82	7
B3	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:24	8.15	8.25	30.86	26.48	2.94	10
B3	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:24	8.14	8.28	30.98	26.47	2.98	7
B3	20211201	Sunny	Moderate	Mid-Flood	Bottom	4.2	14:23	8.17	8.24	30.88	26.46	2.79	7
B3	20211201	Sunny	Moderate	Mid-Flood	Bottom	4.2	14:23	8.08	8.32	30.81	26.48	2.96	8
B4	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:33	8.35	8.42	31.6	26.74	2.56	9
B4	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:33	8.24	8.43	31.61	26.74	3	9
B4	20211201	Sunny	Moderate	Mid-Flood	Bottom	4.5	14:32	8.35	8.5	31.85	26.71	3.15	7
B4	20211201	Sunny	Moderate	Mid-Flood	Bottom	4.5	14:32	8.17	8.38	31.85	26.74	3.29	10
C1A	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:10	8.26	8.32	30.95	26.86	3.76	12
C1A	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:10	8.39	8.29	30.98	26.84	3.6	14
C1A	20211201	Sunny	Moderate	Mid-Flood	Middle	5.75	14:09	8.45	8.15	30.89	27.04	3.9	7
C1A	20211201	Sunny	Moderate	Mid-Flood	Middle	5.75	14:09	8.34	8.28	30.7	26.95	3.86	8
C1A	20211201	Sunny	Moderate	Mid-Flood	Bottom	10.5	14:08	8.95	8.35	32.13	26.65	3.82	6

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C1A	20211201	Sunny	Moderate	Mid-Flood	Bottom	10.5	14:08	9.16	8.36	32.28	26.69	4.02	7
C2A	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:10	8.47	8.26	30.96	26.86	5.49	5
C2A	20211201	Sunny	Moderate	Mid-Flood	Surface	1	14:10	8.24	8.28	30.83	26.86	5.96	4
C2A	20211201	Sunny	Moderate	Mid-Flood	Middle	5.75	14:09	8.37	8.26	30.66	26.98	5.29	7
C2A	20211201	Sunny	Moderate	Mid-Flood	Middle	5.75	14:09	8.41	8.21	30.97	27.03	5.34	8
C2A	20211201	Sunny	Moderate	Mid-Flood	Bottom	10.5	14:08	8.99	8.3	32.02	26.7	4.73	6
C2A	20211201	Sunny	Moderate	Mid-Flood	Bottom	10.5	14:08	8.86	8.26	32.17	26.71	5.15	8
CR1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:52	9.23	8.34	31.23	27.04	3.73	17
CR1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:52	9.4	8.42	31.1	27.02	3.5	16
CR1	20211201	Sunny	Moderate	Mid-Flood	Middle	6.3	15:51	9.24	8.36	30.97	27.01	4.43	18
CR1	20211201	Sunny	Moderate	Mid-Flood	Middle	6.3	15:51	9.21	8.36	31.14	27.04	4.16	17
CR1	20211201	Sunny	Moderate	Mid-Flood	Bottom	11.6	15:50	9.12	8.36	30.98	27.02	4.63	18
CR1	20211201	Sunny	Moderate	Mid-Flood	Bottom	11.6	15:50	9.33	8.42	31	27.05	4.48	18
CR2	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:37	8.5	8.48	32.04	26.15	2.5	21
CR2	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:37	8.49	8.49	32.21	26.13	2.86	18
CR2	20211201	Sunny	Moderate	Mid-Flood	Middle	5.8	15:36	8.68	8.39	31.98	26.13	3.04	22
CR2	20211201	Sunny	Moderate	Mid-Flood	Middle	5.8	15:36	8.73	8.45	32.15	26.14	2.8	22
CR2	20211201	Sunny	Moderate	Mid-Flood	Bottom	10.6	15:35	8.67	8.5	31.88	26.1	2.56	20
CR2	20211201	Sunny	Moderate	Mid-Flood	Bottom	10.6	15:35	8.6	8.51	32.17	26.17	2.96	18
F1A	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:05	9.41	8.29	31.93	26.18	3.09	8
F1A	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:05	9.51	8.36	32.17	26.21	2.58	7
F1A	20211201	Sunny	Moderate	Mid-Flood	Middle	4.25	15:04	9.27	8.3	32.14	26.23	3.72	7
F1A	20211201	Sunny	Moderate	Mid-Flood	Middle	4.25	15:04	9.51	8.4	32.09	26.23	3.64	5
F1A	20211201	Sunny	Moderate	Mid-Flood	Bottom	7.5	15:03	9.37	8.36	31.95	26.24	3.75	10
F1A	20211201	Sunny	Moderate	Mid-Flood	Bottom	7.5	15:03	9.52	8.35	32.16	26.23	3.46	8
H1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:22	8.68	8.21	30.9	26.18	3.83	8
H1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:22	8.51	8.23	30.93	26.15	3.71	7
H1	20211201	Sunny	Moderate	Mid-Flood	Middle	3.95	15:21	8.79	8.27	30.89	26.18	3.59	7
H1	20211201	Sunny	Moderate	Mid-Flood	Middle	3.95	15:21	8.69	8.27	30.93	26.23	4.02	8
H1	20211201	Sunny	Moderate	Mid-Flood	Bottom	6.9	15:20	8.57	8.21	30.86	26.22	3.72	11
H1	20211201	Sunny	Moderate	Mid-Flood	Bottom	6.9	15:20	8.78	8.26	30.77	26.16	4.18	11
M1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:33	9.43	8.37	31.61	27.05	2.36	19
M1	20211201	Sunny	Moderate	Mid-Flood	Surface	1	15:33	9.62	8.37	31.56	27.07	2.45	20
M1	20211201	Sunny	Moderate	Mid-Flood	Middle	4.2	15:32	9.57	8.31	31.72	27.1	2.61	20
M1	20211201	Sunny	Moderate	Mid-Flood	Middle	4.2	15:32	9.67	8.34	31.76	27.07	2.98	20
M1	20211201	Sunny	Moderate	Mid-Flood	Bottom	7.4	15:31	9.66	8.38	31.41	27.07	3.44	12
M1	20211201	Sunny	Moderate	Mid-Flood	Bottom	7.4	15:31	9.39	8.37	31.78	27.05	3.03	15
B1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	10:17	8.09	8.25	30.29	26.36	2.64	8
B1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	10:17	8.12	8.28	30.35	26.2	3.02	6

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	4	10:16	7.83	8.29	29.98	25.96	3.95	8
B1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	4	10:16	7.92	8.21	30.01	26	3.85	8
B2	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	10:36	9.22	8.33	30.41	26.54	2.54	6
B2	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	10:36	9.11	8.37	30.4	26.34	2.79	7
B2	20211203	Sunny	Moderate	Mid-Ebb	Bottom	4.9	10:35	8.04	8.25	30.35	26.42	3.41	7
B2	20211203	Sunny	Moderate	Mid-Ebb	Bottom	4.9	10:35	7.98	8.24	30.13	26.26	3.16	6
B3	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	12:28	8.93	8.21	30.07	26.29	2.64	7
B3	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	12:28	9.01	8.27	30.23	26.34	3.12	6
B3	20211203	Sunny	Moderate	Mid-Ebb	Bottom	4	12:27	9.09	8.23	30.06	26.41	2.9	6
B3	20211203	Sunny	Moderate	Mid-Ebb	Bottom	4	12:27	9.02	8.19	30.03	26.44	2.83	4
B4	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	12:18	8.99	8.28	30.18	26.19	2.26	5
B4	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	12:18	9.01	8.25	30.17	26.24	2.46	5
B4	20211203	Sunny	Moderate	Mid-Ebb	Bottom	3.9	12:17	8.56	8.34	30.5	26.24	2.99	8
B4	20211203	Sunny	Moderate	Mid-Ebb	Bottom	3.9	12:17	8.53	8.36	30.64	26.1	2.57	8
C1A	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	09:49	7.84	8.3	29.89	25.96	4.36	9
C1A	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	09:49	7.95	8.29	29.8	25.97	4.87	7
C1A	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.7	09:48	9.12	8.06	29.18	25.63	5.12	6
C1A	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.7	09:48	9.09	8.12	29.17	25.53	4.85	9
C1A	20211203	Sunny	Moderate	Mid-Ebb	Bottom	8.4	09:47	9.27	8.06	29.2	25.69	4.84	7
C1A	20211203	Sunny	Moderate	Mid-Ebb	Bottom	8.4	09:47	9.11	8.15	29.2	25.79	4.75	7
C2A	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:51	8.72	8.38	30.55	26.35	3.98	7
C2A	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:51	8.73	8.33	30.65	26.14	3.77	9
C2A	20211203	Sunny	Moderate	Mid-Ebb	Middle	5.75	11:50	8.59	8.32	30.51	26.21	4.16	5
C2A	20211203	Sunny	Moderate	Mid-Ebb	Middle	5.75	11:50	8.54	8.3	30.47	26.32	4.03	5
C2A	20211203	Sunny	Moderate	Mid-Ebb	Bottom	10.5	11:49	8.04	8.16	30.3	26.03	3.24	15
C2A	20211203	Sunny	Moderate	Mid-Ebb	Bottom	10.5	11:49	8	8.08	30.27	26.17	3.8	14
CR1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:29	8.65	8.2	30.59	26.54	2.88	6
CR1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:29	8.72	8.2	30.61	26.46	2.91	7
CR1	20211203	Sunny	Moderate	Mid-Ebb	Middle	6.75	11:28	8.62	8.24	30.72	26.39	3.47	6
CR1	20211203	Sunny	Moderate	Mid-Ebb	Middle	6.75	11:28	8.62	8.17	30.65	26.54	3.05	6
CR1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	12.5	11:27	8.87	8.08	30.4	26.06	3.88	7
CR1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	12.5	11:27	9.01	8.12	30.41	25.93	4.28	8
CR2	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:17	8.88	8.36	29.33	25.67	2.3	7
CR2	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:17	8.9	8.3	29.31	25.75	2.2	7
CR2	20211203	Sunny	Moderate	Mid-Ebb	Middle	5.45	11:16	8.78	8.31	29.34	25.76	2.52	6
CR2	20211203	Sunny	Moderate	Mid-Ebb	Middle	5.45	11:16	8.79	8.31	29.39	25.76	2.58	6
CR2	20211203	Sunny	Moderate	Mid-Ebb	Bottom	9.9	11:15	9.42	8.21	29.53	25.64	3.71	5
CR2	20211203	Sunny	Moderate	Mid-Ebb	Bottom	9.9	11:15	9.4	8.16	29.43	25.51	4.27	6
F1A	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:49	7.94	8.09	30.28	26.25	2.52	7

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
F1A	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:49	8.09	8.08	30.31	26.23	3.01	6
F1A	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.45	11:48	8.06	8.1	30.24	26.24	3.3	7
F1A	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.45	11:48	7.91	8.14	30.3	26.09	2.99	6
F1A	20211203	Sunny	Moderate	Mid-Ebb	Bottom	7.9	11:47	8.58	8.18	30.63	26.46	3.15	14
F1A	20211203	Sunny	Moderate	Mid-Ebb	Bottom	7.9	11:47	8.74	8.2	30.75	26.51	3.47	15
H1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:02	9.22	8.23	29.48	25.68	3.52	6
H1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:02	9.22	8.15	29.46	25.75	3.4	5
H1	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.2	11:01	9.33	8.15	29.31	25.56	4.22	5
H1	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.2	11:01	9.37	8.14	29.35	25.73	3.52	5
H1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	7.4	11:00	9.29	8.36	30.32	26.36	3	6
H1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	7.4	11:00	9.14	8.3	30.3	26.39	3.13	9
M1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:22	9.09	8.09	30.37	25.93	4.18	7
M1	20211203	Sunny	Moderate	Mid-Ebb	Surface	1	11:22	9	8.13	30.48	25.8	4.14	5
M1	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.7	11:21	9.05	8.16	30.34	26.01	4.33	7
M1	20211203	Sunny	Moderate	Mid-Ebb	Middle	4.7	11:21	8.88	8.13	30.29	26.05	4.27	7
M1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	8.4	11:20	8.96	8.36	29.33	25.72	3.07	9
M1	20211203	Sunny	Moderate	Mid-Ebb	Bottom	8.4	11:20	8.86	8.28	29.37	25.78	2.86	7
B1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:49	8.87	8.33	31.31	26.3	2.55	6
B1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:49	8.89	8.36	31.25	26.1	2.68	6
B1	20211203	Sunny	Moderate	Mid-Flood	Bottom	3.4	15:48	8.63	8.31	30.05	26.34	3.31	9
B1	20211203	Sunny	Moderate	Mid-Flood	Bottom	3.4	15:48	8.62	8.41	30.17	26.38	3.19	11
B2	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:07	8.92	8.35	31.3	26.3	2.65	7
B2	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:07	8.8	8.42	31.31	26.25	2.56	7
B2	20211203	Sunny	Moderate	Mid-Flood	Bottom	3.9	16:06	8.93	8.35	31.06	26.14	3.02	7
B2	20211203	Sunny	Moderate	Mid-Flood	Bottom	3.9	16:06	8.99	8.33	31.28	26.22	3.47	8
B3	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:33	9.46	8.15	29.64	26.57	3.05	7
B3	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:33	9.36	8.12	29.72	26.64	3.22	8
B3	20211203	Sunny	Moderate	Mid-Flood	Bottom	4	15:32	9.55	8.21	29.53	26.62	3.01	7
B3	20211203	Sunny	Moderate	Mid-Flood	Bottom	4	15:32	9.47	8.12	29.48	26.62	2.87	9
B4	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:42	8.67	8.34	30.14	26.27	3.35	7
B4	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:42	8.53	8.39	30.18	26.33	3.57	7
B4	20211203	Sunny	Moderate	Mid-Flood	Bottom	4.1	15:41	8.46	8.31	29.95	26.22	3.11	7
B4	20211203	Sunny	Moderate	Mid-Flood	Bottom	4.1	15:41	8.51	8.37	30.18	26.25	3.24	9
C1A	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:20	9.24	8.21	30.24	25.78	2.99	5
C1A	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:20	9.25	8.3	30.24	25.78	3.18	4
C1A	20211203	Sunny	Moderate	Mid-Flood	Middle	5.75	15:19	8.03	8.21	29.52	26.45	3.52	6
C1A	20211203	Sunny	Moderate	Mid-Flood	Middle	5.75	15:19	8.1	8.22	29.57	26.61	3.69	6
C1A	20211203	Sunny	Moderate	Mid-Flood	Bottom	10.5	15:18	8.87	8.18	29.79	26.36	4.11	4
C1A	20211203	Sunny	Moderate	Mid-Flood	Bottom	10.5	15:18	8.87	8.29	29.9	26.26	3.78	5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C2A	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:20	9.24	8.31	30.26	25.93	3.97	6
C2A	20211203	Sunny	Moderate	Mid-Flood	Surface	1	15:20	9.28	8.27	30.21	26	3.73	6
C2A	20211203	Sunny	Moderate	Mid-Flood	Middle	5.95	15:19	8	8.22	29.71	26.45	4.39	6
C2A	20211203	Sunny	Moderate	Mid-Flood	Middle	5.95	15:19	8.12	8.26	29.8	26.47	4	5
C2A	20211203	Sunny	Moderate	Mid-Flood	Bottom	10.9	15:18	8.95	8.29	29.82	26.42	4.69	7
C2A	20211203	Sunny	Moderate	Mid-Flood	Bottom	10.9	15:18	8.83	8.17	29.82	26.26	4.88	5
CR1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	17:03	9.02	8.37	30.47	25.63	3.4	8
CR1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	17:03	8.99	8.37	30.4	25.83	2.86	9
CR1	20211203	Sunny	Moderate	Mid-Flood	Middle	6.35	17:02	8.83	8.36	30.43	25.73	3.48	5
CR1	20211203	Sunny	Moderate	Mid-Flood	Middle	6.35	17:02	8.99	8.41	30.39	25.64	3.41	5
CR1	20211203	Sunny	Moderate	Mid-Flood	Bottom	11.7	17:01	8.96	8.35	30.33	25.7	3.37	6
CR1	20211203	Sunny	Moderate	Mid-Flood	Bottom	11.7	17:01	8.88	8.35	30.41	25.77	2.98	8
CR2	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:48	8.39	8.28	30.65	25.94	2.38	7
CR2	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:48	8.42	8.37	30.56	25.97	2.65	7
CR2	20211203	Sunny	Moderate	Mid-Flood	Middle	5.95	16:47	8.34	8.32	30.46	26.07	2.77	7
CR2	20211203	Sunny	Moderate	Mid-Flood	Middle	5.95	16:47	8.42	8.33	30.6	26.12	2.62	8
CR2	20211203	Sunny	Moderate	Mid-Flood	Bottom	10.9	16:46	8.38	8.27	30.62	26.1	3.6	5
CR2	20211203	Sunny	Moderate	Mid-Flood	Bottom	10.9	16:46	8.59	8.27	30.5	25.9	3.84	6
F1A	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:15	8.62	8.38	30.18	25.94	2.36	5
F1A	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:15	8.41	8.49	30.03	25.76	2.79	6
F1A	20211203	Sunny	Moderate	Mid-Flood	Middle	3.95	16:14	8.44	8.38	30.1	25.81	2.78	6
F1A	20211203	Sunny	Moderate	Mid-Flood	Middle	3.95	16:14	8.56	8.44	30.13	25.76	2.57	5
F1A	20211203	Sunny	Moderate	Mid-Flood	Bottom	6.9	16:13	8.48	8.48	30.11	25.74	3.08	6
F1A	20211203	Sunny	Moderate	Mid-Flood	Bottom	6.9	16:13	8.4	8.4	30.06	25.85	3.12	8
H1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:35	9.49	8.33	30.46	25.91	3.42	7
H1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:35	9.31	8.27	30.57	26.08	3.57	9
H1	20211203	Sunny	Moderate	Mid-Flood	Middle	3.8	16:34	9.47	8.33	30.6	25.87	3.42	8
H1	20211203	Sunny	Moderate	Mid-Flood	Middle	3.8	16:34	9.45	8.26	30.56	26.04	3.27	7
H1	20211203	Sunny	Moderate	Mid-Flood	Bottom	6.6	16:33	9.29	8.36	30.63	25.9	3.64	4
H1	20211203	Sunny	Moderate	Mid-Flood	Bottom	6.6	16:33	9.51	8.35	30.64	25.89	3.37	6
M1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:42	8.78	8.32	29.85	25.92	3.18	4
M1	20211203	Sunny	Moderate	Mid-Flood	Surface	1	16:42	8.69	8.41	29.77	25.76	2.85	6
M1	20211203	Sunny	Moderate	Mid-Flood	Middle	4	16:41	8.67	8.44	29.7	25.83	2.85	7
M1	20211203	Sunny	Moderate	Mid-Flood	Middle	4	16:41	8.64	8.35	29.92	25.9	3.13	7
M1	20211203	Sunny	Moderate	Mid-Flood	Bottom	7	16:40	8.67	8.39	29.78	25.93	3.66	7
M1	20211203	Sunny	Moderate	Mid-Flood	Bottom	7	16:40	8.54	8.39	29.71	25.92	3.41	6
B1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	10:26	8.36	8.32	30.92	24.55	2.98	11
B1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	10:26	8.49	8.31	30.96	24.47	3.15	8
B1	20211206	Sunny	Moderate	Mid-Flood	Bottom	4.4	10:25	8.2	8.22	30.39	24.52	2.98	7

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B1	20211206	Sunny	Moderate	Mid-Flood	Bottom	4.4	10:25	8.32	8.19	30.48	24.37	2.68	9
B2	20211206	Sunny	Moderate	Mid-Flood	Surface	1	10:43	8.61	8.33	31.14	24.12	2.93	7
B2	20211206	Sunny	Moderate	Mid-Flood	Surface	1	10:43	8.41	8.31	30.99	24.19	3.13	8
B2	20211206	Sunny	Moderate	Mid-Flood	Bottom	3.7	10:42	8.55	8.36	31.14	24.12	3.64	6
B2	20211206	Sunny	Moderate	Mid-Flood	Bottom	3.7	10:42	8.44	8.36	31.06	24.09	3.94	8
B3	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:52	8.64	8.34	30.37	24.06	2.58	9
B3	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:52	8.58	8.37	30.49	23.98	2.4	8
B3	20211206	Sunny	Moderate	Mid-Flood	Bottom	4	09:51	8.66	8.41	30.61	24.09	2.67	10
B3	20211206	Sunny	Moderate	Mid-Flood	Bottom	4	09:51	8.59	8.41	30.43	23.96	3.01	9
B4	20211206	Sunny	Moderate	Mid-Flood	Surface	1	10:02	8.34	8.14	30.46	24.21	2.82	8
B4	20211206	Sunny	Moderate	Mid-Flood	Surface	1	10:02	8.22	8.17	30.33	24.3	3.06	10
B4	20211206	Sunny	Moderate	Mid-Flood	Bottom	3.5	10:01	8.16	8.18	30.35	24.34	3.57	8
B4	20211206	Sunny	Moderate	Mid-Flood	Bottom	3.5	10:01	8.32	8.14	30.49	24.27	3.57	10
C1A	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:56	8.68	8.43	31.68	24.92	3.62	7
C1A	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:56	8.59	8.42	31.84	24.87	4.15	9
C1A	20211206	Sunny	Moderate	Mid-Flood	Middle	4.95	09:55	8.71	8.41	31.76	24.86	3.68	9
C1A	20211206	Sunny	Moderate	Mid-Flood	Middle	4.95	09:55	8.67	8.48	31.86	24.9	3.72	6
C1A	20211206	Sunny	Moderate	Mid-Flood	Bottom	8.9	09:54	8.48	8.42	31.73	24.95	4.08	8
C1A	20211206	Sunny	Moderate	Mid-Flood	Bottom	8.9	09:54	8.71	8.42	31.72	25.07	4.09	8
C2A	20211206	Sunny	Moderate	Mid-Flood	Surface	1	08:49	9.35	8.21	31.25	24.19	5.37	14
C2A	20211206	Sunny	Moderate	Mid-Flood	Surface	1	08:49	9.19	8.22	31.16	24.22	5.08	10
C2A	20211206	Sunny	Moderate	Mid-Flood	Middle	5.95	08:48	9.01	8.2	31.32	24.15	5.47	11
C2A	20211206	Sunny	Moderate	Mid-Flood	Middle	5.95	08:48	9.06	8.2	31.15	24.24	4.76	12
C2A	20211206	Sunny	Moderate	Mid-Flood	Bottom	10.9	08:47	8.89	8.21	31.37	24.2	4.98	8
C2A	20211206	Sunny	Moderate	Mid-Flood	Bottom	10.9	08:47	9.04	8.22	31.4	24.04	5.33	8
CR1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:10	9.06	8.35	31.28	24.05	2.68	6
CR1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:10	8.93	8.29	31.27	24.02	2.85	6
CR1	20211206	Sunny	Moderate	Mid-Flood	Middle	6.1	09:09	9.26	8.21	31.29	23.85	3.46	8
CR1	20211206	Sunny	Moderate	Mid-Flood	Middle	6.1	09:09	9.22	8.2	31.43	23.87	3.85	7
CR1	20211206	Sunny	Moderate	Mid-Flood	Bottom	11.2	09:08	9.43	8.14	31.49	23.83	3.71	9
CR1	20211206	Sunny	Moderate	Mid-Flood	Bottom	11.2	09:08	9.4	8.18	31.28	24.05	3.46	7
CR2	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:22	9.22	8.35	32.07	24.24	3.16	7
CR2	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:22	9.4	8.37	32	24.18	3.17	6
CR2	20211206	Sunny	Moderate	Mid-Flood	Middle	5.55	09:21	9.24	8.15	31.4	24.13	3.19	7
CR2	20211206	Sunny	Moderate	Mid-Flood	Middle	5.55	09:21	9.46	8.13	31.39	24.15	2.86	8
CR2	20211206	Sunny	Moderate	Mid-Flood	Bottom	10.1	09:20	9.44	8.16	31.37	24.21	3.71	6
CR2	20211206	Sunny	Moderate	Mid-Flood	Bottom	10.1	09:20	9.22	8.2	31.58	24.22	3.2	8
F1A	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:19	9.44	8.13	31.38	24.79	3.49	11
F1A	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:19	9.34	8.14	31.31	24.68	3.15	10

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
F1A	20211206	Sunny	Moderate	Mid-Flood	Middle	3.9	09:18	9.08	8.33	31.22	24.63	4.11	8
F1A	20211206	Sunny	Moderate	Mid-Flood	Middle	3.9	09:18	9.06	8.29	31.26	24.64	3.72	9
F1A	20211206	Sunny	Moderate	Mid-Flood	Bottom	6.8	09:17	8.85	8.33	31.32	24.61	3.77	7
F1A	20211206	Sunny	Moderate	Mid-Flood	Bottom	6.8	09:17	8.85	8.35	31.39	24.68	3.75	11
H1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:35	8.76	8.38	30.49	24.36	2.64	8
H1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	09:35	8.69	8.38	30.64	24.3	2.6	8
H1	20211206	Sunny	Moderate	Mid-Flood	Middle	4	09:34	9.4	8.32	32.08	24.29	2.87	7
H1	20211206	Sunny	Moderate	Mid-Flood	Middle	4	09:34	9.42	8.36	31.98	24.45	3	9
H1	20211206	Sunny	Moderate	Mid-Flood	Bottom	7	09:33	9.3	8.3	32.03	24.33	4.23	8
H1	20211206	Sunny	Moderate	Mid-Flood	Bottom	7	09:33	9.29	8.33	31.89	24.3	4.02	7
M1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	08:52	9.08	8.21	30.8	24.7	3.36	7
M1	20211206	Sunny	Moderate	Mid-Flood	Surface	1	08:52	9.15	8.24	30.8	24.88	2.91	8
M1	20211206	Sunny	Moderate	Mid-Flood	Middle	4	08:51	8.98	8.22	30.85	24.88	2.9	10
M1	20211206	Sunny	Moderate	Mid-Flood	Middle	4	08:51	8.93	8.22	30.96	24.75	2.91	9
M1	20211206	Sunny	Moderate	Mid-Flood	Bottom	7	08:50	9.13	8.14	31.21	24.85	4.46	7
M1	20211206	Sunny	Moderate	Mid-Flood	Bottom	7	08:50	9.34	8.19	31.26	24.7	4.01	7
B1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:48	8.47	8.27	30.97	24.7	3.02	7
B1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:48	8.48	8.23	30.95	24.58	2.68	7
B1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:47	8.28	8.26	30.88	24.63	3.62	11
B1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	3.8	12:47	8.26	8.23	30.88	24.64	3.06	14
B2	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:05	8.43	8.41	31.61	25.18	3.14	6
B2	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:05	8.4	8.41	31.68	25.24	3.57	7
B2	20211206	Sunny	Moderate	Mid-Ebb	Bottom	4.2	13:04	8.26	8.42	31.6	25.23	3.85	6
B2	20211206	Sunny	Moderate	Mid-Ebb	Bottom	4.2	13:04	8.2	8.41	31.66	25.15	4.11	9
B3	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:45	9.14	8.36	31.01	24.54	2.15	9
B3	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:45	9.08	8.41	31.09	24.53	2.53	10
B3	20211206	Sunny	Moderate	Mid-Ebb	Bottom	4.3	12:44	9.07	8.37	31.01	24.56	2.57	8
B3	20211206	Sunny	Moderate	Mid-Ebb	Bottom	4.3	12:44	9	8.36	31.11	24.51	3.05	9
B4	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:54	8.47	8.3	30.86	25.07	3.21	13
B4	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:54	8.55	8.29	30.89	25.06	3.2	11
B4	20211206	Sunny	Moderate	Mid-Ebb	Bottom	3.6	12:53	8.51	8.31	30.84	25.03	4.1	12
B4	20211206	Sunny	Moderate	Mid-Ebb	Bottom	3.6	12:53	8.51	8.33	30.86	25.11	3.7	10
C1A	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:24	9.16	8.25	30.93	24.82	5.57	4
C1A	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:24	9.21	8.22	30.77	24.79	4.89	5
C1A	20211206	Sunny	Moderate	Mid-Ebb	Middle	5.15	12:23	9.18	8.22	30.89	24.79	5.58	7
C1A	20211206	Sunny	Moderate	Mid-Ebb	Middle	5.15	12:23	9.16	8.22	30.85	24.79	5.47	5
C1A	20211206	Sunny	Moderate	Mid-Ebb	Bottom	9.3	12:22	9.23	8.26	30.89	24.75	5.96	5
C1A	20211206	Sunny	Moderate	Mid-Ebb	Bottom	9.3	12:22	9.25	8.27	30.87	24.72	5.94	5
C2A	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:31	8.6	8.27	31.97	25.13	4.29	5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C2A	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	12:31	8.74	8.31	31.98	25.09	4.13	4
C2A	20211206	Sunny	Moderate	Mid-Ebb	Middle	5.75	12:30	8.6	8.3	31.92	25.03	4.25	5
C2A	20211206	Sunny	Moderate	Mid-Ebb	Middle	5.75	12:30	8.72	8.31	31.93	25.13	4.24	6
C2A	20211206	Sunny	Moderate	Mid-Ebb	Bottom	10.5	12:29	8.62	8.27	32.01	25.05	4.39	4
C2A	20211206	Sunny	Moderate	Mid-Ebb	Bottom	10.5	12:29	8.7	8.29	32.01	25.13	4.31	6
CR1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	14:00	8.68	8.32	30.74	24.9	2.34	10
CR1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	14:00	8.79	8.31	30.84	24.99	2.22	8
CR1	20211206	Sunny	Moderate	Mid-Ebb	Middle	6.6	13:59	8.71	8.33	30.81	24.92	2.25	8
CR1	20211206	Sunny	Moderate	Mid-Ebb	Middle	6.6	13:59	8.88	8.28	30.8	25.01	2.52	10
CR1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	12.2	13:58	8.87	8.28	30.73	24.9	2.29	8
CR1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	12.2	13:58	8.68	8.33	30.84	25.02	2.48	8
CR2	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:46	9.41	8.36	31.92	25.1	3.89	8
CR2	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:46	9.38	8.4	31.79	25.03	4.13	10
CR2	20211206	Sunny	Moderate	Mid-Ebb	Middle	6.05	13:45	9.45	8.4	31.82	25.11	3.79	9
CR2	20211206	Sunny	Moderate	Mid-Ebb	Middle	6.05	13:45	9.29	8.36	31.86	25	4.28	10
CR2	20211206	Sunny	Moderate	Mid-Ebb	Bottom	11.1	13:44	9.4	8.36	31.75	25.13	4.41	7
CR2	20211206	Sunny	Moderate	Mid-Ebb	Bottom	11.1	13:44	9.25	8.38	31.9	24.99	4.11	7
F1A	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:25	8.49	8.42	32.42	25.16	4.42	5
F1A	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:25	8.33	8.41	32.35	25.02	4.21	4
F1A	20211206	Sunny	Moderate	Mid-Ebb	Middle	4.15	13:24	8.5	8.42	32.46	25.17	3.7	6
F1A	20211206	Sunny	Moderate	Mid-Ebb	Middle	4.15	13:24	8.35	8.4	32.42	25.12	3.8	5
F1A	20211206	Sunny	Moderate	Mid-Ebb	Bottom	7.3	13:23	8.37	8.41	32.38	25.16	3.86	5
F1A	20211206	Sunny	Moderate	Mid-Ebb	Bottom	7.3	13:23	8.48	8.4	32.35	25.01	3.78	6
H1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:31	9.43	8.43	32.22	25.2	3.18	8
H1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:31	9.36	8.41	32.14	25.18	2.76	9
H1	20211206	Sunny	Moderate	Mid-Ebb	Middle	4.35	13:30	9.4	8.41	32.23	25.2	2.67	7
H1	20211206	Sunny	Moderate	Mid-Ebb	Middle	4.35	13:30	9.34	8.43	32.13	25.16	2.92	6
H1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	7.7	13:29	9.4	8.41	32.26	25.28	3.8	5
H1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	7.7	13:29	9.41	8.45	32.26	25.19	3.51	6
M1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:51	8.7	8.3	31	24.8	3.11	7
M1	20211206	Sunny	Moderate	Mid-Ebb	Surface	1	13:51	8.81	8.29	31.08	24.87	3.44	8
M1	20211206	Sunny	Moderate	Mid-Ebb	Middle	4.45	13:50	8.55	8.32	31.07	24.88	4.02	8
M1	20211206	Sunny	Moderate	Mid-Ebb	Middle	4.45	13:50	8.81	8.3	30.99	24.82	3.66	10
M1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	7.9	13:49	8.76	8.28	31.06	24.83	3.92	9
M1	20211206	Sunny	Moderate	Mid-Ebb	Bottom	7.9	13:49	8.77	8.29	31.03	24.89	4.08	9
B1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:47	9.31	8.18	31.01	25.34	3.75	17
B1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:47	9.13	8.33	30.91	25.46	4.02	17
B1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	3.7	14:46	9.2	8.27	30.92	25.1	4.14	15
B1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	3.7	14:46	9.12	8.25	30.95	25	3.56	13

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B2	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:05	9.72	8.33	31.03	25.48	2.51	11
B2	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:05	9.73	8.4	30.94	25.35	2.56	11
B2	20211208	Sunny	Moderate	Mid-Ebb	Bottom	4.6	15:04	9.53	8.32	30.96	25.39	3.16	17
B2	20211208	Sunny	Moderate	Mid-Ebb	Bottom	4.6	15:04	9.65	8.33	30.95	25.38	3.14	16
B3	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:21	8.86	8.14	31.24	25.23	4.41	16
B3	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:21	8.98	8.22	31.1	25.28	4.41	17
B3	20211208	Sunny	Moderate	Mid-Ebb	Bottom	4.2	14:20	8.93	8.06	31.22	25.45	4.18	15
B3	20211208	Sunny	Moderate	Mid-Ebb	Bottom	4.2	14:20	8.82	8.06	31.07	25.28	4.57	15
B4	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:29	9.36	8.5	31.1	25.16	2.92	12
B4	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:29	9.51	8.35	31.19	25.02	2.69	12
B4	20211208	Sunny	Moderate	Mid-Ebb	Bottom	3.4	14:28	9.62	8.39	31.13	25.22	2.53	17
B4	20211208	Sunny	Moderate	Mid-Ebb	Bottom	3.4	14:28	9.48	8.39	31.08	25.14	2.17	15
C1A	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:20	9.79	8.35	31.08	25.26	5.36	10
C1A	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:20	9.82	8.49	31.04	25.44	5.74	8
C1A	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.9	14:19	9.54	8.44	31.15	24.85	5.61	9
C1A	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.9	14:19	9.68	8.48	31.05	24.88	5.3	9
C1A	20211208	Sunny	Moderate	Mid-Ebb	Bottom	8.8	14:18	9.62	8.39	31.08	24.85	5.27	10
C1A	20211208	Sunny	Moderate	Mid-Ebb	Bottom	8.8	14:18	9.63	8.44	31.1	24.97	4.98	10
C2A	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	16:23	8.86	8.22	32.14	24.8	4.48	7
C2A	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	16:23	9.08	8.1	32.03	24.66	4.54	10
C2A	20211208	Sunny	Moderate	Mid-Ebb	Middle	5.85	16:22	8.86	8.16	32.04	24.82	4.97	13
C2A	20211208	Sunny	Moderate	Mid-Ebb	Middle	5.85	16:22	8.86	8.17	32.1	24.67	4.6	13
C2A	20211208	Sunny	Moderate	Mid-Ebb	Bottom	10.7	16:21	8.86	8.26	32.12	24.79	4.05	9
C2A	20211208	Sunny	Moderate	Mid-Ebb	Bottom	10.7	16:21	8.9	8.16	32.12	24.75	4.07	9
CR1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	16:03	9.01	8.21	32.46	24.6	2.58	9
CR1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	16:03	9.07	8.21	32.45	24.64	2.88	11
CR1	20211208	Sunny	Moderate	Mid-Ebb	Middle	6.7	16:02	9.02	8.3	32.33	24.64	3.02	6
CR1	20211208	Sunny	Moderate	Mid-Ebb	Middle	6.7	16:02	9.05	8.28	32.36	24.66	3.01	9
CR1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	12.4	16:01	8.95	8.31	32.32	24.69	3.69	20
CR1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	12.4	16:01	9.18	8.31	32.45	24.65	4.01	20
CR2	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:49	8.34	8.28	31.71	25.42	3.38	29
CR2	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:49	8.34	8.32	31.63	25.41	3.46	31
CR2	20211208	Sunny	Moderate	Mid-Ebb	Middle	6.1	15:48	8.47	8.28	31.63	25.35	2.84	13
CR2	20211208	Sunny	Moderate	Mid-Ebb	Middle	6.1	15:48	8.41	8.36	31.71	25.28	2.88	13
CR2	20211208	Sunny	Moderate	Mid-Ebb	Bottom	11.2	15:47	8.31	8.27	31.78	25.36	3.83	29
CR2	20211208	Sunny	Moderate	Mid-Ebb	Bottom	11.2	15:47	8.45	8.36	31.73	25.32	3.27	30
F1A	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:57	8.94	8.48	32.07	25.47	3.12	7
F1A	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	14:57	8.88	8.35	32.05	25.51	2.61	10
F1A	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.1	14:56	8.78	8.44	32.03	25.38	2.74	12

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
F1A	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.1	14:56	8.81	8.42	32	25.28	2.54	12
F1A	20211208	Sunny	Moderate	Mid-Ebb	Bottom	7.2	14:55	8.75	8.46	32.11	25.42	3.64	9
F1A	20211208	Sunny	Moderate	Mid-Ebb	Bottom	7.2	14:55	8.78	8.37	32.1	25.33	3.4	9
H1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:33	9.44	8.22	31.25	24.81	2.44	13
H1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:33	9.48	8.19	31.27	24.85	2.75	13
H1	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.45	15:32	9.29	8.19	31.1	24.92	2.69	13
H1	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.45	15:32	9.42	8.27	31.16	24.82	2.59	11
H1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	7.9	15:31	9.29	8.32	31.19	24.95	2.27	8
H1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	7.9	15:31	9.52	8.34	31.23	24.78	2.68	8
M1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:25	8.92	8.35	32.26	24.68	2.65	30
M1	20211208	Sunny	Moderate	Mid-Ebb	Surface	1	15:25	8.94	8.4	32.23	24.85	2.47	29
M1	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.7	15:24	9.03	8.27	32.2	24.72	2.8	18
M1	20211208	Sunny	Moderate	Mid-Ebb	Middle	4.7	15:24	8.94	8.36	32.29	24.7	3.09	18
M1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	8.4	15:23	9.11	8.4	32.16	24.83	2.88	19
M1	20211208	Sunny	Moderate	Mid-Ebb	Bottom	8.4	15:23	8.95	8.24	32.29	24.72	2.76	19
B1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:14	8.78	8.27	31.66	24.65	2.18	13
B1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:14	8.49	8.28	31.63	24.65	2.57	13
B1	20211208	Sunny	Moderate	Mid-Flood	Bottom	4.2	10:13	8.54	8.32	31.63	24.65	2.71	19
B1	20211208	Sunny	Moderate	Mid-Flood	Bottom	4.2	10:13	8.5	8.21	31.76	24.7	2.86	19
B2	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:34	8.19	8.28	32.14	25.06	3.39	10
B2	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:34	8.38	8.26	32.13	25.13	3.73	10
B2	20211208	Sunny	Moderate	Mid-Flood	Bottom	3.8	10:33	8.27	8.23	32.11	25.17	3.45	11
B2	20211208	Sunny	Moderate	Mid-Flood	Bottom	3.8	10:33	8.46	8.24	32.12	25.12	3.37	11
B3	20211208	Sunny	Moderate	Mid-Flood	Surface	1	11:30	8.29	8.16	31.27	25.06	3.48	13
B3	20211208	Sunny	Moderate	Mid-Flood	Surface	1	11:30	8.32	8.18	31.29	25.05	2.91	10
B3	20211208	Sunny	Moderate	Mid-Flood	Bottom	4	11:29	8.23	8.12	31.43	25.07	3.37	17
B3	20211208	Sunny	Moderate	Mid-Flood	Bottom	4	11:29	8.08	8.24	31.39	24.87	3.5	17
B4	20211208	Sunny	Moderate	Mid-Flood	Surface	1	11:20	8.51	8.37	31.87	24.98	2.31	13
B4	20211208	Sunny	Moderate	Mid-Flood	Surface	1	11:20	8.41	8.42	31.79	25.04	2.38	13
B4	20211208	Sunny	Moderate	Mid-Flood	Bottom	4	11:19	8.47	8.33	31.78	25.07	3.68	6
B4	20211208	Sunny	Moderate	Mid-Flood	Bottom	4	11:19	8.45	8.43	31.75	25.01	3.64	7
C1A	20211208	Sunny	Moderate	Mid-Flood	Surface	1	09:46	8.35	8.27	32.19	24.59	3.94	10
C1A	20211208	Sunny	Moderate	Mid-Flood	Surface	1	09:46	8.5	8.24	32.21	24.61	3.57	9
C1A	20211208	Sunny	Moderate	Mid-Flood	Middle	5.85	09:45	8.46	8.22	32.16	24.35	3.79	12
C1A	20211208	Sunny	Moderate	Mid-Flood	Middle	5.85	09:45	8.22	8.29	32.18	24.54	3.57	12
C1A	20211208	Sunny	Moderate	Mid-Flood	Bottom	10.7	09:44	8.49	8.2	32.2	24.39	3.95	18
C1A	20211208	Sunny	Moderate	Mid-Flood	Bottom	10.7	09:44	8.33	8.16	32.08	24.53	4	18
C2A	20211208	Sunny	Moderate	Mid-Flood	Surface	1	08:52	8.9	8.09	31.8	24.44	4.9	17
C2A	20211208	Sunny	Moderate	Mid-Flood	Surface	1	08:52	8.97	8.13	31.84	24.36	5.15	17

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C2A	20211208	Sunny	Moderate	Mid-Flood	Middle	5.55	08:51	8.88	8.16	31.98	24.17	4.51	12
C2A	20211208	Sunny	Moderate	Mid-Flood	Middle	5.55	08:51	8.88	8.13	31.83	24.31	4.61	12
C2A	20211208	Sunny	Moderate	Mid-Flood	Bottom	10.1	08:50	8.89	8.19	31.88	24.26	4.88	8
C2A	20211208	Sunny	Moderate	Mid-Flood	Bottom	10.1	08:50	9.06	8.21	31.79	24.32	4.97	10
CR1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	09:13	8.92	8.32	32.45	24.48	2.45	17
CR1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	09:13	8.73	8.35	32.48	24.48	2.25	17
CR1	20211208	Sunny	Moderate	Mid-Flood	Middle	6.25	09:12	8.93	8.34	32.33	24.68	2.52	22
CR1	20211208	Sunny	Moderate	Mid-Flood	Middle	6.25	09:12	8.84	8.34	32.43	24.59	2.6	22
CR1	20211208	Sunny	Moderate	Mid-Flood	Bottom	11.5	09:11	8.76	8.42	32.41	24.37	2.88	20
CR1	20211208	Sunny	Moderate	Mid-Flood	Bottom	11.5	09:11	8.85	8.35	32.46	24.51	2.68	20
CR2	20211208	Sunny	Moderate	Mid-Flood	Surface	1	09:27	8.21	8.2	32.52	24.44	3.16	11
CR2	20211208	Sunny	Moderate	Mid-Flood	Surface	1	09:27	8.15	8.2	32.46	24.28	3.53	11
CR2	20211208	Sunny	Moderate	Mid-Flood	Middle	5.9	09:26	8.09	8.24	32.55	24.63	3.71	8
CR2	20211208	Sunny	Moderate	Mid-Flood	Middle	5.9	09:26	7.97	8.23	32.56	24.58	3.77	8
CR2	20211208	Sunny	Moderate	Mid-Flood	Bottom	10.8	09:25	7.96	8.3	32.47	24.64	3.59	17
CR2	20211208	Sunny	Moderate	Mid-Flood	Bottom	10.8	09:25	8.24	8.24	32.47	24.7	3.96	17
F1A	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:48	8.55	8.43	31.55	24.92	3.78	13
F1A	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:48	8.56	8.43	31.61	24.88	3.16	13
F1A	20211208	Sunny	Moderate	Mid-Flood	Middle	4.3	10:47	8.52	8.51	31.5	24.88	3.58	10
F1A	20211208	Sunny	Moderate	Mid-Flood	Middle	4.3	10:47	8.41	8.42	31.64	24.9	3.8	8
F1A	20211208	Sunny	Moderate	Mid-Flood	Bottom	7.6	10:46	8.49	8.47	31.64	24.97	4.08	15
F1A	20211208	Sunny	Moderate	Mid-Flood	Bottom	7.6	10:46	8.38	8.38	31.49	25.03	4.29	15
H1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	11:01	9.05	8.18	32.23	25.05	2.83	20
H1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	11:01	8.81	8.14	32.14	25.02	3.13	20
H1	20211208	Sunny	Moderate	Mid-Flood	Middle	4.1	11:00	9.03	8.23	32.24	24.99	3.32	18
H1	20211208	Sunny	Moderate	Mid-Flood	Middle	4.1	11:00	8.78	8.11	32.14	24.99	3.01	18
H1	20211208	Sunny	Moderate	Mid-Flood	Bottom	7.2	10:59	8.98	8.12	32.13	24.88	3.26	22
H1	20211208	Sunny	Moderate	Mid-Flood	Bottom	7.2	10:59	9.01	8.19	32.22	25.03	3.13	22
M1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:24	8.1	8.44	31.24	24.62	2.56	9
M1	20211208	Sunny	Moderate	Mid-Flood	Surface	1	10:24	8.29	8.41	31.36	24.64	2.91	9
M1	20211208	Sunny	Moderate	Mid-Flood	Middle	4.25	10:23	8.03	8.4	31.23	24.74	3.03	20
M1	20211208	Sunny	Moderate	Mid-Flood	Middle	4.25	10:23	8.05	8.46	31.32	24.72	3.31	20
M1	20211208	Sunny	Moderate	Mid-Flood	Bottom	7.5	10:22	8.19	8.34	31.17	24.77	3.33	8
M1	20211208	Sunny	Moderate	Mid-Flood	Bottom	7.5	10:22	8.01	8.33	31.21	24.83	3.38	8
B1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	13:22	8.26	8.87	34.56	21.95	4.26	5
B1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	13:22	8.16	8.85	34.44	21.94	4.43	7
B1	20211210	Sunny	Moderate	Mid-Flood	Bottom	4	13:21	8.16	8.81	34.48	21.94	5.09	8
B1	20211210	Sunny	Moderate	Mid-Flood	Bottom	4	13:21	8.38	8.81	34.48	21.94	4.84	7
B2	20211210	Sunny	Moderate	Mid-Flood	Surface	1	13:35	8.11	8.58	35.21	22.11	4.93	8

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B2	20211210	Sunny	Moderate	Mid-Flood	Surface	1	13:35	8.16	8.62	35.14	22.05	4.67	8
B2	20211210	Sunny	Moderate	Mid-Flood	Bottom	3.7	13:34	8.06	8.72	35.12	22.08	5.37	8
B2	20211210	Sunny	Moderate	Mid-Flood	Bottom	3.7	13:34	8.15	8.63	35.1	22.05	5.5	7
B3	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:44	8.01	8.89	34.97	22.04	3.75	7
B3	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:44	8.03	8.86	34.99	21.98	3.9	9
B3	20211210	Sunny	Moderate	Mid-Flood	Bottom	3.4	11:43	8.03	8.78	35	22.06	4.48	6
B3	20211210	Sunny	Moderate	Mid-Flood	Bottom	3.4	11:43	8.05	8.84	35.04	22.04	3.94	7
B4	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:33	8.23	8.69	35.59	22	4.7	7
B4	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:33	8.24	8.74	35.48	21.99	4.63	6
B4	20211210	Sunny	Moderate	Mid-Flood	Bottom	4.1	11:32	8.07	8.68	35.55	21.99	4.19	7
B4	20211210	Sunny	Moderate	Mid-Flood	Bottom	4.1	11:32	8.07	8.64	35.57	21.98	4.21	10
C1A	20211210	Sunny	Moderate	Mid-Flood	Surface	1	12:58	7.56	8.75	35.38	21.83	7.03	9
C1A	20211210	Sunny	Moderate	Mid-Flood	Surface	1	12:58	7.56	8.8	35.28	21.86	6.81	7
C1A	20211210	Sunny	Moderate	Mid-Flood	Middle	5.25	12:57	7.59	8.71	35.36	21.83	6.81	6
C1A	20211210	Sunny	Moderate	Mid-Flood	Middle	5.25	12:57	7.6	8.78	35.39	21.86	7.11	4
C1A	20211210	Sunny	Moderate	Mid-Flood	Bottom	9.5	12:56	7.55	8.81	35.39	21.83	7.38	5
C1A	20211210	Sunny	Moderate	Mid-Flood	Bottom	9.5	12:56	7.66	8.71	35.35	21.86	7.25	5
C2A	20211210	Sunny	Moderate	Mid-Flood	Surface	1	10:54	6.97	8.98	36.18	21.28	21.9	12
C2A	20211210	Sunny	Moderate	Mid-Flood	Surface	1	10:55	7.02	8.98	36.23	21.31	21.3	13
C2A	20211210	Sunny	Moderate	Mid-Flood	Middle	5.45	10:56	6.32	9	36.52	21.23	25.2	20
C2A	20211210	Sunny	Moderate	Mid-Flood	Middle	5.45	10:59	6.67	9	34.66	21.23	29	17
C2A	20211210	Sunny	Moderate	Mid-Flood	Bottom	9.9	11:03	6.3	9.01	35.42	21.21	47.7	18
C2A	20211210	Sunny	Moderate	Mid-Flood	Bottom	9.9	11:05	6.39	9.01	35.43	21.21	47.2	20
CR1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:21	6.82	8.97	36.47	21.26	9.74	5
CR1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:23	6.55	8.98	36.52	21.23	9.73	7
CR1	20211210	Sunny	Moderate	Mid-Flood	Middle	7.95	11:24	6.32	9	36.39	21.06	13.5	9
CR1	20211210	Sunny	Moderate	Mid-Flood	Middle	7.95	11:31	6.35	9.01	35.8	21.06	14.4	10
CR1	20211210	Sunny	Moderate	Mid-Flood	Bottom	14.9	11:34	6.35	9.04	36.27	21.08	22.3	11
CR1	20211210	Sunny	Moderate	Mid-Flood	Bottom	14.9	11:49	6.31	9.06	36.57	21.16	24.3	11
CR2	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:56	6.19	9.01	34.79	21.35	6.9	6
CR2	20211210	Sunny	Moderate	Mid-Flood	Surface	1	12:00	6.13	9.01	34.74	21.32	6.99	5
CR2	20211210	Sunny	Moderate	Mid-Flood	Middle	6.1	12:04	6.02	9.05	35.82	21.21	7.47	7
CR2	20211210	Sunny	Moderate	Mid-Flood	Middle	6.1	12:06	6.07	9.08	36.4	21.16	7.12	7
CR2	20211210	Sunny	Moderate	Mid-Flood	Bottom	11.2	12:15	6.86	9.11	36	21.1	9.21	7
CR2	20211210	Sunny	Moderate	Mid-Flood	Bottom	11.2	12:19	6.06	9.14	35.65	21.16	10.4	11
F1A	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:09	7.52	8.89	35.1	21.92	3.34	3
F1A	20211210	Sunny	Moderate	Mid-Flood	Surface	1	11:09	7.55	8.82	35.07	21.95	3.16	5
F1A	20211210	Sunny	Moderate	Mid-Flood	Middle	3.95	11:08	7.38	8.91	35.08	21.95	3.91	5
F1A	20211210	Sunny	Moderate	Mid-Flood	Middle	3.95	11:08	7.56	8.86	35.05	21.96	3.46	5

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
F1A	20211210	Sunny	Moderate	Mid-Flood	Bottom	6.9	11:07	7.45	8.83	35.11	21.98	4.18	6
F1A	20211210	Sunny	Moderate	Mid-Flood	Bottom	6.9	11:07	7.47	8.88	35.09	21.98	3.5	5
H1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	12:52	6.14	9.21	36.21	21.34	8.37	11
H1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	12:53	6.23	9.21	36.24	21.4	8.31	11
H1	20211210	Sunny	Moderate	Mid-Flood	Middle	4	12:55	6.26	9.2	36.39	21.27	9.13	11
H1	20211210	Sunny	Moderate	Mid-Flood	Middle	4	12:57	6.1	9.2	36.41	21.22	10.9	13
H1	20211210	Sunny	Moderate	Mid-Flood	Bottom	7	13:03	6.66	9.22	36.43	21.2	19.5	12
H1	20211210	Sunny	Moderate	Mid-Flood	Bottom	7	13:05	6.36	9.22	36.43	21.19	23.1	11
M1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	10:46	7.41	8.94	34.19	21.96	3.58	5
M1	20211210	Sunny	Moderate	Mid-Flood	Surface	1	10:46	7.55	8.85	34.14	21.91	3.43	3
M1	20211210	Sunny	Moderate	Mid-Flood	Middle	4.1	10:45	7.39	8.98	34.07	21.9	3.66	7
M1	20211210	Sunny	Moderate	Mid-Flood	Middle	4.1	10:45	7.42	8.85	34.15	21.9	3.3	8
M1	20211210	Sunny	Moderate	Mid-Flood	Bottom	7.2	10:44	7.5	8.91	34.2	21.94	3.61	9
M1	20211210	Sunny	Moderate	Mid-Flood	Bottom	7.2	10:44	7.41	8.92	34.14	21.96	3.65	10
B1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:15	8.63	8.43	35.3	22.48	5.62	7
B1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:15	8.52	8.41	35.28	22.47	6.09	8
B1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	4	16:14	8.5	8.42	35.29	22.39	6.11	11
B1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	4	16:14	8.45	8.43	35.21	22.38	6.47	13
B2	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:33	8.64	8.55	35.72	22.55	5.52	5
B2	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:33	8.56	8.51	35.73	22.45	5.1	6
B2	20211210	Sunny	Moderate	Mid-Ebb	Bottom	4.3	16:32	8.65	8.5	35.73	22.56	5.56	8
B2	20211210	Sunny	Moderate	Mid-Ebb	Bottom	4.3	16:32	8.56	8.54	35.65	22.57	5.85	9
B3	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	15:59	7.82	8.65	35.54	22.45	4.36	8
B3	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	15:59	7.82	8.65	35.56	22.43	4.8	6
B3	20211210	Sunny	Moderate	Mid-Ebb	Bottom	4.2	15:58	7.87	8.66	35.64	22.62	3.86	10
B3	20211210	Sunny	Moderate	Mid-Ebb	Bottom	4.2	15:58	7.87	8.69	35.53	22.41	3.72	8
B4	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:08	8.47	8.52	34.73	22.35	4.98	6
B4	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:08	8.41	8.55	34.65	22.48	4.29	7
B4	20211210	Sunny	Moderate	Mid-Ebb	Bottom	3.7	16:07	8.54	8.53	34.78	22.51	4.84	8
B4	20211210	Sunny	Moderate	Mid-Ebb	Bottom	3.7	16:07	8.55	8.53	34.67	22.5	4.52	9
C1A	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	15:47	7.47	8.41	34.18	22.42	9	10
C1A	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	15:47	7.43	8.45	34.23	22.38	9.11	13
C1A	20211210	Sunny	Moderate	Mid-Ebb	Middle	5.55	15:46	7.32	8.41	34.24	22.33	9.66	10
C1A	20211210	Sunny	Moderate	Mid-Ebb	Middle	5.55	15:46	7.36	8.43	34.25	22.44	9.54	9
C1A	20211210	Sunny	Moderate	Mid-Ebb	Bottom	10.1	15:45	7.42	8.43	34.23	22.46	8.54	7
C1A	20211210	Sunny	Moderate	Mid-Ebb	Bottom	10.1	15:45	7.39	8.39	34.22	22.4	8.88	7
C2A	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	15:47	8.42	8.5	35.36	22.46	7.78	13
C2A	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	15:47	8.42	8.5	35.28	22.43	7.87	14
C2A	20211210	Sunny	Moderate	Mid-Ebb	Middle	5.65	15:46	8.51	8.51	35.3	22.4	7.69	6

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C2A	20211210	Sunny	Moderate	Mid-Ebb	Middle	5.65	15:46	8.52	8.48	35.36	22.29	7.43	7
C2A	20211210	Sunny	Moderate	Mid-Ebb	Bottom	10.3	15:45	8.42	8.52	35.25	22.4	7.71	13
C2A	20211210	Sunny	Moderate	Mid-Ebb	Bottom	10.3	15:45	8.39	8.46	35.34	22.42	7.89	13
CR1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:32	7.13	8.36	34.92	22.37	6.31	16
CR1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:32	7.27	8.4	34.89	22.37	6.87	19
CR1	20211210	Sunny	Moderate	Mid-Ebb	Middle	6.75	17:31	7.21	8.4	34.92	22.39	6.61	10
CR1	20211210	Sunny	Moderate	Mid-Ebb	Middle	6.75	17:31	7.2	8.39	35.01	22.44	6.92	12
CR1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	12.5	17:30	7.19	8.4	35.03	22.25	7.43	5
CR1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	12.5	17:30	7.15	8.38	34.89	22.36	7.03	5
CR2	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:16	7.6	8.45	34.15	22.45	6.17	7
CR2	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:16	7.67	8.42	34.16	22.46	5.4	5
CR2	20211210	Sunny	Moderate	Mid-Ebb	Middle	5.8	17:15	7.67	8.41	34.12	22.5	5.26	5
CR2	20211210	Sunny	Moderate	Mid-Ebb	Middle	5.8	17:15	7.66	8.45	34.14	22.63	5.42	6
CR2	20211210	Sunny	Moderate	Mid-Ebb	Bottom	10.6	17:14	7.59	8.41	34.06	22.44	5.65	5
CR2	20211210	Sunny	Moderate	Mid-Ebb	Bottom	10.6	17:14	7.69	8.45	34.01	22.55	5.61	5
F1A	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:40	8.46	8.69	33.99	22.41	4.9	11
F1A	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	16:40	8.45	8.7	33.86	22.33	4.94	13
F1A	20211210	Sunny	Moderate	Mid-Ebb	Middle	4.3	16:39	8.46	8.67	33.98	22.35	4.58	9
F1A	20211210	Sunny	Moderate	Mid-Ebb	Middle	4.3	16:39	8.43	8.71	34	22.43	5.12	7
F1A	20211210	Sunny	Moderate	Mid-Ebb	Bottom	7.6	16:38	8.53	8.71	33.95	22.3	4.86	16
F1A	20211210	Sunny	Moderate	Mid-Ebb	Bottom	7.6	16:38	8.5	8.69	33.89	22.41	4.83	17
H1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:01	8	8.63	34.2	22.49	5.43	7
H1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:01	8.05	8.67	34.1	22.43	5.65	9
H1	20211210	Sunny	Moderate	Mid-Ebb	Middle	4.3	17:00	8.12	8.66	34.16	22.63	5.97	8
H1	20211210	Sunny	Moderate	Mid-Ebb	Middle	4.3	17:00	8.01	8.68	34.1	22.58	5.47	7
H1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	7.6	16:59	8.13	8.69	34.16	22.42	5.86	12
H1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	7.6	16:59	8.14	8.66	34.19	22.52	5.87	10
M1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:07	7.78	8.41	35.5	22.55	4.83	8
M1	20211210	Sunny	Moderate	Mid-Ebb	Surface	1	17:07	7.84	8.41	35.66	22.38	5.29	6
M1	20211210	Sunny	Moderate	Mid-Ebb	Middle	4.55	17:06	7.73	8.44	35.52	22.47	4.9	6
M1	20211210	Sunny	Moderate	Mid-Ebb	Middle	4.55	17:06	7.73	8.46	35.54	22.6	4.9	6
M1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	8.1	17:05	7.85	8.42	35.59	22.61	6.1	4
M1	20211210	Sunny	Moderate	Mid-Ebb	Bottom	8.1	17:05	7.79	8.42	35.64	22.38	5.56	3
B1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	08:53	8.04	8.56	33.8	23.24	4.56	6
B1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	08:53	8.14	8.6	33.82	23.25	4.3	6
B1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	3.5	08:52	8.01	8.57	33.83	23.32	4.97	5
B1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	3.5	08:52	8.15	8.58	33.74	23.25	5.47	6
B2	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	09:09	7.68	8.74	33.2	23.12	5.33	7
B2	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	09:09	7.7	8.66	33.19	23.15	5.11	7

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B2	20211213	Sunny	Moderate	Mid-Ebb	Bottom	4.2	09:08	7.56	8.73	33.28	23.2	5.12	7
B2	20211213	Sunny	Moderate	Mid-Ebb	Bottom	4.2	09:08	7.67	8.71	33.25	23.13	5.1	6
B3	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:24	7.49	8.63	32.5	22.48	5.26	8
B3	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:24	7.48	8.61	32.56	22.48	6.2	6
B3	20211213	Sunny	Moderate	Mid-Ebb	Bottom	4.1	10:23	7.53	8.63	32.54	22.47	6.65	7
B3	20211213	Sunny	Moderate	Mid-Ebb	Bottom	4.1	10:23	7.51	8.65	32.42	22.44	6.23	7
B4	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:30	8.36	8.41	33.11	22.99	6.8	7
B4	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:30	8.41	8.45	33.27	23	7.01	6
B4	20211213	Sunny	Moderate	Mid-Ebb	Bottom	3.9	10:29	8.52	8.43	33.1	22.96	6.59	6
B4	20211213	Sunny	Moderate	Mid-Ebb	Bottom	3.9	10:29	8.39	8.37	33.15	23	6.81	6
C1A	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	08:25	7.48	8.45	32.46	23.12	6.9	10
C1A	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	08:25	7.41	8.4	32.56	23.11	6.93	13
C1A	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.8	08:24	7.48	8.46	32.4	23.12	8.05	19
C1A	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.8	08:24	7.48	8.41	32.4	23.08	7.84	16
C1A	20211213	Sunny	Moderate	Mid-Ebb	Bottom	8.6	08:23	7.59	8.39	32.56	23.12	7.53	29
C1A	20211213	Sunny	Moderate	Mid-Ebb	Bottom	8.6	08:23	7.45	8.43	32.55	23.06	7.9	27
C2A	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:47	8.06	8.51	34.12	22.53	6.44	15
C2A	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:47	8.1	8.48	34.12	22.57	6.68	16
C2A	20211213	Sunny	Moderate	Mid-Ebb	Middle	5.65	10:46	8.04	8.47	34.28	22.53	6.6	5
C2A	20211213	Sunny	Moderate	Mid-Ebb	Middle	5.65	10:46	8.05	8.52	34.19	22.58	6.79	7
C2A	20211213	Sunny	Moderate	Mid-Ebb	Bottom	10.3	10:45	8.02	8.46	34.23	22.53	6.12	13
C2A	20211213	Sunny	Moderate	Mid-Ebb	Bottom	10.3	10:45	7.98	8.44	34.28	22.56	6.31	11
CR1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:01	7.54	8.68	32.52	22.62	6.51	3
CR1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	10:01	7.44	8.66	32.42	22.59	5.71	5
CR1	20211213	Sunny	Moderate	Mid-Ebb	Middle	6.55	10:00	7.5	8.66	32.44	22.58	6.39	8
CR1	20211213	Sunny	Moderate	Mid-Ebb	Middle	6.55	10:00	7.47	8.66	32.53	22.58	6.78	7
CR1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	12.1	09:59	7.66	8.59	32.41	22.57	6.49	4
CR1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	12.1	09:59	7.48	8.61	32.41	22.57	6.04	6
CR2	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	09:48	7.66	8.5	33.65	22.86	5.46	8
CR2	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	09:48	7.79	8.6	33.68	22.89	6.18	7
CR2	20211213	Sunny	Moderate	Mid-Ebb	Middle	5.75	09:47	7.59	8.54	33.63	22.9	6.23	6
CR2	20211213	Sunny	Moderate	Mid-Ebb	Middle	5.75	09:47	7.48	8.49	33.69	22.87	5.59	6
CR2	20211213	Sunny	Moderate	Mid-Ebb	Bottom	10.5	09:46	7.68	8.51	33.74	22.88	5.8	8
CR2	20211213	Sunny	Moderate	Mid-Ebb	Bottom	10.5	09:46	7.4	8.5	33.6	22.9	6.07	6
F1A	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	11:55	8.06	8.56	33.88	23.27	3.95	5
F1A	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	11:55	8.09	8.63	33.89	23.31	4.36	8
F1A	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.25	11:54	8.16	8.62	33.94	23.26	4.39	26
F1A	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.25	11:54	8.06	8.64	33.89	23.32	4.25	21
F1A	20211213	Sunny	Moderate	Mid-Ebb	Bottom	7.5	11:53	8.04	8.54	34.04	23.32	4.71	29

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
F1A	20211213	Sunny	Moderate	Mid-Ebb	Bottom	7.5	11:53	7.99	8.54	33.99	23.29	4.36	28
H1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	09:35	7.95	8.7	32.59	22.74	5.41	6
H1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	09:35	7.97	8.68	32.58	22.71	5.81	7
H1	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.4	09:34	7.97	8.72	32.65	22.71	5.14	7
H1	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.4	09:34	7.95	8.65	32.6	22.75	5.93	7
H1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	7.8	09:33	7.9	8.66	32.65	22.76	5.28	5
H1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	7.8	09:33	8.01	8.67	32.62	22.72	5.85	6
M1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	11:24	8.09	8.57	34.1	22.96	4.28	7
M1	20211213	Sunny	Moderate	Mid-Ebb	Surface	1	11:24	8.08	8.62	34.07	22.9	4.75	6
M1	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.8	11:23	8.22	8.57	34.04	22.96	4.99	7
M1	20211213	Sunny	Moderate	Mid-Ebb	Middle	4.8	11:23	8.17	8.54	34.04	22.92	4.38	6
M1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	8.6	11:22	8.2	8.58	34.18	22.92	5.41	6
M1	20211213	Sunny	Moderate	Mid-Ebb	Bottom	8.6	11:22	8.18	8.55	34.06	22.92	5.75	8
B1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	14:44	7.62	8.36	33.38	22.89	5.55	6
B1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	14:44	7.62	8.44	33.39	22.94	5.82	4
B1	20211213	Sunny	Moderate	Mid-Flood	Bottom	3.6	14:43	7.9	8.42	33.28	22.93	5.8	4
B1	20211213	Sunny	Moderate	Mid-Flood	Bottom	3.6	14:43	7.65	8.46	33.38	22.93	5.7	6
B2	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:01	8.04	8.49	32.94	23.57	4.45	6
B2	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:01	8.06	8.48	32.85	23.54	4.83	5
B2	20211213	Sunny	Moderate	Mid-Flood	Bottom	4.1	15:00	8.11	8.46	32.81	23.54	4.84	14
B2	20211213	Sunny	Moderate	Mid-Flood	Bottom	4.1	15:00	8.01	8.48	32.8	23.52	5.07	14
B3	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:47	8.05	8.61	33.82	23.36	6.94	6
B3	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:47	8.08	8.54	33.8	23.31	6.67	8
B3	20211213	Sunny	Moderate	Mid-Flood	Bottom	3.3	15:46	7.91	8.56	33.1	23.81	6.84	7
B3	20211213	Sunny	Moderate	Mid-Flood	Bottom	3.3	15:46	7.81	8.61	33.21	23.76	6.38	7
B4	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:54	8	8.5	33.76	23.33	4.33	7
B4	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:54	8.01	8.58	33.83	23.34	4.3	8
B4	20211213	Sunny	Moderate	Mid-Flood	Bottom	4.2	15:53	8.01	8.64	33.77	23.36	5.8	14
B4	20211213	Sunny	Moderate	Mid-Flood	Bottom	4.2	15:53	8	8.58	33.75	23.37	4.85	12
C1A	20211213	Sunny	Moderate	Mid-Flood	Surface	1	14:16	7.87	8.44	33.31	22.88	7.08	29
C1A	20211213	Sunny	Moderate	Mid-Flood	Surface	1	14:16	7.61	8.32	33.31	22.93	6.65	27
C1A	20211213	Sunny	Moderate	Mid-Flood	Middle	4.95	14:15	8.51	8.49	32.74	23.25	7.96	27
C1A	20211213	Sunny	Moderate	Mid-Flood	Middle	4.95	14:15	8.51	8.52	32.74	23.26	7.78	25
C1A	20211213	Sunny	Moderate	Mid-Flood	Bottom	8.9	14:14	8.51	8.54	32.69	23.28	7.22	23
C1A	20211213	Sunny	Moderate	Mid-Flood	Bottom	8.9	14:14	8.53	8.55	32.74	23.26	7.39	29
C2A	20211213	Sunny	Moderate	Mid-Flood	Surface	1	13:24	8.46	8.62	32.87	23.79	6.88	28
C2A	20211213	Sunny	Moderate	Mid-Flood	Surface	1	13:24	8.43	8.55	32.87	23.8	7.5	27
C2A	20211213	Sunny	Moderate	Mid-Flood	Middle	5.85	13:23	8.03	8.49	33.61	23.02	7.64	20
C2A	20211213	Sunny	Moderate	Mid-Flood	Middle	5.85	13:23	8.06	8.59	33.48	23	7.52	19

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C2A	20211213	Sunny	Moderate	Mid-Flood	Bottom	10.7	13:22	8.04	8.59	33.51	23.01	8.46	6
C2A	20211213	Sunny	Moderate	Mid-Flood	Bottom	10.7	13:22	7.99	8.54	33.55	23.03	8.75	5
CR1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	13:45	8.21	8.58	34.01	23	5.9	8
CR1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	13:45	8.3	8.68	33.94	23.02	5.98	7
CR1	20211213	Sunny	Moderate	Mid-Flood	Middle	6.3	13:44	8.3	8.57	33.94	22.95	6.06	8
CR1	20211213	Sunny	Moderate	Mid-Flood	Middle	6.3	13:44	8.28	8.63	33.99	23.01	6.42	8
CR1	20211213	Sunny	Moderate	Mid-Flood	Bottom	11.6	13:43	8.44	8.56	32.93	23.81	6.57	6
CR1	20211213	Sunny	Moderate	Mid-Flood	Bottom	11.6	13:43	8.48	8.53	32.91	23.76	5.86	6
CR2	20211213	Sunny	Moderate	Mid-Flood	Surface	1	13:59	8.52	8.48	32.68	23.25	5.39	5
CR2	20211213	Sunny	Moderate	Mid-Flood	Surface	1	13:59	8.55	8.43	32.73	23.26	5.37	7
CR2	20211213	Sunny	Moderate	Mid-Flood	Middle	5.95	13:58	8.39	8.53	33.42	22.95	5.66	5
CR2	20211213	Sunny	Moderate	Mid-Flood	Middle	5.95	13:58	8.45	8.61	33.35	22.94	6.54	6
CR2	20211213	Sunny	Moderate	Mid-Flood	Bottom	10.9	13:57	8.38	8.58	33.39	22.94	6.29	5
CR2	20211213	Sunny	Moderate	Mid-Flood	Bottom	10.9	13:57	8.35	8.6	33.49	22.99	6.95	5
F1A	20211213	Sunny	Moderate	Mid-Flood	Surface	1	16:27	8.08	8.44	33.18	23.78	5.73	9
F1A	20211213	Sunny	Moderate	Mid-Flood	Surface	1	16:27	7.97	8.39	33.25	23.77	6.63	10
F1A	20211213	Sunny	Moderate	Mid-Flood	Middle	3.95	16:26	8.01	8.5	33.25	23.8	6.42	5
F1A	20211213	Sunny	Moderate	Mid-Flood	Middle	3.95	16:26	7.98	8.47	33.16	23.77	6.01	5
F1A	20211213	Sunny	Moderate	Mid-Flood	Bottom	6.9	16:25	7.98	8.47	33.29	23.8	6.9	16
F1A	20211213	Sunny	Moderate	Mid-Flood	Bottom	6.9	16:25	8.07	8.52	33.24	23.76	6.5	15
H1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:32	7.75	8.63	33.18	23.78	6.7	6
H1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	15:32	7.69	8.61	33.14	23.75	6.92	6
H1	20211213	Sunny	Moderate	Mid-Flood	Middle	4.25	15:31	7.81	8.6	33.23	23.76	6.73	6
H1	20211213	Sunny	Moderate	Mid-Flood	Middle	4.25	15:31	7.8	8.64	33.22	23.76	6.54	7
H1	20211213	Sunny	Moderate	Mid-Flood	Bottom	7.5	15:30	8.07	8.36	32.82	23.55	5.93	23
H1	20211213	Sunny	Moderate	Mid-Flood	Bottom	7.5	15:30	8.06	8.42	32.85	23.55	5.93	26
M1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	16:58	7.73	8.58	33.55	23.15	5.17	7
M1	20211213	Sunny	Moderate	Mid-Flood	Surface	1	16:58	7.71	8.51	33.52	23.14	5.26	6
M1	20211213	Sunny	Moderate	Mid-Flood	Middle	3.8	16:57	7.78	8.51	33.42	23.14	5.16	7
M1	20211213	Sunny	Moderate	Mid-Flood	Middle	3.8	16:57	7.8	8.45	33.49	23.2	5.03	6
M1	20211213	Sunny	Moderate	Mid-Flood	Bottom	6.6	16:56	7.75	8.48	33.43	23.18	5.92	8
M1	20211213	Sunny	Moderate	Mid-Flood	Bottom	6.6	16:56	7.72	8.44	33.53	23.21	6.07	7
B1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	08:49	9.04	8.44	31.46	23.31	3.33	12
B1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	08:49	9.07	8.51	31.52	23.31	3.31	10
B1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	4	08:48	9.09	8.51	31.43	23.03	4.37	18
B1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	4	08:48	8.99	8.54	31.58	23.08	4.42	16
B2	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:07	8.77	8.32	32.98	23.28	2.44	6
B2	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:07	8.82	8.29	33.08	23.36	2.41	8
B2	20211215	Sunny	Moderate	Mid-Ebb	Bottom	4.8	09:06	8.79	8.34	33.13	23.26	3.23	16

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B2	20211215	Sunny	Moderate	Mid-Ebb	Bottom	4.8	09:06	8.78	8.3	33.05	23.25	2.85	17
B3	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	11:12	8.77	8.27	32.52	23.16	3.38	8
B3	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	11:12	8.7	8.29	32.61	23.28	2.93	7
B3	20211215	Sunny	Moderate	Mid-Ebb	Bottom	4.2	11:11	8.74	8.28	32.66	23.28	3.61	13
B3	20211215	Sunny	Moderate	Mid-Ebb	Bottom	4.2	11:11	8.63	8.26	32.47	23.17	3.91	16
B4	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	11:02	8.48	8.22	33.02	23.19	2.66	7
B4	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	11:02	8.51	8.31	33.21	23.24	2.83	5
B4	20211215	Sunny	Moderate	Mid-Ebb	Bottom	3.2	11:01	8.54	8.21	33.15	23.31	3.15	8
B4	20211215	Sunny	Moderate	Mid-Ebb	Bottom	3.2	11:01	8.58	8.22	33.19	23.38	3.36	7
C1A	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	08:21	8.39	8.5	31.46	23.18	5.9	6
C1A	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	08:21	8.39	8.44	31.45	23.09	5.79	4
C1A	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.7	08:20	8.23	8.42	31.51	23.17	5.36	12
C1A	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.7	08:20	8.39	8.43	31.49	23.1	5.73	12
C1A	20211215	Sunny	Moderate	Mid-Ebb	Bottom	8.4	08:19	8.38	8.46	31.58	23.13	6.17	7
C1A	20211215	Sunny	Moderate	Mid-Ebb	Bottom	8.4	08:19	8.36	8.44	31.53	23.16	5.38	5
C2A	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	10:21	7.61	8.44	32.24	23.04	4.59	8
C2A	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	10:21	7.65	8.44	32.28	23.16	4.99	7
C2A	20211215	Sunny	Moderate	Mid-Ebb	Middle	6.2	10:20	7.62	8.54	32.17	23.1	4.8	5
C2A	20211215	Sunny	Moderate	Mid-Ebb	Middle	6.2	10:20	7.58	8.51	32.15	23.06	4.5	7
C2A	20211215	Sunny	Moderate	Mid-Ebb	Bottom	11.4	10:19	7.65	8.47	32.1	23.16	5.26	6
C2A	20211215	Sunny	Moderate	Mid-Ebb	Bottom	11.4	10:19	7.63	8.53	32.14	23.05	4.58	6
CR1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	10:02	7.75	8.21	31.48	23.17	3.9	7
CR1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	10:02	7.77	8.22	31.33	23.03	3.69	10
CR1	20211215	Sunny	Moderate	Mid-Ebb	Middle	6.55	10:01	7.71	8.2	31.32	23.14	3.46	8
CR1	20211215	Sunny	Moderate	Mid-Ebb	Middle	6.55	10:01	7.82	8.24	31.38	23.04	3.54	9
CR1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	12.1	10:00	7.77	8.23	31.37	23.16	3.93	9
CR1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	12.1	10:00	7.88	8.18	31.31	23.17	3.65	9
CR2	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:49	8.61	8.4	31.33	23.33	4.22	11
CR2	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:49	8.65	8.39	31.42	23.34	4.28	13
CR2	20211215	Sunny	Moderate	Mid-Ebb	Middle	5.55	09:48	8.53	8.37	31.37	23.32	4.84	10
CR2	20211215	Sunny	Moderate	Mid-Ebb	Middle	5.55	09:48	8.6	8.39	31.29	23.34	4.27	10
CR2	20211215	Sunny	Moderate	Mid-Ebb	Bottom	10.1	09:47	8.55	8.44	31.43	23.12	4.79	4
CR2	20211215	Sunny	Moderate	Mid-Ebb	Bottom	10.1	09:47	8.65	8.43	31.51	23.08	5.65	3
F1A	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	10:23	9	8.38	31.53	23.31	4.2	9
F1A	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	10:23	9.01	8.35	31.47	23.33	3.85	7
F1A	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.3	10:22	9.09	8.34	31.61	23.22	3.47	21
F1A	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.3	10:22	9.03	8.37	31.55	23.36	3.55	17
F1A	20211215	Sunny	Moderate	Mid-Ebb	Bottom	7.6	10:21	9.15	8.34	31.62	23.07	4.32	17
F1A	20211215	Sunny	Moderate	Mid-Ebb	Bottom	7.6	10:21	9.17	8.34	31.53	23.08	4.88	25

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
H1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:33	7.94	8.31	32.33	23.04	2.63	7
H1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:33	8.07	8.32	32.39	23.02	2.48	10
H1	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.5	09:32	7.98	8.34	32.44	23.06	2.68	8
H1	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.5	09:32	7.91	8.34	32.34	23.08	2.25	6
H1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	8	09:31	8.06	8.32	32.43	23.28	3.03	7
H1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	8	09:31	7.94	8.32	32.36	23.3	3.16	9
M1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:57	8.85	8.43	32.53	23.19	2.56	6
M1	20211215	Sunny	Moderate	Mid-Ebb	Surface	1	09:57	8.89	8.43	32.59	23.12	2.7	8
M1	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.6	09:56	8.89	8.4	32.62	23.19	2.63	13
M1	20211215	Sunny	Moderate	Mid-Ebb	Middle	4.6	09:56	8.79	8.49	32.49	23.09	3.13	12
M1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	8.2	09:55	8.75	8.46	32.45	23.25	2.34	5
M1	20211215	Sunny	Moderate	Mid-Ebb	Bottom	8.2	09:55	8.81	8.45	32.43	23.37	2.57	8
B1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:43	8.57	8.38	32.66	23.37	3.08	5
B1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:43	8.64	8.41	32.68	23.26	3.26	5
B1	20211215	Sunny	Moderate	Mid-Flood	Bottom	3.8	14:42	8.73	8.38	32.66	23.39	3.48	7
B1	20211215	Sunny	Moderate	Mid-Flood	Bottom	3.8	14:42	8.75	8.33	32.66	23.42	3.55	7
B2	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:01	8.07	8.24	32.3	23.3	2.92	7
B2	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:01	8.1	8.24	32.33	23.34	3.31	9
B2	20211215	Sunny	Moderate	Mid-Flood	Bottom	4.2	15:00	8.1	8.31	32.28	23.28	3.3	6
B2	20211215	Sunny	Moderate	Mid-Flood	Bottom	4.2	15:00	8.27	8.26	32.22	23.26	3.88	9
B3	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:27	7.62	8.39	32.61	23.31	3.11	7
B3	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:27	7.49	8.32	32.66	23.22	2.99	10
B3	20211215	Sunny	Moderate	Mid-Flood	Bottom	3.6	14:26	7.69	8.37	32.56	23.36	3.42	8
B3	20211215	Sunny	Moderate	Mid-Flood	Bottom	3.6	14:26	7.69	8.4	32.59	23.24	3.36	8
B4	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:36	8.35	8.42	32.04	23.45	3.12	9
B4	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:36	8.2	8.47	31.96	23.52	3.14	10
B4	20211215	Sunny	Moderate	Mid-Flood	Bottom	4.5	14:35	8.4	8.47	32.06	23.38	3.96	8
B4	20211215	Sunny	Moderate	Mid-Flood	Bottom	4.5	14:35	8.23	8.41	31.96	23.37	4.21	7
C1A	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:15	8.92	8.22	32.05	23.45	4.7	9
C1A	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:15	9	8.28	32.12	23.41	4.12	11
C1A	20211215	Sunny	Moderate	Mid-Flood	Middle	5.05	14:14	9.02	8.24	32.11	23.31	4.58	15
C1A	20211215	Sunny	Moderate	Mid-Flood	Middle	5.05	14:14	8.86	8.3	32.16	23.28	4.44	13
C1A	20211215	Sunny	Moderate	Mid-Flood	Bottom	9.1	14:13	8.85	8.26	32.06	23.37	5.01	12
C1A	20211215	Sunny	Moderate	Mid-Flood	Bottom	9.1	14:13	8.92	8.21	32.11	23.27	4.56	13
C2A	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:15	7.83	8.51	32.13	23.36	5.71	8
C2A	20211215	Sunny	Moderate	Mid-Flood	Surface	1	14:15	7.98	8.5	32.25	23.46	6.81	11
C2A	20211215	Sunny	Moderate	Mid-Flood	Middle	5.65	14:14	7.92	8.44	32.26	23.26	5.96	9
C2A	20211215	Sunny	Moderate	Mid-Flood	Middle	5.65	14:14	7.74	8.48	32.25	23.32	6.18	10
C2A	20211215	Sunny	Moderate	Mid-Flood	Bottom	10.3	14:13	7.77	8.46	32.17	23.25	5.35	9

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
C2A	20211215	Sunny	Moderate	Mid-Flood	Bottom	10.3	14:13	7.94	8.49	32.26	23.34	5.25	10
CR1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:56	7.42	8.46	31.94	23.44	3.46	8
CR1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:56	7.53	8.39	32.01	23.57	3.42	8
CR1	20211215	Sunny	Moderate	Mid-Flood	Middle	6.15	15:55	7.44	8.4	32.04	23.49	3.7	11
CR1	20211215	Sunny	Moderate	Mid-Flood	Middle	6.15	15:55	7.56	8.4	31.97	23.53	3.41	8
CR1	20211215	Sunny	Moderate	Mid-Flood	Bottom	11.3	15:54	7.69	8.39	31.97	23.44	3.73	4
CR1	20211215	Sunny	Moderate	Mid-Flood	Bottom	11.3	15:54	7.49	8.38	31.98	23.47	4.05	3
CR2	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:43	8.56	8.34	31.81	23.45	3.29	8
CR2	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:43	8.45	8.29	31.79	23.53	2.81	10
CR2	20211215	Sunny	Moderate	Mid-Flood	Middle	5.9	15:42	8.48	8.36	31.82	23.5	3.75	3
CR2	20211215	Sunny	Moderate	Mid-Flood	Middle	5.9	15:42	8.56	8.35	31.89	23.41	3.13	4
CR2	20211215	Sunny	Moderate	Mid-Flood	Bottom	10.8	15:41	8.34	8.36	31.89	23.42	3.59	8
CR2	20211215	Sunny	Moderate	Mid-Flood	Bottom	10.8	15:41	8.49	8.34	31.9	23.45	3.23	8
F1A	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:07	8.31	8.39	32.54	23.56	2.83	9
F1A	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:07	8.35	8.38	32.5	23.53	3.22	9
F1A	20211215	Sunny	Moderate	Mid-Flood	Middle	4.05	15:06	8.37	8.37	32.6	23.56	3.43	9
F1A	20211215	Sunny	Moderate	Mid-Flood	Middle	4.05	15:06	8.31	8.42	32.49	23.48	3.77	8
F1A	20211215	Sunny	Moderate	Mid-Flood	Bottom	7.1	15:05	8.38	8.38	32.63	23.56	4.03	8
F1A	20211215	Sunny	Moderate	Mid-Flood	Bottom	7.1	15:05	8.27	8.44	32.59	23.42	3.92	6
H1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:30	7.87	8.28	33.5	23.28	3.66	8
H1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:30	7.66	8.29	33.47	23.29	3.31	6
H1	20211215	Sunny	Moderate	Mid-Flood	Middle	4.15	15:29	7.77	8.34	33.43	23.32	3.94	14
H1	20211215	Sunny	Moderate	Mid-Flood	Middle	4.15	15:29	7.61	8.3	33.43	23.31	3.32	12
H1	20211215	Sunny	Moderate	Mid-Flood	Bottom	7.3	15:28	7.65	8.27	33.4	23.4	4.15	4
H1	20211215	Sunny	Moderate	Mid-Flood	Bottom	7.3	15:28	7.68	8.35	33.41	23.32	4.5	6
M1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:32	8.84	8.4	32.84	23.24	3.35	6
M1	20211215	Sunny	Moderate	Mid-Flood	Surface	1	15:32	9.05	8.38	32.72	23.25	2.91	4
M1	20211215	Sunny	Moderate	Mid-Flood	Middle	4.2	15:31	8.93	8.41	32.79	23.25	2.68	9
M1	20211215	Sunny	Moderate	Mid-Flood	Middle	4.2	15:31	8.88	8.44	32.81	23.2	2.6	11
M1	20211215	Sunny	Moderate	Mid-Flood	Bottom	7.4	15:30	9	8.43	32.71	23.27	3.52	11
M1	20211215	Sunny	Moderate	Mid-Flood	Bottom	7.4	15:30	8.83	8.45	32.76	23.29	3.44	13
B1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:03	8.26	8.24	31.87	23.06	3.23	9
B1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:03	8.42	8.28	32.05	23.02	3.82	10
B1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	10:02	7.96	8.31	30.61	23.25	4.26	8
B1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	3.7	10:02	8.08	8.24	30.56	23.22	4.12	9
B2	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:22	8.86	8.46	31.23	23	3.6	12
B2	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:22	8.93	8.46	31.26	22.99	3.15	11
B2	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	4	10:21	8.8	8.42	31.37	23.04	3.67	12
B2	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	4	10:21	8.85	8.45	31.21	23.03	4.1	8

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B3	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:32	8.94	8.31	32.22	23.08	3.7	9
B3	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:32	8.87	8.37	32.23	23.03	3.18	9
B3	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	11:31	8.84	8.33	32.26	23.14	3.49	11
B3	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	11:31	8.75	8.33	32.24	23.11	4.15	11
B4	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:23	8.81	8.36	32.08	23.06	3.18	11
B4	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:23	8.94	8.35	32.07	23.14	2.91	13
B4	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	4	11:22	8.78	8.37	32.2	22.9	3.2	7
B4	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	4	11:22	8.62	8.38	32.12	22.9	3.13	10
C1A	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	09:33	8.03	8.28	30.49	23.27	6.25	7
C1A	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	09:33	8.13	8.25	30.62	23.25	5.79	9
C1A	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.8	09:32	8.72	8.35	31.8	22.96	5.22	7
C1A	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.8	09:32	8.91	8.36	31.82	23	6.02	9
C1A	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	8.6	09:31	8.81	8.32	31.81	22.96	5.67	10
C1A	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	8.6	09:31	8.89	8.36	31.73	22.99	5.52	7
C2A	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:42	8.74	8.33	32.41	22.96	5.14	11
C2A	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:42	8.74	8.33	32.44	22.95	4.75	14
C2A	20211217	Cloudy	Moderate	Mid-Ebb	Middle	5.8	11:41	8.68	8.35	32.28	23.02	5.13	7
C2A	20211217	Cloudy	Moderate	Mid-Ebb	Middle	5.8	11:41	8.72	8.37	32.43	22.98	4.91	10
C2A	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	11:40	8.79	8.34	32.4	22.95	4.53	11
C2A	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	11:40	8.67	8.35	32.31	22.96	4.41	13
CR1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:20	8.85	8.39	32.12	22.98	3.22	12
CR1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:20	8.76	8.37	32.17	22.95	2.86	12
CR1	20211217	Cloudy	Moderate	Mid-Ebb	Middle	6.55	11:19	8.74	8.37	32.16	22.97	3.27	14
CR1	20211217	Cloudy	Moderate	Mid-Ebb	Middle	6.55	11:19	8.66	8.38	32.1	22.93	3.11	13
CR1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	11:18	9.01	8.36	31.85	23.21	2.58	17
CR1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	12.1	11:18	8.99	8.38	31.78	23.21	2.6	18
CR2	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:07	8.91	8.34	31.66	23.2	2.81	26
CR2	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	11:07	8.93	8.3	31.73	23.13	3.11	23
CR2	20211217	Cloudy	Moderate	Mid-Ebb	Middle	5.8	11:06	8.9	8.37	31.87	23.12	3.25	19
CR2	20211217	Cloudy	Moderate	Mid-Ebb	Middle	5.8	11:06	8.88	8.37	31.86	23.09	2.94	23
CR2	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	11:05	8.37	8.34	30.68	23.05	3.29	26
CR2	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	11:05	8.28	8.38	30.61	23.04	2.92	29
F1A	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:45	8.36	8.25	31.09	23.22	4.31	11
F1A	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:45	8.37	8.2	31.31	23.23	4.91	8
F1A	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.15	10:44	8.23	8.27	31.24	23.15	4.96	10
F1A	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.15	10:44	8.25	8.26	31.22	23.24	4.36	7
F1A	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	7.3	10:43	8.74	8.47	31.35	23.04	4.56	7
F1A	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	7.3	10:43	8.82	8.46	31.15	23	5.4	12
H1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:49	8.34	8.4	30.63	23.13	3.53	10

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
H1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:49	8.19	8.35	30.76	23.11	3.45	8
H1	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.35	10:48	8.24	8.38	30.64	23.03	3.91	9
H1	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.35	10:48	8.34	8.33	30.62	23.05	3.87	11
H1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	10:47	8.21	8.2	31.31	23.21	4.11	10
H1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	7.7	10:47	8.41	8.21	31.23	23.15	4.27	12
M1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:18	7.77	8.29	31.48	23.17	3.11	14
M1	20211217	Cloudy	Moderate	Mid-Ebb	Surface	1	10:18	7.74	8.24	31.52	23.26	2.99	11
M1	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.7	10:17	7.82	8.23	31.4	23.21	3.18	10
M1	20211217	Cloudy	Moderate	Mid-Ebb	Middle	4.7	10:17	7.86	8.26	31.48	23.29	2.94	11
M1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	10:16	8.44	8.24	31.99	23.01	3.26	20
M1	20211217	Cloudy	Moderate	Mid-Ebb	Bottom	8.4	10:16	8.43	8.24	32.05	23.02	3.14	20
B1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:22	7.88	8.24	31.48	23.15	2.28	7
B1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:22	7.87	8.26	31.53	23.13	2.08	10
B1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	3.5	15:21	7.84	8.22	31.64	23.11	2.36	7
B1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	3.5	15:21	7.88	8.21	31.46	23.11	2.83	10
B2	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:39	7.87	8.29	31.44	23.14	2.46	7
B2	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:39	7.91	8.27	31.45	23.14	2.31	6
B2	20211217	Cloudy	Moderate	Mid-Flood	Bottom	4.2	15:38	7.85	8.24	31.61	23.13	3.14	21
B2	20211217	Cloudy	Moderate	Mid-Flood	Bottom	4.2	15:38	8.01	8.28	31.54	23.16	2.82	17
B3	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:05	7.49	8.24	31.09	23.09	2.82	8
B3	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:05	7.47	8.25	31	23.08	2.97	6
B3	20211217	Cloudy	Moderate	Mid-Flood	Bottom	3.9	15:04	7.49	8.29	31.03	23.05	2.91	9
B3	20211217	Cloudy	Moderate	Mid-Flood	Bottom	3.9	15:04	7.56	8.23	30.87	23.08	3.25	9
B4	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:13	8.45	8.35	30.87	23.04	2.26	12
B4	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:13	8.49	8.29	30.93	23.11	2.56	9
B4	20211217	Cloudy	Moderate	Mid-Flood	Bottom	4.1	15:12	8.54	8.31	31.01	23.08	2.58	9
B4	20211217	Cloudy	Moderate	Mid-Flood	Bottom	4.1	15:12	8.62	8.34	30.95	23.11	2.76	6
C1A	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	14:52	7.82	8.11	31.76	23.17	3.92	8
C1A	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	14:52	7.81	8.1	31.96	23.14	3.86	9
C1A	20211217	Cloudy	Moderate	Mid-Flood	Middle	5.9	14:51	7.88	8.14	31.74	23.18	3.2	10
C1A	20211217	Cloudy	Moderate	Mid-Flood	Middle	5.9	14:51	7.91	8.15	31.77	23.13	3.39	9
C1A	20211217	Cloudy	Moderate	Mid-Flood	Bottom	10.8	14:50	7.83	8.1	31.81	23.03	3.13	14
C1A	20211217	Cloudy	Moderate	Mid-Flood	Bottom	10.8	14:50	7.83	8.08	31.86	23.04	3.37	18
C2A	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	14:52	8.57	8.22	31.84	23.14	3.88	8
C2A	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	14:52	8.51	8.19	31.84	23.11	3.51	8
C2A	20211217	Cloudy	Moderate	Mid-Flood	Middle	5.9	14:51	8.6	8.16	31.8	23.17	3.49	8
C2A	20211217	Cloudy	Moderate	Mid-Flood	Middle	5.9	14:51	8.67	8.19	31.94	23.16	3.5	9
C2A	20211217	Cloudy	Moderate	Mid-Flood	Bottom	10.8	14:50	8.53	8.18	31.79	23.05	4.36	12
C2A	20211217	Cloudy	Moderate	Mid-Flood	Bottom	10.8	14:50	8.55	8.22	31.9	23.04	3.86	14

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:34	8.05	8.23	32.46	23.26	2.58	15
CR1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:34	8.18	8.29	32.48	23.26	2.44	12
CR1	20211217	Cloudy	Moderate	Mid-Flood	Middle	6.45	16:33	8.19	8.24	32.52	23.24	3.31	12
CR1	20211217	Cloudy	Moderate	Mid-Flood	Middle	6.45	16:33	8.11	8.24	32.47	23.21	3.2	8
CR1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	11.9	16:32	8.22	8.29	32.45	23.26	3.31	8
CR1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	11.9	16:32	8.19	8.3	32.61	23.29	3	9
CR2	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:19	7.71	8.31	31.14	23.13	2.29	8
CR2	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:19	7.73	8.34	31.05	23.07	2.08	8
CR2	20211217	Cloudy	Moderate	Mid-Flood	Middle	5.55	16:18	7.84	8.32	31.02	23.11	2.36	10
CR2	20211217	Cloudy	Moderate	Mid-Flood	Middle	5.55	16:18	7.7	8.36	31.14	23.14	2.42	9
CR2	20211217	Cloudy	Moderate	Mid-Flood	Bottom	10.1	16:17	7.82	8.31	31.05	23.12	2.81	8
CR2	20211217	Cloudy	Moderate	Mid-Flood	Bottom	10.1	16:17	7.83	8.36	31.14	23.13	2.43	11
F1A	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:43	7.92	8.18	31.2	23.23	2.19	9
F1A	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	15:43	8	8.21	31.25	23.19	2.44	10
F1A	20211217	Cloudy	Moderate	Mid-Flood	Middle	3.85	15:42	8.01	8.18	31.24	23.22	2.14	12
F1A	20211217	Cloudy	Moderate	Mid-Flood	Middle	3.85	15:42	7.94	8.24	31.32	23.21	2.07	10
F1A	20211217	Cloudy	Moderate	Mid-Flood	Bottom	6.7	15:41	8	8.22	31.11	23.21	2.41	10
F1A	20211217	Cloudy	Moderate	Mid-Flood	Bottom	6.7	15:41	8.03	8.18	31.31	23.19	2.33	12
H1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:06	7.67	8.12	32.63	23.18	2.12	17
H1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:06	7.72	8.09	32.46	23.22	2.19	15
H1	20211217	Cloudy	Moderate	Mid-Flood	Middle	4.25	16:05	7.71	8.09	32.55	23.16	2.6	7
H1	20211217	Cloudy	Moderate	Mid-Flood	Middle	4.25	16:05	7.7	8.13	32.53	23.16	2.24	9
H1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	7.5	16:04	7.7	8.15	32.47	23.22	2.57	9
H1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	7.5	16:04	7.57	8.15	32.52	23.15	2.57	9
M1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:10	8.55	8.17	31.5	23.18	3.11	10
M1	20211217	Cloudy	Moderate	Mid-Flood	Surface	1	16:10	8.62	8.21	31.7	23.23	2.68	8
M1	20211217	Cloudy	Moderate	Mid-Flood	Middle	3.95	16:09	8.56	8.19	31.47	23.21	3.01	11
M1	20211217	Cloudy	Moderate	Mid-Flood	Middle	3.95	16:09	8.57	8.18	31.46	23.19	3.16	8
M1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	6.9	16:08	8.55	8.2	31.59	23.21	3.61	10
M1	20211217	Cloudy	Moderate	Mid-Flood	Bottom	6.9	16:08	8.67	8.17	31.64	23.2	3.79	9
B1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:27	7.48	8.38	31.35	23.27	2.86	15
B1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:27	7.58	8.3	31.55	23.28	3.23	13
B1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	3.4	09:26	7.58	8.31	31.48	23.28	4.1	13
B1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	3.4	09:26	7.69	8.3	31.53	23.2	3.96	14
B2	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:44	8.83	8.36	31.36	23.08	3.66	10
B2	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:44	8.95	8.36	31.37	23.09	3.22	10
B2	20211220	Cloudy	Moderate	Mid-Flood	Bottom	4	09:43	8.9	8.36	31.35	23.16	3.66	16
B2	20211220	Cloudy	Moderate	Mid-Flood	Bottom	4	09:43	8.9	8.28	31.51	23.17	3.82	16
B3	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	10:05	8.27	8.44	33.09	22.76	3.37	13

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B3	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	10:05	8.25	8.53	33.14	22.83	2.98	11
B3	20211220	Cloudy	Moderate	Mid-Flood	Bottom	3.6	10:04	8.22	8.53	32.99	22.85	3.18	18
B3	20211220	Cloudy	Moderate	Mid-Flood	Bottom	3.6	10:04	8.29	8.41	33.02	22.83	2.82	18
B4	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:56	7.81	8.45	32.88	23.23	3.42	16
B4	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:56	7.74	8.44	32.85	23.25	3.04	16
B4	20211220	Cloudy	Moderate	Mid-Flood	Bottom	3.6	09:55	7.81	8.4	32.84	23.24	3.97	18
B4	20211220	Cloudy	Moderate	Mid-Flood	Bottom	3.6	09:55	7.65	8.37	32.91	23.16	3.41	18
C1A	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:56	8.29	8.4	32.05	23.54	5.05	16
C1A	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:56	8.34	8.36	32.13	23.48	5.16	16
C1A	20211220	Cloudy	Moderate	Mid-Flood	Middle	5.15	08:55	8.5	8.42	32.21	23.45	5.5	9
C1A	20211220	Cloudy	Moderate	Mid-Flood	Middle	5.15	08:55	8.53	8.37	32	23.51	4.98	7
C1A	20211220	Cloudy	Moderate	Mid-Flood	Bottom	9.3	08:54	8.52	8.35	32.18	23.51	5.61	8
C1A	20211220	Cloudy	Moderate	Mid-Flood	Bottom	9.3	08:54	8.56	8.37	32.02	23.46	5.4	6
C2A	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	8.52	8.47	31.71	23.43	7.12	9
C2A	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	8.59	8.49	31.84	23.34	6.86	9
C2A	20211220	Cloudy	Moderate	Mid-Flood	Middle	6	08:01	8.76	8.47	31.71	23.33	6.02	7
C2A	20211220	Cloudy	Moderate	Mid-Flood	Middle	6	08:01	8.76	8.38	31.7	23.43	6.65	8
C2A	20211220	Cloudy	Moderate	Mid-Flood	Bottom	11	08:00	8.56	8.44	31.81	23.33	6.95	7
C2A	20211220	Cloudy	Moderate	Mid-Flood	Bottom	11	08:00	8.69	8.39	31.81	23.39	5.9	6
CR1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:21	8.3	8.29	31.43	23.42	4.25	17
CR1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:21	8.29	8.26	31.43	23.49	3.7	18
CR1	20211220	Cloudy	Moderate	Mid-Flood	Middle	6.55	08:20	8.27	8.27	31.47	23.52	4.21	16
CR1	20211220	Cloudy	Moderate	Mid-Flood	Middle	6.55	08:20	8.24	8.35	31.48	23.48	4.03	15
CR1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	12.1	08:19	8.15	8.29	31.36	23.45	4.09	18
CR1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	12.1	08:19	8.17	8.28	31.53	23.52	4.38	18
CR2	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:36	8.15	8.29	31.67	22.72	3.26	18
CR2	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:36	8.21	8.31	31.7	22.68	3.78	18
CR2	20211220	Cloudy	Moderate	Mid-Flood	Middle	5.75	08:35	8.18	8.26	31.7	22.71	3.92	17
CR2	20211220	Cloudy	Moderate	Mid-Flood	Middle	5.75	08:35	8.31	8.32	31.54	22.78	3.54	17
CR2	20211220	Cloudy	Moderate	Mid-Flood	Bottom	10.5	08:34	8.4	8.3	31.65	22.71	3.99	14
CR2	20211220	Cloudy	Moderate	Mid-Flood	Bottom	10.5	08:34	8.32	8.34	31.7	22.71	4.14	11
F1A	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:17	7.47	8.44	31.35	22.97	3.23	10
F1A	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	09:17	7.69	8.54	31.38	22.96	3.17	10
F1A	20211220	Cloudy	Moderate	Mid-Flood	Middle	3.85	09:16	7.7	8.44	31.33	23.01	3.65	8
F1A	20211220	Cloudy	Moderate	Mid-Flood	Middle	3.85	09:16	7.68	8.49	31.25	23.05	3.91	9
F1A	20211220	Cloudy	Moderate	Mid-Flood	Bottom	6.7	09:15	7.62	8.45	31.38	23.03	4.02	11
F1A	20211220	Cloudy	Moderate	Mid-Flood	Bottom	6.7	09:15	7.56	8.44	31.32	22.96	3.57	9
H1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	10:12	8.6	8.3	33.01	23.25	4.43	10
H1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	10:12	8.4	8.3	33.01	23.21	3.93	10

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
H1	20211220	Cloudy	Moderate	Mid-Flood	Middle	4.05	10:11	8.46	8.34	33.09	23.22	4.25	11
H1	20211220	Cloudy	Moderate	Mid-Flood	Middle	4.05	10:11	8.43	8.26	33.22	23.3	4.37	13
H1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	7.1	10:10	8.36	8.29	33.12	23.29	4.37	19
H1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	7.1	10:10	8.58	8.28	33.15	23.26	4.14	19
M1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:53	8.96	8.19	32.43	23.23	4.17	14
M1	20211220	Cloudy	Moderate	Mid-Flood	Surface	1	08:53	9.01	8.28	32.35	23.28	4.05	14
M1	20211220	Cloudy	Moderate	Mid-Flood	Middle	3.7	08:52	8.94	8.31	32.36	23.2	3.97	19
M1	20211220	Cloudy	Moderate	Mid-Flood	Middle	3.7	08:52	8.78	8.24	32.45	23.22	3.94	19
M1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	6.4	08:51	9.01	8.25	32.55	23.27	4.14	12
M1	20211220	Cloudy	Moderate	Mid-Flood	Bottom	6.4	08:51	8.78	8.19	32.38	23.26	3.92	11
B1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:50	8.01	8.38	32.37	23.2	3.55	8
B1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:50	8.04	8.4	32.49	23.25	2.96	8
B1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	11:49	8.2	8.39	32.51	23.25	3.55	9
B1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	11:49	7.96	8.38	32.48	23.2	3.09	9
B2	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:07	8.2	8.32	32.33	23.55	3.62	11
B2	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:07	8.18	8.27	32.26	23.59	3.94	13
B2	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	4.8	12:06	8.17	8.29	32.28	23.58	3.96	9
B2	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	4.8	12:06	8.07	8.26	32.34	23.52	4.05	8
B3	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:54	8.02	8.28	32.32	23.19	3.17	7
B3	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:54	8.04	8.24	32.5	23.23	2.92	11
B3	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	11:53	7.93	8.26	32.35	23.21	3.51	12
B3	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	3.4	11:53	7.82	8.28	32.45	23.22	3.86	13
B4	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:03	9.05	8.26	31.64	22.92	3.6	10
B4	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:03	8.81	8.27	31.74	22.85	3.38	8
B4	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	12:02	9	8.3	31.67	22.88	4.24	9
B4	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	3.3	12:02	8.92	8.27	31.81	22.85	4.07	11
C1A	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:17	8.33	8.3	32.28	23.66	5.61	14
C1A	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:17	8.41	8.37	32.43	23.71	5.52	15
C1A	20211220	Cloudy	Moderate	Mid-Ebb	Middle	5.2	11:16	8.47	8.3	32.38	23.73	4.66	17
C1A	20211220	Cloudy	Moderate	Mid-Ebb	Middle	5.2	11:16	8.38	8.3	32.22	23.66	4.89	19
C1A	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	9.4	11:15	8.43	8.35	32.43	23.67	5.2	20
C1A	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	9.4	11:15	8.44	8.36	32.35	23.68	5.26	20
C2A	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:41	8.28	8.47	31.86	23.76	4.4	21
C2A	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	11:41	8.16	8.43	31.78	23.77	4.43	21
C2A	20211220	Cloudy	Moderate	Mid-Ebb	Middle	6.05	11:40	8.16	8.43	31.79	23.82	4.14	16
C2A	20211220	Cloudy	Moderate	Mid-Ebb	Middle	6.05	11:40	8.31	8.47	31.88	23.8	4.63	17
C2A	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	11:39	8.14	8.42	31.7	23.82	4.92	37
C2A	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	11.1	11:39	8.36	8.49	31.77	23.79	4.87	37
CR1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	13:03	8.1	8.37	32.48	23.47	2.73	24

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	13:03	7.98	8.4	32.43	23.49	2.82	24
CR1	20211220	Cloudy	Moderate	Mid-Ebb	Middle	6.35	13:02	8.05	8.41	32.43	23.51	2.99	10
CR1	20211220	Cloudy	Moderate	Mid-Ebb	Middle	6.35	13:02	8.05	8.37	32.36	23.51	3.07	11
CR1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	11.7	13:01	7.92	8.38	32.5	23.48	2.95	9
CR1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	11.7	13:01	8.18	8.4	32.4	23.51	3.07	7
CR2	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:49	8.4	8.29	31.66	23.4	2.98	14
CR2	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:49	8.26	8.23	31.45	23.39	3.06	11
CR2	20211220	Cloudy	Moderate	Mid-Ebb	Middle	5.8	12:48	8.37	8.26	31.65	23.39	2.89	14
CR2	20211220	Cloudy	Moderate	Mid-Ebb	Middle	5.8	12:48	8.38	8.25	31.55	23.45	3.25	13
CR2	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	12:47	8.27	8.24	31.58	23.41	3.23	10
CR2	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	10.6	12:47	8.43	8.23	31.55	23.42	3.65	11
F1A	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:34	7.95	8.38	32.78	23.6	4.21	14
F1A	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:34	8.1	8.39	32.87	23.61	4.84	17
F1A	20211220	Cloudy	Moderate	Mid-Ebb	Middle	4.6	12:33	8.06	8.36	32.75	23.53	4.29	15
F1A	20211220	Cloudy	Moderate	Mid-Ebb	Middle	4.6	12:33	8.02	8.33	32.69	23.55	3.95	16
F1A	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	12:32	7.9	8.35	32.75	23.57	4.51	18
F1A	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	8.2	12:32	8	8.39	32.82	23.6	4.73	18
H1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:34	8.63	8.38	32	23	3.12	10
H1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	12:34	8.6	8.38	31.97	22.96	3.69	9
H1	20211220	Cloudy	Moderate	Mid-Ebb	Middle	4.25	12:33	8.46	8.36	32.02	23.03	4.04	11
H1	20211220	Cloudy	Moderate	Mid-Ebb	Middle	4.25	12:33	8.63	8.4	32.09	23	3.79	13
H1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	12:32	8.61	8.37	32.09	22.98	4.11	10
H1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	12:32	8.53	8.39	31.97	23.01	3.97	12
M1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	13:00	8.63	8.38	31.44	23.67	3.15	10
M1	20211220	Cloudy	Moderate	Mid-Ebb	Surface	1	13:00	8.72	8.4	31.41	23.62	3	9
M1	20211220	Cloudy	Moderate	Mid-Ebb	Middle	4.4	12:59	8.69	8.39	31.51	23.68	3	10
M1	20211220	Cloudy	Moderate	Mid-Ebb	Middle	4.4	12:59	8.6	8.39	31.32	23.63	3.1	9
M1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	7.8	12:58	8.79	8.38	31.46	23.69	3.64	19
M1	20211220	Cloudy	Moderate	Mid-Ebb	Bottom	7.8	12:58	8.67	8.39	31.31	23.64	3.69	19
B1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	09:25	7.92	8.4	32.16	22.89	3.68	6
B1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	09:25	7.94	8.36	32.18	22.9	3.95	4
B1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:24	7.9	8.45	32.25	22.73	3.92	5
B1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	3.7	09:24	7.97	8.42	32.1	22.76	3.4	5
B2	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	09:42	8.02	8.36	31.88	22.81	3.35	6
B2	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	09:42	8.22	8.39	32.01	22.76	3.3	5
B2	20211222	Cloudy	Moderate	Mid-Flood	Bottom	4.2	09:41	8.13	8.37	32.2	22.92	4.11	12
B2	20211222	Cloudy	Moderate	Mid-Flood	Bottom	4.2	09:41	8.08	8.4	31.89	22.92	3.55	11
B3	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	11:01	8.34	8.29	30.88	22.51	3.77	6
B3	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	11:01	8.46	8.37	31.01	22.54	4.36	5

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B3	20211222	Cloudy	Moderate	Mid-Flood	Bottom	3.5	11:00	8.4	8.28	31.13	22.47	4.51	5
B3	20211222	Cloudy	Moderate	Mid-Flood	Bottom	3.5	11:00	8.32	8.32	31.12	22.4	4.02	6
B4	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	10:51	8.45	8.37	31.4	22.49	5.01	6
B4	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	10:51	8.38	8.34	30.98	22.54	4.6	6
B4	20211222	Cloudy	Moderate	Mid-Flood	Bottom	3.6	10:50	8.59	8.4	31.27	23.13	3.01	7
B4	20211222	Cloudy	Moderate	Mid-Flood	Bottom	3.6	10:50	8.46	8.34	31.39	22.98	3.05	6
C1A	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:57	8.07	8.39	32.27	22.75	5.13	5
C1A	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:57	8.09	8.41	32.13	22.81	4.8	6
C1A	20211222	Cloudy	Moderate	Mid-Flood	Middle	5.8	08:56	9.07	8.12	32.37	22.56	4.71	6
C1A	20211222	Cloudy	Moderate	Mid-Flood	Middle	5.8	08:56	8.96	8.15	32.38	22.62	4.18	5
C1A	20211222	Cloudy	Moderate	Mid-Flood	Bottom	10.6	08:55	9.11	8.16	32.71	22.47	5.07	8
C1A	20211222	Cloudy	Moderate	Mid-Flood	Bottom	10.6	08:55	9.11	8.12	32.52	22.49	4.95	8
C2A	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	8.11	8.26	31.88	22.92	5.76	6
C2A	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:02	8.25	8.26	31.58	22.92	6.07	5
C2A	20211222	Cloudy	Moderate	Mid-Flood	Middle	5.8	08:01	7.63	8.39	31.38	22.98	7.09	5
C2A	20211222	Cloudy	Moderate	Mid-Flood	Middle	5.8	08:01	7.54	8.37	31.87	22.99	6.42	5
C2A	20211222	Cloudy	Moderate	Mid-Flood	Bottom	10.6	08:00	7.68	8.41	31.38	23.14	6.42	11
C2A	20211222	Cloudy	Moderate	Mid-Flood	Bottom	10.6	08:00	7.73	8.35	31.71	23.06	6.45	10
CR1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:23	7.73	8.32	31.95	22.78	3.36	9
CR1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:23	7.72	8.29	31.9	22.65	3.54	10
CR1	20211222	Cloudy	Moderate	Mid-Flood	Middle	6.4	08:22	7.66	8.27	31.77	22.79	4.33	6
CR1	20211222	Cloudy	Moderate	Mid-Flood	Middle	6.4	08:22	7.81	8.37	31.71	22.7	4.76	5
CR1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	11.8	08:21	8.05	8.33	31.73	22.92	3.19	11
CR1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	11.8	08:21	8.03	8.25	31.97	22.91	2.79	11
CR2	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:37	9.1	8.18	32.53	22.43	5.36	9
CR2	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	08:37	9.05	8.17	32.29	22.63	4.93	12
CR2	20211222	Cloudy	Moderate	Mid-Flood	Middle	5.75	08:36	8.47	8.29	31.99	22.48	4.72	5
CR2	20211222	Cloudy	Moderate	Mid-Flood	Middle	5.75	08:36	8.37	8.32	31.94	22.35	4.57	5
CR2	20211222	Cloudy	Moderate	Mid-Flood	Bottom	10.5	08:35	8.58	8.36	32.26	22.41	5.15	12
CR2	20211222	Cloudy	Moderate	Mid-Flood	Bottom	10.5	08:35	8.44	8.29	32.1	22.28	4.91	13
F1A	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	10:13	8.56	8.33	31.06	23.05	3.23	5
F1A	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	10:13	8.5	8.33	31.38	23.04	3.36	6
F1A	20211222	Cloudy	Moderate	Mid-Flood	Middle	3.9	10:12	8.46	8.37	31.36	23.03	3.65	5
F1A	20211222	Cloudy	Moderate	Mid-Flood	Middle	3.9	10:12	8.52	8.38	31.05	23.17	4.04	5
F1A	20211222	Cloudy	Moderate	Mid-Flood	Bottom	6.8	10:11	8.27	8.18	31.28	23.05	5.01	10
F1A	20211222	Cloudy	Moderate	Mid-Flood	Bottom	6.8	10:11	8.44	8.15	30.9	23.12	4.71	9
H1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	10:09	8.22	8.17	31.42	22.93	4.75	7
H1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	10:09	8.33	8.13	30.89	22.91	4.72	6
H1	20211222	Cloudy	Moderate	Mid-Flood	Middle	4	10:08	8.34	8.16	31.32	22.94	5.7	6

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
H1	20211222	Cloudy	Moderate	Mid-Flood	Middle	4	10:08	8.21	8.22	31.09	22.96	5.67	5
H1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	7	10:07	7.88	8.14	30.94	22.42	3.44	5
H1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	7	10:07	8.09	8.21	31.29	22.33	3.19	4
M1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	09:59	8.05	8.15	30.89	22.33	3.35	5
M1	20211222	Cloudy	Moderate	Mid-Flood	Surface	1	09:59	7.91	8.16	31.19	22.43	3.2	7
M1	20211222	Cloudy	Moderate	Mid-Flood	Middle	4.1	09:58	7.91	8.13	31.12	22.44	3.7	11
M1	20211222	Cloudy	Moderate	Mid-Flood	Middle	4.1	09:58	7.96	8.12	31.08	22.27	3.36	10
M1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	7.2	09:57	8.2	8.34	32.23	22.95	2.75	9
M1	20211222	Cloudy	Moderate	Mid-Flood	Bottom	7.2	09:57	8.16	8.39	32.14	22.77	3.28	11
B1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:19	9.06	8.4	32.56	22.66	2.91	3
B1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:19	9.02	8.39	32.87	23.3	2.68	3
B1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	13:18	8.95	8.34	32.65	23	3.59	6
B1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	3.5	13:18	9.14	8.38	32.62	23.43	4.21	6
B2	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:35	9.17	8.45	32.44	23.51	4.03	8
B2	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:35	9.13	8.4	32.44	24.01	3.7	5
B2	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	13:34	9.08	8.43	32.41	23.79	4.6	6
B2	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	4.4	13:34	9.27	8.37	32.42	24.22	4.67	5
B3	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:03	7.84	8.27	31.87	23.38	4.59	5
B3	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:03	8.02	8.37	31.95	23.52	5.19	5
B3	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	13:02	8	8.35	32.1	23.53	5.95	5
B3	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	13:02	8.01	8.35	32.01	23.96	5.3	4
B4	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:12	8.46	8.48	32.22	23.59	3.37	7
B4	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:12	8.44	8.47	32.19	23.57	3.84	6
B4	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	3.1	13:11	8.61	8.44	32.25	23.32	3.74	7
B4	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	3.1	13:11	8.54	8.57	32.25	23.38	4.36	6
C1A	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	12:50	8.98	8.4	32.84	23.36	5.19	6
C1A	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	12:50	9.11	8.3	32.73	23.36	5.96	6
C1A	20211222	Cloudy	Moderate	Mid-Ebb	Middle	5.5	12:49	8.97	8.37	32.73	23.37	4.64	9
C1A	20211222	Cloudy	Moderate	Mid-Ebb	Middle	5.5	12:49	8.92	8.32	32.52	23.48	5.34	13
C1A	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	10	12:48	8.96	8.42	32.83	23.44	4.8	7
C1A	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	10	12:48	9.12	8.39	32.66	23.27	5.24	7
C2A	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	12:50	7.97	8.37	32.83	23.35	5.99	6
C2A	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	12:50	7.92	8.29	32.86	24.14	6.79	5
C2A	20211222	Cloudy	Moderate	Mid-Ebb	Middle	5.9	12:49	7.85	8.34	32.87	23.77	6.27	10
C2A	20211222	Cloudy	Moderate	Mid-Ebb	Middle	5.9	12:49	8.01	8.32	32.8	23.81	6.1	12
C2A	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	10.8	12:48	8	8.34	33	24.02	6.68	6
C2A	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	10.8	12:48	7.9	8.34	32.73	23.17	7.47	7
CR1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:33	8.1	8.2	33.06	23.29	3.85	8
CR1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:33	8.09	8.24	32.68	23.71	3.84	6

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR1	20211222	Cloudy	Moderate	Mid-Ebb	Middle	6.3	14:32	8.19	8.26	32.83	23.46	3.8	4
CR1	20211222	Cloudy	Moderate	Mid-Ebb	Middle	6.3	14:32	8.02	8.17	33.01	23.06	3.82	6
CR1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	11.6	14:31	8.16	8.24	32.82	23.63	4.52	12
CR1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	11.6	14:31	8.08	8.24	32.84	23.4	3.97	13
CR2	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:20	8.39	8.18	31.72	23.49	2.84	5
CR2	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:20	8.25	8.16	31.68	23.11	2.6	3
CR2	20211222	Cloudy	Moderate	Mid-Ebb	Middle	5.7	14:19	8.42	8.29	31.7	23.63	3.01	5
CR2	20211222	Cloudy	Moderate	Mid-Ebb	Middle	5.7	14:19	8.39	8.18	31.93	24.24	3.25	7
CR2	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	14:18	8.33	8.29	31.82	23.7	2.56	4
CR2	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	14:18	8.42	8.24	31.83	23.94	2.74	5
F1A	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:42	9.34	8.33	33.64	23.64	3.49	5
F1A	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	13:42	9.35	8.37	33.38	22.81	3.54	7
F1A	20211222	Cloudy	Moderate	Mid-Ebb	Middle	4.3	13:41	9.23	8.43	33.43	23.48	3.69	9
F1A	20211222	Cloudy	Moderate	Mid-Ebb	Middle	4.3	13:41	9.3	8.4	33.67	22.68	3.61	11
F1A	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	13:40	9.3	8.33	33.42	23.06	3.25	7
F1A	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	13:40	9.24	8.43	33.28	23.62	3.66	7
H1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:03	8.68	8.48	32.53	23.82	3.42	6
H1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:03	8.7	8.56	32.49	23.48	3.2	4
H1	20211222	Cloudy	Moderate	Mid-Ebb	Middle	4.05	14:02	8.72	8.5	32.44	23.02	3.42	6
H1	20211222	Cloudy	Moderate	Mid-Ebb	Middle	4.05	14:02	8.69	8.5	32.62	22.91	3.07	6
H1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	7.1	14:01	8.75	8.5	32.39	23.94	3.98	4
H1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	7.1	14:01	8.62	8.54	32.31	23.97	3.97	5
M1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:08	8.48	8.36	31.84	23.87	3.09	6
M1	20211222	Cloudy	Moderate	Mid-Ebb	Surface	1	14:08	8.36	8.33	32.16	22.99	3.24	9
M1	20211222	Cloudy	Moderate	Mid-Ebb	Middle	4.9	14:07	8.43	8.38	32.09	23.19	2.94	7
M1	20211222	Cloudy	Moderate	Mid-Ebb	Middle	4.9	14:07	8.41	8.33	31.89	23.79	2.89	6
M1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	14:06	8.31	8.35	31.87	23.26	3.35	6
M1	20211222	Cloudy	Moderate	Mid-Ebb	Bottom	8.8	14:06	8.47	8.4	31.91	23.08	3.15	5
B1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:11	8.78	8.49	33	22.52	4.4	8
B1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:11	8.82	8.51	32.78	22.5	3.92	7
B1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:10	8.92	8.37	32.82	22.49	4.47	5
B1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:10	8.84	8.4	32.79	22.54	4.25	6
B2	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:28	9.04	8.35	33.25	22.82	4.05	6
B2	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:28	9.06	8.38	33.28	22.83	3.46	5
B2	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:27	9.18	8.26	33.23	22.81	3.66	6
B2	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.4	10:27	9.05	8.34	33.1	22.83	3.44	6
B3	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:43	9.06	8.18	32.01	23.12	4.27	10
B3	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:43	9.16	8.19	32.19	23.06	4.39	10
B3	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:42	9.05	8.27	32.04	23.09	5.51	10

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B3	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:42	9.23	8.32	32.09	23.13	5.89	10
B4	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:32	7.8	8.43	33.36	22.79	4.82	7
B4	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:32	7.8	8.48	33.22	22.67	5.5	5
B4	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:31	7.8	8.52	33.26	22.69	5.81	13
B4	20211224	Cloudy	Moderate	Mid-Flood	Bottom	3.9	10:31	7.81	8.47	33.15	22.71	5.68	14
C1A	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:44	8.12	8.26	32.27	22.55	5.72	5
C1A	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:44	8.13	8.2	32.08	22.54	5.58	6
C1A	20211224	Cloudy	Moderate	Mid-Flood	Middle	5.7	09:43	8.18	8.33	32.16	22.52	6.11	7
C1A	20211224	Cloudy	Moderate	Mid-Flood	Middle	5.7	09:43	8.1	8.36	32.05	22.59	6.87	6
C1A	20211224	Cloudy	Moderate	Mid-Flood	Bottom	10.4	09:42	8.15	8.24	32.05	22.65	6.67	5
C1A	20211224	Cloudy	Moderate	Mid-Flood	Bottom	10.4	09:42	8.21	8.19	32.26	22.55	5.77	7
C2A	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	08:51	8.05	8.33	32.14	22.85	7.06	8
C2A	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	08:51	7.97	8.44	32.2	22.84	6.51	6
C2A	20211224	Cloudy	Moderate	Mid-Flood	Middle	5.8	08:50	8.03	8.48	32.27	22.87	7.38	6
C2A	20211224	Cloudy	Moderate	Mid-Flood	Middle	5.8	08:50	7.95	8.33	32.3	22.9	6.9	8
C2A	20211224	Cloudy	Moderate	Mid-Flood	Bottom	10.6	08:49	8	8.45	32.26	22.91	6.48	9
C2A	20211224	Cloudy	Moderate	Mid-Flood	Bottom	10.6	08:49	8.1	8.49	32.31	22.89	6.38	10
CR1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:13	9.09	8.31	32.86	23.42	4.14	11
CR1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:13	9.05	8.31	32.66	23.39	4.6	8
CR1	20211224	Cloudy	Moderate	Mid-Flood	Middle	6.45	09:12	9.05	8.36	32.8	23.48	3.99	8
CR1	20211224	Cloudy	Moderate	Mid-Flood	Middle	6.45	09:12	9.06	8.29	32.74	23.48	4.3	7
CR1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	11.9	09:11	9.05	8.25	32.69	23.38	4.28	7
CR1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	11.9	09:11	8.98	8.3	32.87	23.42	4.27	6
CR2	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:26	8.27	8.37	32.86	22.74	4.75	7
CR2	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:26	8.26	8.36	32.86	22.66	4.21	12
CR2	20211224	Cloudy	Moderate	Mid-Flood	Middle	5.55	09:25	8.29	8.28	32.92	22.69	4.49	9
CR2	20211224	Cloudy	Moderate	Mid-Flood	Middle	5.55	09:25	8.27	8.41	32.95	22.68	4.48	9
CR2	20211224	Cloudy	Moderate	Mid-Flood	Bottom	10.1	09:24	8.28	8.41	32.95	22.78	4.47	10
CR2	20211224	Cloudy	Moderate	Mid-Flood	Bottom	10.1	09:24	8.17	8.36	32.94	22.76	5.12	14
F1A	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:54	8.63	8.38	31.82	22.98	3.59	6
F1A	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:54	8.61	8.29	31.87	23.13	3.92	6
F1A	20211224	Cloudy	Moderate	Mid-Flood	Middle	4.2	09:53	8.67	8.41	31.78	23.05	3.98	6
F1A	20211224	Cloudy	Moderate	Mid-Flood	Middle	4.2	09:53	8.52	8.38	31.88	23.13	3.61	8
F1A	20211224	Cloudy	Moderate	Mid-Flood	Bottom	7.4	09:52	8.6	8.31	31.67	23.06	4.21	7
F1A	20211224	Cloudy	Moderate	Mid-Flood	Bottom	7.4	09:52	8.64	8.31	31.87	22.97	4.04	9
H1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:57	8.39	8.46	32.12	22.52	4.69	4
H1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	10:57	8.35	8.47	32.28	22.45	4.99	4
H1	20211224	Cloudy	Moderate	Mid-Flood	Middle	4.3	10:56	8.29	8.36	32.2	22.38	4.17	6
H1	20211224	Cloudy	Moderate	Mid-Flood	Middle	4.3	10:56	8.45	8.47	32.2	22.39	4.66	8

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
H1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	7.6	10:55	8.36	8.44	32.04	22.39	4.52	3
H1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	7.6	10:55	8.43	8.46	32.23	22.42	4.97	5
M1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:30	7.95	8.3	32.69	23.22	3.56	8
M1	20211224	Cloudy	Moderate	Mid-Flood	Surface	1	09:30	7.93	8.18	32.77	23.19	3.32	7
M1	20211224	Cloudy	Moderate	Mid-Flood	Middle	4.2	09:29	7.86	8.23	32.79	23.23	4.09	7
M1	20211224	Cloudy	Moderate	Mid-Flood	Middle	4.2	09:29	7.92	8.32	32.93	23.34	3.8	9
M1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	7.4	09:28	7.83	8.24	32.87	23.31	3.89	7
M1	20211224	Cloudy	Moderate	Mid-Flood	Bottom	7.4	09:28	7.97	8.19	32.85	23.32	3.8	10
B1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:32	8.36	8.43	33.2	23.18	3.02	5
B1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:32	8.49	8.49	33.29	23.07	2.69	8
B1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:31	8.36	8.31	33.23	23.12	2.99	32
B1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:31	8.55	8.43	33.2	23.15	3.08	29
B2	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:47	8.74	8.26	32.84	22.98	3.43	18
B2	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:47	8.69	8.43	32.98	23.07	3.9	12
B2	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	4.7	14:46	8.53	8.34	32.88	22.96	4.21	15
B2	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	4.7	14:46	8.6	8.4	32.94	22.96	4.4	15
B3	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:21	9.05	8.26	32.86	23.19	2.81	13
B3	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:21	9.02	8.36	32.9	23.2	3	19
B3	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:20	9	8.26	32.69	23.3	2.89	26
B3	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	4	14:20	8.98	8.41	32.73	23.2	3.41	26
B4	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:30	8.22	8.35	33.17	23.46	3.11	25
B4	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:30	8.33	8.44	33.13	23.49	3.04	24
B4	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:29	8.22	8.28	32.97	23.46	3.05	13
B4	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	14:29	8.17	8.42	33.11	23.54	3.07	17
C1A	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:12	8.43	8.46	33.49	22.89	6.51	9
C1A	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:12	8.22	8.38	33.63	22.82	6.01	6
C1A	20211224	Cloudy	Moderate	Mid-Ebb	Middle	5.4	14:11	8.33	8.33	33.52	22.9	6.29	7
C1A	20211224	Cloudy	Moderate	Mid-Ebb	Middle	5.4	14:11	8.25	8.43	33.44	22.97	6.11	7
C1A	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	14:10	8.4	8.49	33.58	22.87	5.54	11
C1A	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	9.8	14:10	8.36	8.47	33.59	22.94	5.74	10
C2A	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:12	8.76	8.48	32.35	22.54	4.86	12
C2A	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:12	8.65	8.44	32.36	22.57	4.83	10
C2A	20211224	Cloudy	Moderate	Mid-Ebb	Middle	6.25	14:11	8.58	8.35	32.37	22.53	3.68	5
C2A	20211224	Cloudy	Moderate	Mid-Ebb	Middle	6.25	14:11	8.58	8.3	32.15	22.69	3.99	6
C2A	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	11.5	14:10	8.75	8.44	32.25	22.62	3.97	7
C2A	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	11.5	14:10	8.65	8.44	32.31	22.68	3.51	9
CR1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:39	8.98	8.44	32.92	23.47	3	7
CR1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:39	8.97	8.33	33.08	23.51	3.03	5
CR1	20211224	Cloudy	Moderate	Mid-Ebb	Middle	6.9	15:38	9.12	8.34	33.08	23.63	2.96	18

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR1	20211224	Cloudy	Moderate	Mid-Ebb	Middle	6.9	15:38	9.16	8.37	32.9	23.55	3.08	14
CR1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	12.8	15:37	9.12	8.46	33.02	23.5	3.66	6
CR1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	12.8	15:37	9.05	8.48	32.95	23.61	3.53	6
CR2	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:28	8.01	8.45	32.02	23.12	4.34	9
CR2	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:28	7.95	8.38	31.83	23.16	4.24	7
CR2	20211224	Cloudy	Moderate	Mid-Ebb	Middle	5.95	15:27	7.93	8.31	32.01	23.16	4.11	6
CR2	20211224	Cloudy	Moderate	Mid-Ebb	Middle	5.95	15:27	7.97	8.38	31.78	23.25	3.89	8
CR2	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	10.9	15:26	8.12	8.42	31.84	23.26	3.72	6
CR2	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	10.9	15:26	8.05	8.42	32.01	23.22	4.35	5
F1A	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:58	8.45	8.31	33.26	23.34	3.1	6
F1A	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	14:58	8.58	8.31	33.26	23.4	3.57	8
F1A	20211224	Cloudy	Moderate	Mid-Ebb	Middle	4.5	14:57	8.53	8.36	33.11	23.42	3.66	7
F1A	20211224	Cloudy	Moderate	Mid-Ebb	Middle	4.5	14:57	8.43	8.33	33.07	23.33	3.84	6
F1A	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	8	14:56	8.6	8.38	33.18	23.36	3.97	5
F1A	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	8	14:56	8.56	8.25	33.23	23.32	4.2	4
H1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:15	8.83	8.22	33.36	23.09	2.84	12
H1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:15	9.03	8.46	33.27	22.99	2.94	16
H1	20211224	Cloudy	Moderate	Mid-Ebb	Middle	4.25	15:14	8.97	8.47	33.26	23	2.91	14
H1	20211224	Cloudy	Moderate	Mid-Ebb	Middle	4.25	15:14	9.01	8.38	33.36	23.04	2.82	17
H1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	15:13	8.94	8.4	33.34	23.09	3.43	27
H1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	15:13	8.77	8.32	33.4	22.92	2.9	23
M1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:22	8.88	8.42	32.42	22.81	3.18	14
M1	20211224	Cloudy	Moderate	Mid-Ebb	Surface	1	15:22	8.9	8.34	32.51	22.74	3.01	9
M1	20211224	Cloudy	Moderate	Mid-Ebb	Middle	4.75	15:21	8.8	8.33	32.43	22.74	3.26	5
M1	20211224	Cloudy	Moderate	Mid-Ebb	Middle	4.75	15:21	8.73	8.34	32.55	22.85	3.82	4
M1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	8.5	15:20	8.98	8.45	32.42	22.77	4.36	7
M1	20211224	Cloudy	Moderate	Mid-Ebb	Bottom	8.5	15:20	8.73	8.31	32.54	22.8	4.1	6
B1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	12:44	9.03	8.53	32.6	22.69	4.31	9
B1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	12:44	9.03	8.56	32.52	22.58	4.19	10
B1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.5	12:43	8.97	8.56	32.5	22.72	3.7	7
B1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.5	12:43	9.08	8.5	32.51	22.59	3.56	10
B2	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:01	8.09	8.42	32.03	22.81	3.71	7
B2	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:01	8.06	8.45	31.94	22.92	4.16	7
B2	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.1	13:00	8.02	8.39	31.93	22.82	3.56	8
B2	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.1	13:00	8.19	8.37	32.07	22.91	4.19	6
B3	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:02	8.43	8.38	31.97	22.76	3.8	11
B3	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:02	8.43	8.38	31.96	22.81	4.19	14
B3	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.3	13:01	8.39	8.35	31.88	22.73	3.61	9
B3	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.3	13:01	8.44	8.4	31.86	22.82	3.85	14

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B4	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:11	8.67	8.27	32.03	22.59	4.03	13
B4	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:11	8.63	8.28	32.05	22.53	3.53	11
B4	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.1	13:10	8.76	8.29	32.01	22.54	4.42	10
B4	20211227	Cloudy	Moderate	Mid-Flood	Bottom	4.1	13:10	8.73	8.29	32.02	22.57	4.38	14
C1A	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	12:16	8.07	8.37	33.13	22.83	5.09	10
C1A	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	12:16	8.18	8.41	33.13	22.81	5.4	12
C1A	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.95	12:15	7.98	8.37	33	22.68	4.85	9
C1A	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.95	12:15	8.07	8.38	32.95	22.7	5.27	10
C1A	20211227	Cloudy	Moderate	Mid-Flood	Bottom	8.9	12:14	7.99	8.41	33.12	22.8	4.26	9
C1A	20211227	Cloudy	Moderate	Mid-Flood	Bottom	8.9	12:14	7.95	8.39	32.95	22.79	4.96	11
C2A	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:22	8.21	8.36	32.28	22.43	8.12	10
C2A	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:22	8.31	8.32	32.35	22.53	7.09	9
C2A	20211227	Cloudy	Moderate	Mid-Flood	Middle	5.95	11:21	8.14	8.36	32.23	22.45	8.06	9
C2A	20211227	Cloudy	Moderate	Mid-Flood	Middle	5.95	11:21	8.18	8.37	32.26	22.52	7.59	8
C2A	20211227	Cloudy	Moderate	Mid-Flood	Bottom	10.9	11:20	8.13	8.33	32.34	22.49	6.91	7
C2A	20211227	Cloudy	Moderate	Mid-Flood	Bottom	10.9	11:20	8.32	8.31	32.25	22.47	7	9
CR1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:43	8.59	8.35	32.5	22.76	4.14	9
CR1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:43	8.82	8.38	32.42	22.61	4.29	9
CR1	20211227	Cloudy	Moderate	Mid-Flood	Middle	6.5	11:42	8.62	8.38	32.51	22.6	3.87	8
CR1	20211227	Cloudy	Moderate	Mid-Flood	Middle	6.5	11:42	8.71	8.43	32.57	22.69	3.89	9
CR1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	12	11:41	8.61	8.4	32.48	22.75	4.12	10
CR1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	12	11:41	8.62	8.37	32.45	22.65	4.07	11
CR2	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:57	9.03	8.36	32.14	22.74	3.95	7
CR2	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:57	9.16	8.41	32.14	22.76	4.05	8
CR2	20211227	Cloudy	Moderate	Mid-Flood	Middle	5.5	11:56	9.25	8.39	32.13	22.82	3.93	6
CR2	20211227	Cloudy	Moderate	Mid-Flood	Middle	5.5	11:56	9.11	8.34	32.12	22.77	3.93	9
CR2	20211227	Cloudy	Moderate	Mid-Flood	Bottom	10	11:55	9.04	8.38	31.99	22.84	3.98	5
CR2	20211227	Cloudy	Moderate	Mid-Flood	Bottom	10	11:55	9.16	8.37	32.11	22.74	3.68	7
F1A	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	12:24	7.92	8.44	33.24	22.62	3.37	9
F1A	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	12:24	7.73	8.42	33.16	22.66	3.98	9
F1A	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.15	12:23	7.88	8.49	33.26	22.5	3.9	9
F1A	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.15	12:23	7.95	8.48	33.25	22.58	3.26	10
F1A	20211227	Cloudy	Moderate	Mid-Flood	Bottom	7.3	12:22	7.94	8.43	33.21	22.55	3.71	8
F1A	20211227	Cloudy	Moderate	Mid-Flood	Bottom	7.3	12:22	7.82	8.47	33.23	22.66	3.16	12
H1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:29	9.04	8.46	32.4	22.74	3.18	13
H1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	13:29	8.91	8.48	32.49	22.59	3.18	10
H1	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.15	13:28	9.11	8.51	32.39	22.64	3.92	10
H1	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.15	13:28	9.04	8.5	32.28	22.59	3.41	13
H1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	7.3	13:27	8.98	8.47	32.4	22.71	3.91	10

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
H1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	7.3	13:27	9.11	8.49	32.28	22.62	3.5	10
M1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:57	8.7	8.55	32.89	22.58	3.41	7
M1	20211227	Cloudy	Moderate	Mid-Flood	Surface	1	11:57	8.65	8.53	32.83	22.52	3.6	8
M1	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.15	11:56	8.82	8.51	32.81	22.5	4.08	11
M1	20211227	Cloudy	Moderate	Mid-Flood	Middle	4.15	11:56	8.76	8.52	32.74	22.51	3.6	12
M1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	7.3	11:55	8.72	8.52	32.83	22.62	4.33	9
M1	20211227	Cloudy	Moderate	Mid-Flood	Bottom	7.3	11:55	8.67	8.48	32.92	22.52	3.8	8
B1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:26	8.17	8.33	32.93	22.42	2.23	9
B1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:26	8.27	8.35	32.99	22.49	2.57	11
B1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	17:25	8.22	8.39	32.95	22.52	3.1	8
B1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	17:25	8.21	8.36	32.95	22.44	3.71	11
B2	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:42	8.81	8.36	32.37	22.43	3.7	11
B2	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:42	8.74	8.41	32.25	22.52	3.68	9
B2	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	17:41	8.73	8.34	32.4	22.41	3.91	10
B2	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	4.2	17:41	8.78	8.41	32.26	22.44	3.85	7
B3	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:11	8.11	8.35	32.72	22.44	2.94	8
B3	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:11	8.14	8.36	32.69	22.43	2.99	9
B3	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	17:10	8.11	8.38	32.74	22.42	3.52	8
B3	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	17:10	8.21	8.41	32.73	22.51	3.23	9
B4	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:19	8.78	8.4	32.54	22.44	3.55	10
B4	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:19	8.7	8.38	32.58	22.43	3.72	9
B4	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	17:18	8.83	8.36	32.5	22.46	3.88	7
B4	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	3.9	17:18	8.7	8.36	32.47	22.46	4.04	10
C1A	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	16:59	8.02	8.43	32.01	22.45	5.45	9
C1A	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	16:59	8.09	8.45	31.98	22.52	4.93	8
C1A	20211227	Cloudy	Moderate	Mid-Ebb	Middle	5.5	16:58	7.92	8.44	31.97	22.49	5.75	8
C1A	20211227	Cloudy	Moderate	Mid-Ebb	Middle	5.5	16:58	8.05	8.46	31.93	22.42	5.4	10
C1A	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	10	16:57	8.05	8.47	31.97	22.52	5.97	9
C1A	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	10	16:57	8	8.49	31.92	22.48	5.79	9
C2A	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:00	8.92	8.27	33.01	22.43	4.76	6
C2A	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:00	8.89	8.24	33.08	22.49	4.81	8
C2A	20211227	Cloudy	Moderate	Mid-Ebb	Middle	5.95	16:59	8.96	8.26	33.05	22.46	4.5	9
C2A	20211227	Cloudy	Moderate	Mid-Ebb	Middle	5.95	16:59	8.99	8.23	32.96	22.5	4.3	9
C2A	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	10.9	16:58	8.88	8.23	32.94	22.49	4.83	8
C2A	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	10.9	16:58	8.96	8.29	32.97	22.44	4.66	11
CR1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:31	8.58	8.43	33.11	22.41	3.67	14
CR1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:31	8.52	8.44	33.02	22.47	3.07	11
CR1	20211227	Cloudy	Moderate	Mid-Ebb	Middle	6.5	18:30	8.56	8.46	33.11	22.41	3.79	8
CR1	20211227	Cloudy	Moderate	Mid-Ebb	Middle	6.5	18:30	8.66	8.49	33.05	22.47	3.45	11

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	12	18:29	8.67	8.44	32.94	22.48	3.68	12
CR1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	12	18:29	8.66	8.48	33.04	22.5	3.35	13
CR2	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:21	8.81	8.45	32.47	22.51	3.94	10
CR2	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:21	8.77	8.48	32.51	22.51	3.43	12
CR2	20211227	Cloudy	Moderate	Mid-Ebb	Middle	6.1	18:20	8.87	8.41	32.47	22.51	3.37	8
CR2	20211227	Cloudy	Moderate	Mid-Ebb	Middle	6.1	18:20	8.78	8.41	32.53	22.51	3.66	8
CR2	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	18:19	8.91	8.47	32.51	22.47	3.06	10
CR2	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	11.2	18:19	8.8	8.41	32.53	22.51	3.29	9
F1A	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:45	7.87	8.45	33.37	22.48	3.09	11
F1A	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	17:45	7.9	8.44	33.36	22.46	3.23	10
F1A	20211227	Cloudy	Moderate	Mid-Ebb	Middle	4.3	17:44	7.86	8.46	33.46	22.47	3.35	15
F1A	20211227	Cloudy	Moderate	Mid-Ebb	Middle	4.3	17:44	8	8.43	33.31	22.41	3.94	15
F1A	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	17:43	8.05	8.42	33.37	22.51	3.29	14
F1A	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	17:43	7.93	8.43	33.41	22.48	3.45	11
H1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:08	8.25	8.32	32.44	22.46	2.9	7
H1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:08	8.11	8.33	32.33	22.43	2.8	8
H1	20211227	Cloudy	Moderate	Mid-Ebb	Middle	4.25	18:07	8.19	8.35	32.32	22.52	3.81	9
H1	20211227	Cloudy	Moderate	Mid-Ebb	Middle	4.25	18:07	8.1	8.32	32.39	22.41	3.76	9
H1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	18:06	8.08	8.33	32.32	22.41	3.95	7
H1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	7.5	18:06	8.21	8.31	32.45	22.5	3.39	9
M1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:09	8.9	8.49	32.1	22.52	3.23	9
M1	20211227	Cloudy	Moderate	Mid-Ebb	Surface	1	18:09	8.95	8.42	32.21	22.41	3.31	7
M1	20211227	Cloudy	Moderate	Mid-Ebb	Middle	4.85	18:08	9	8.47	32.12	22.51	2.94	9
M1	20211227	Cloudy	Moderate	Mid-Ebb	Middle	4.85	18:08	9.08	8.44	32.22	22.47	2.72	10
M1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	8.7	18:07	8.97	8.48	32.17	22.46	3.4	7
M1	20211227	Cloudy	Moderate	Mid-Ebb	Bottom	8.7	18:07	9.04	8.49	32.24	22.51	3.1	12
B1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:46	8.09	8.38	33.35	21.69	4.04	12
B1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:46	8.13	8.28	33.34	21.59	3.79	12
B1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	10:45	8.1	8.32	33.41	21.68	4.88	9
B1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	10:45	8.03	8.35	33.36	21.58	4.73	11
B2	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	11:00	8.38	8.41	33	21.96	3.27	11
B2	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	11:00	8.33	8.51	33.04	21.85	3.4	9
B2	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	4	10:59	8.33	8.38	33.1	21.88	3.81	10
B2	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	4	10:59	8.33	8.45	33.12	21.93	4.26	12
B3	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:27	8.58	8.3	32.75	21.53	3.83	9
B3	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:27	8.62	8.25	32.64	21.62	4.23	10
B3	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	10:26	8.69	8.27	32.7	21.57	4.83	8
B3	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	3.8	10:26	8.61	8.28	32.75	21.62	4.21	8
B4	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:37	9.01	8.44	32.3	21.87	4.03	8

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B4	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:37	9.06	8.42	32.29	21.86	3.48	8
B4	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	3.2	10:36	8.94	8.4	32.21	21.83	4.1	8
B4	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	3.2	10:36	8.92	8.45	32.37	21.91	4.05	9
C1A	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:20	9.1	8.51	32.71	21.7	5.22	18
C1A	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:20	9.13	8.51	32.7	21.81	4.96	18
C1A	20211229	Cloudy	Moderate	Mid-Ebb	Middle	5.15	09:19	9.05	8.47	32.71	21.75	6.02	18
C1A	20211229	Cloudy	Moderate	Mid-Ebb	Middle	5.15	09:19	9.03	8.49	32.66	21.73	5.92	18
C1A	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	9.3	09:18	9.05	8.51	32.53	21.71	5.75	32
C1A	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	9.3	09:18	9.09	8.43	32.74	21.71	5.95	32
C2A	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:15	7.84	8.27	32.59	21.5	4.84	25
C2A	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:15	7.92	8.37	32.74	21.49	4.99	25
C2A	20211229	Cloudy	Moderate	Mid-Ebb	Middle	5.75	10:14	7.77	8.31	32.79	21.55	4.97	33
C2A	20211229	Cloudy	Moderate	Mid-Ebb	Middle	5.75	10:14	7.87	8.33	32.59	21.59	4.92	31
C2A	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	10.5	10:13	7.83	8.3	32.68	21.6	5.64	24
C2A	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	10.5	10:13	7.81	8.32	32.67	21.54	5.4	24
CR1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:44	8.61	8.44	32.38	21.88	4.46	10
CR1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:44	8.66	8.44	32.34	21.86	4.84	10
CR1	20211229	Cloudy	Moderate	Mid-Ebb	Middle	6.9	09:43	8.59	8.52	32.44	21.8	5.08	9
CR1	20211229	Cloudy	Moderate	Mid-Ebb	Middle	6.9	09:43	8.65	8.5	32.3	21.89	4.68	9
CR1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	12.8	09:42	8.62	8.53	32.28	21.8	4.92	11
CR1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	12.8	09:42	8.73	8.46	32.45	21.83	4.57	11
CR2	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:57	8.43	8.4	32.07	21.57	3.23	12
CR2	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:57	8.48	8.42	32.07	21.6	3.15	12
CR2	20211229	Cloudy	Moderate	Mid-Ebb	Middle	5.6	09:56	8.51	8.33	32.18	21.64	3.7	8
CR2	20211229	Cloudy	Moderate	Mid-Ebb	Middle	5.6	09:56	8.51	8.36	32.2	21.57	3.62	10
CR2	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	10.2	09:55	8.39	8.4	32.78	21.55	4.61	12
CR2	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	10.2	09:55	8.53	8.33	32.08	21.64	3.91	10
F1A	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:48	9.03	8.44	32.32	21.67	3.52	34
F1A	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:48	9.03	8.37	32.17	21.75	2.95	34
F1A	20211229	Cloudy	Moderate	Mid-Ebb	Middle	3.95	09:47	9.07	8.37	32.26	21.71	3.38	20
F1A	20211229	Cloudy	Moderate	Mid-Ebb	Middle	3.95	09:47	9.03	8.46	32.35	21.79	3.23	20
F1A	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	09:46	9.04	8.44	32.34	21.64	3.81	33
F1A	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	6.9	09:46	9.1	8.41	32.19	21.65	3.41	32
H1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:12	7.89	8.5	32.05	21.87	4.72	9
H1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	10:12	7.91	8.55	32.07	21.97	4.87	11
H1	20211229	Cloudy	Moderate	Mid-Ebb	Middle	4.3	10:11	8.02	8.53	32.01	21.91	4.08	10
H1	20211229	Cloudy	Moderate	Mid-Ebb	Middle	4.3	10:11	8.01	8.53	32.14	21.97	4.88	8
H1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	10:10	7.98	8.44	32.05	21.95	4.65	8
H1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	7.6	10:10	7.95	8.53	32.04	21.82	5.26	7

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
M1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:23	8.39	8.3	32.46	21.52	4.95	10
M1	20211229	Cloudy	Moderate	Mid-Ebb	Surface	1	09:23	8.34	8.29	32.53	21.48	4.79	10
M1	20211229	Cloudy	Moderate	Mid-Ebb	Middle	4.65	09:22	8.44	8.26	32.51	21.43	5.39	8
M1	20211229	Cloudy	Moderate	Mid-Ebb	Middle	4.65	09:22	8.35	8.37	32.58	21.53	5.1	8
M1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	8.3	09:21	8.4	8.29	32.49	21.44	4.22	22
M1	20211229	Cloudy	Moderate	Mid-Ebb	Bottom	8.3	09:21	8.41	8.33	32.54	21.43	4.5	22
B1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:11	8.34	8.18	32.57	21.99	4.48	8
B1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:11	8.31	8.2	32.58	21.88	4.4	9
B1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	4.1	13:10	8.35	8.15	32.62	21.93	4.72	10
B1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	4.1	13:10	8.25	8.24	32.6	21.97	5.2	10
B2	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:28	8.82	8.3	32.39	21.79	3.73	10
B2	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:28	8.84	8.37	32.39	21.84	3.24	10
B2	20211229	Cloudy	Moderate	Mid-Flood	Bottom	4	13:27	8.87	8.31	32.57	21.91	3.82	11
B2	20211229	Cloudy	Moderate	Mid-Flood	Bottom	4	13:27	8.81	8.34	32.57	21.81	3.58	11
B3	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	12:56	8.31	8.31	33.07	21.77	4.11	10
B3	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	12:56	8.16	8.29	32.88	21.73	4.55	10
B3	20211229	Cloudy	Moderate	Mid-Flood	Bottom	3.7	12:55	8.29	8.32	32.9	21.83	4.03	15
B3	20211229	Cloudy	Moderate	Mid-Flood	Bottom	3.7	12:55	8.31	8.34	32.96	21.77	3.92	15
B4	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:05	8.12	8.32	32.38	21.86	5.1	10
B4	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:05	8.08	8.31	32.46	21.81	4.82	10
B4	20211229	Cloudy	Moderate	Mid-Flood	Bottom	4.5	13:04	8.21	8.32	32.38	21.81	4.46	11
B4	20211229	Cloudy	Moderate	Mid-Flood	Bottom	4.5	13:04	8.24	8.32	32.35	21.86	4.99	11
C1A	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	12:43	8.04	8.33	32.94	21.68	5.15	12
C1A	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	12:43	7.96	8.31	32.95	21.75	4.75	12
C1A	20211229	Cloudy	Moderate	Mid-Flood	Middle	5.2	12:42	8.04	8.26	32.93	21.73	4.66	12
C1A	20211229	Cloudy	Moderate	Mid-Flood	Middle	5.2	12:42	8.04	8.27	33.03	21.75	4.91	11
C1A	20211229	Cloudy	Moderate	Mid-Flood	Bottom	9.4	12:41	7.96	8.35	32.97	21.69	5.99	20
C1A	20211229	Cloudy	Moderate	Mid-Flood	Bottom	9.4	12:41	8.01	8.31	32.94	21.76	5.67	20
C2A	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	12:43	8.38	8.29	32.41	21.66	7.28	20
C2A	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	12:43	8.45	8.31	32.42	21.57	6.91	21
C2A	20211229	Cloudy	Moderate	Mid-Flood	Middle	5.65	12:42	8.41	8.25	32.35	21.63	6.19	11
C2A	20211229	Cloudy	Moderate	Mid-Flood	Middle	5.65	12:42	8.38	8.25	32.42	21.71	6.67	11
C2A	20211229	Cloudy	Moderate	Mid-Flood	Bottom	10.3	12:41	8.39	8.23	32.37	21.73	6.39	20
C2A	20211229	Cloudy	Moderate	Mid-Flood	Bottom	10.3	12:41	8.35	8.31	32.37	21.73	6.05	20
CR1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	14:25	8.7	8.36	32.45	22.12	4.29	12
CR1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	14:25	8.72	8.38	32.46	22.19	4.48	12
CR1	20211229	Cloudy	Moderate	Mid-Flood	Middle	6.15	14:24	8.68	8.4	32.41	22.24	4.4	13
CR1	20211229	Cloudy	Moderate	Mid-Flood	Middle	6.15	14:24	8.66	8.4	32.49	22.18	4.13	13
CR1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	11.3	14:23	8.66	8.4	32.48	22.22	4.18	9

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	11.3	14:23	8.82	8.34	32.36	22.12	3.68	9
CR2	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	14:11	8.14	8.23	32.44	21.88	3.35	15
CR2	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	14:11	8.14	8.21	32.54	21.76	3.94	15
CR2	20211229	Cloudy	Moderate	Mid-Flood	Middle	5.65	14:10	8.24	8.19	32.47	21.87	3.69	10
CR2	20211229	Cloudy	Moderate	Mid-Flood	Middle	5.65	14:10	8.16	8.17	32.57	21.82	4.39	10
CR2	20211229	Cloudy	Moderate	Mid-Flood	Bottom	10.3	14:09	8.16	8.23	32.45	21.81	4.03	9
CR2	20211229	Cloudy	Moderate	Mid-Flood	Bottom	10.3	14:09	8.25	8.21	32.61	21.89	3.38	8
F1A	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:35	7.88	8.3	32.47	21.65	3.88	14
F1A	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:35	7.92	8.39	32.49	21.69	4.25	14
F1A	20211229	Cloudy	Moderate	Mid-Flood	Middle	3.8	13:34	7.93	8.32	32.43	21.59	4.24	7
F1A	20211229	Cloudy	Moderate	Mid-Flood	Middle	3.8	13:34	7.96	8.27	32.57	21.59	4.18	9
F1A	20211229	Cloudy	Moderate	Mid-Flood	Bottom	6.6	13:33	7.96	8.38	32.48	21.67	3.84	7
F1A	20211229	Cloudy	Moderate	Mid-Flood	Bottom	6.6	13:33	7.88	8.34	32.37	21.62	4.58	9
H1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:57	8.46	8.37	32.39	22.15	3.65	8
H1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	13:57	8.41	8.37	32.29	22.13	3.3	8
H1	20211229	Cloudy	Moderate	Mid-Flood	Middle	3.85	13:56	8.4	8.31	32.46	22.08	4.51	8
H1	20211229	Cloudy	Moderate	Mid-Flood	Middle	3.85	13:56	8.33	8.38	32.33	22.16	4.17	8
H1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	6.7	13:55	8.31	8.34	32.41	22.21	3.22	12
H1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	6.7	13:55	8.41	8.4	32.46	22.22	3.66	13
M1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	14:02	8.45	8.33	33.23	21.72	5.33	10
M1	20211229	Cloudy	Moderate	Mid-Flood	Surface	1	14:02	8.43	8.35	33.15	21.77	5.12	10
M1	20211229	Cloudy	Moderate	Mid-Flood	Middle	3.9	14:01	8.41	8.34	33.13	21.74	5.33	14
M1	20211229	Cloudy	Moderate	Mid-Flood	Middle	3.9	14:01	8.44	8.34	33.21	21.72	4.72	14
M1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	6.8	14:00	8.32	8.39	33.15	21.8	5.28	9
M1	20211229	Cloudy	Moderate	Mid-Flood	Bottom	6.8	14:00	8.37	8.36	33.05	21.77	4.67	10
B1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:03	9.16	8.4	32.89	21.96	3.33	3
B1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:03	9.13	8.37	32.85	22.06	3.87	4
B1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	09:02	9.06	8.41	32.96	22.02	3.34	5
B1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	3.6	09:02	9.08	8.41	32.84	21.98	3.29	4
B2	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:19	8.83	8.43	32.06	22.06	2.98	6
B2	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:19	8.87	8.43	32.2	21.96	2.95	6
B2	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	4.5	09:18	8.85	8.4	32.13	21.97	4.4	11
B2	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	4.5	09:18	8.87	8.39	32.19	21.95	4.2	11
B3	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:28	8.58	8.38	32.05	22.04	3.14	17
B3	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:28	8.57	8.38	32.11	21.98	2.9	17
B3	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	10:27	8.56	8.39	32.02	22.01	3.69	5
B3	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	4.3	10:27	8.55	8.39	32.1	22.12	3.44	5
B4	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:19	8.31	8.33	32.14	22	3.16	12
B4	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:19	8.29	8.32	32.21	22.07	3.35	12

Integrated Waste Management Facilities, Phase 1

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
B4	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	4	10:18	8.24	8.3	32.28	22.16	3.03	4
B4	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	4	10:18	8.27	8.28	32.29	22	2.85	3
C1A	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	08:35	8.62	8.35	31.87	22.06	5.31	3
C1A	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	08:35	8.54	8.35	31.81	22.04	5.23	3
C1A	20211231	Cloudy	Moderate	Mid-Ebb	Middle	5.45	08:34	8.55	8.34	31.76	22.02	5.33	6
C1A	20211231	Cloudy	Moderate	Mid-Ebb	Middle	5.45	08:34	8.52	8.33	31.85	21.95	5.49	6
C1A	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	9.9	08:33	8.56	8.37	31.8	22.12	4.95	5
C1A	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	9.9	08:33	8.61	8.31	31.88	22.08	5.25	4
C2A	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:35	8.9	8.28	32.06	22.11	4.26	21
C2A	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:35	8.85	8.27	31.97	22.16	4.17	21
C2A	20211231	Cloudy	Moderate	Mid-Ebb	Middle	5.7	10:34	8.96	8.24	31.96	22.17	4.06	5
C2A	20211231	Cloudy	Moderate	Mid-Ebb	Middle	5.7	10:34	8.84	8.24	31.99	22.16	4.27	5
C2A	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	10:33	8.92	8.27	31.98	22.19	4.71	7
C2A	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	10:33	8.88	8.26	32.09	22.11	4.13	7
CR1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:14	8.57	8.34	32.04	22.12	3.82	8
CR1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:14	8.68	8.36	32.12	21.94	4.06	8
CR1	20211231	Cloudy	Moderate	Mid-Ebb	Middle	6.75	10:13	8.61	8.35	32.05	22.11	3.58	4
CR1	20211231	Cloudy	Moderate	Mid-Ebb	Middle	6.75	10:13	8.56	8.32	32.01	21.96	3.9	5
CR1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	12.5	10:12	8.64	8.38	32.07	22.09	4.18	6
CR1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	12.5	10:12	8.69	8.31	32.11	21.94	3.85	6
CR2	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:00	8.93	8.26	33.03	22	3.78	3
CR2	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	10:00	8.85	8.29	32.94	21.93	3.77	5
CR2	20211231	Cloudy	Moderate	Mid-Ebb	Middle	5.7	09:59	8.93	8.24	32.92	22.07	3.86	19
CR2	20211231	Cloudy	Moderate	Mid-Ebb	Middle	5.7	09:59	8.87	8.3	32.95	22.08	4.61	19
CR2	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	09:58	8.91	8.3	32.91	21.98	4.38	4
CR2	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	10.4	09:58	8.9	8.29	33.05	21.96	4.15	2
F1A	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:42	8.43	8.47	32.21	22.09	3.08	4
F1A	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:42	8.49	8.44	32.19	22.13	3.28	4
F1A	20211231	Cloudy	Moderate	Mid-Ebb	Middle	4.45	09:41	8.5	8.42	32.21	22.13	4.09	6
F1A	20211231	Cloudy	Moderate	Mid-Ebb	Middle	4.45	09:41	8.38	8.43	32.1	22.16	4.34	3
F1A	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	09:40	8.48	8.45	32.08	22.17	3.81	4
F1A	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	7.9	09:40	8.44	8.47	32.14	21.97	4.1	4
H1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:46	8.73	8.36	32.77	21.9	2.51	5
H1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:46	8.73	8.32	32.81	21.99	2.54	4
H1	20211231	Cloudy	Moderate	Mid-Ebb	Middle	4	09:45	8.77	8.32	32.86	21.99	2.88	7
H1	20211231	Cloudy	Moderate	Mid-Ebb	Middle	4	09:45	8.7	8.32	32.74	21.89	3.2	7
H1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	7	09:44	8.79	8.33	32.77	21.9	3.1	4
H1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	7	09:44	8.73	8.33	32.79	21.91	2.83	3
M1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:16	8.22	8.27	32.2	21.97	4.22	3

Integrated Waste Management Facilities, Phase 1

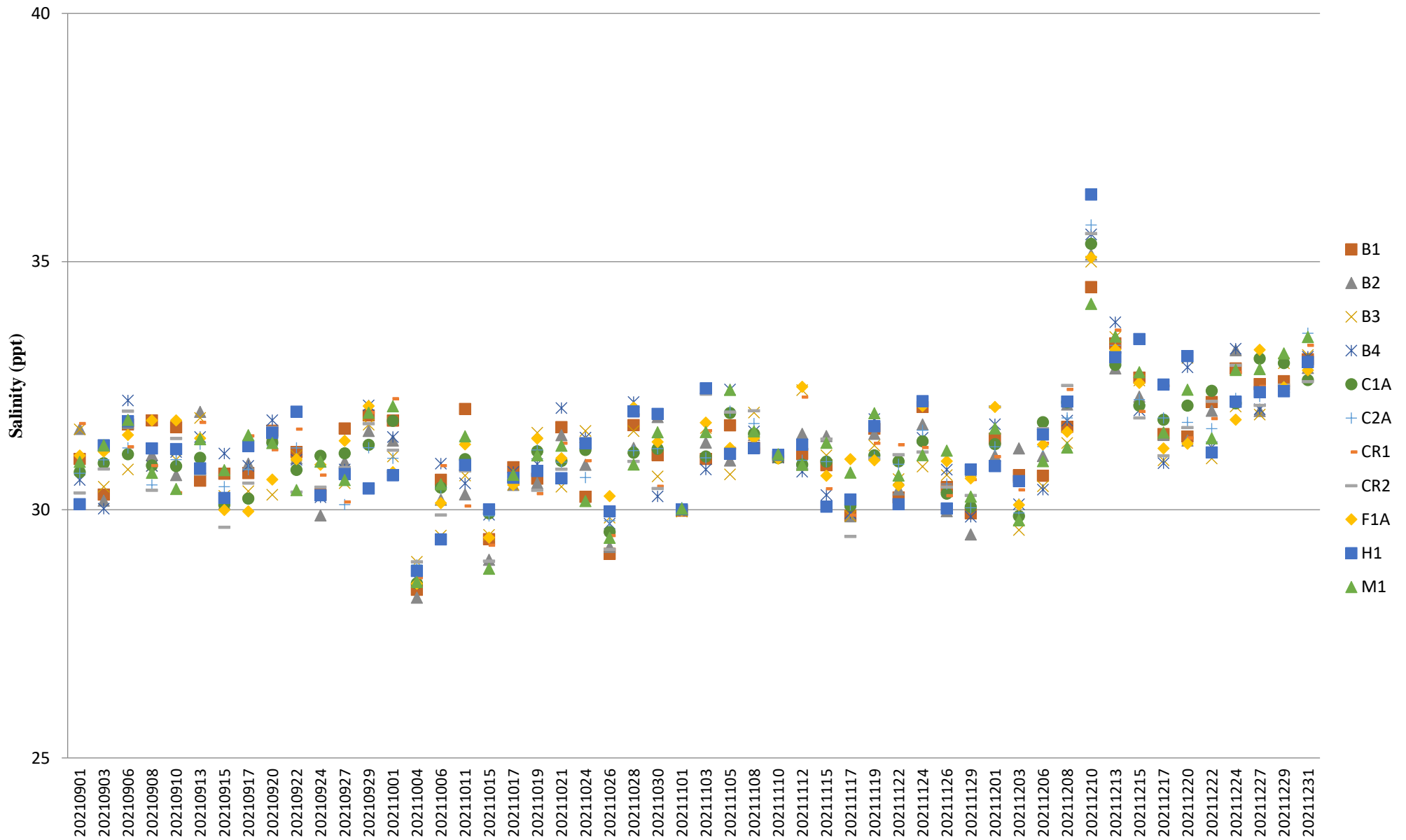
Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
M1	20211231	Cloudy	Moderate	Mid-Ebb	Surface	1	09:16	8.23	8.29	32.12	21.94	4.54	4
M1	20211231	Cloudy	Moderate	Mid-Ebb	Middle	4.65	09:15	8.25	8.28	32.17	21.99	4.46	7
M1	20211231	Cloudy	Moderate	Mid-Ebb	Middle	4.65	09:15	8.21	8.28	32.18	22.04	4.3	7
M1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	8.3	09:14	8.23	8.28	32.1	22	4.69	4
M1	20211231	Cloudy	Moderate	Mid-Ebb	Bottom	8.3	09:14	8.12	8.25	32.19	21.9	3.96	4
B1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:13	8.66	8.19	33.02	22.28	3.68	2
B1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:13	8.67	8.2	33.11	22.33	3.48	2
B1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	3.7	14:12	8.8	8.21	33.04	22.28	3.7	3
B1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	3.7	14:12	8.74	8.2	32.96	22.31	3.8	4
B2	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:24	8.93	8.27	32.84	22.39	3.24	3
B2	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:24	8.94	8.29	32.79	22.32	2.71	2
B2	20211231	Cloudy	Moderate	Mid-Flood	Bottom	3.4	14:23	8.88	8.27	32.9	22.32	2.66	3
B2	20211231	Cloudy	Moderate	Mid-Flood	Bottom	3.4	14:23	8.9	8.32	32.9	22.27	2.41	3
B3	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:18	8.82	8.35	33.16	22.34	3.05	3
B3	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:18	8.68	8.3	33.12	22.31	2.63	2
B3	20211231	Cloudy	Moderate	Mid-Flood	Bottom	3.5	14:17	8.72	8.31	33.14	22.3	3.17	2
B3	20211231	Cloudy	Moderate	Mid-Flood	Bottom	3.5	14:17	8.82	8.3	33.06	22.35	2.89	2
B4	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:27	8.08	8.24	33.05	22.32	2.88	2
B4	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:27	8.05	8.27	33.18	22.28	2.55	3
B4	20211231	Cloudy	Moderate	Mid-Flood	Bottom	4.6	14:26	7.96	8.25	33.05	22.36	2.99	3
B4	20211231	Cloudy	Moderate	Mid-Flood	Bottom	4.6	14:26	8.05	8.21	33.05	22.36	3.15	5
C1A	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	13:56	8.92	8.31	32.61	22.27	3.95	7
C1A	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	13:56	8.92	8.37	32.65	22.32	3.97	7
C1A	20211231	Cloudy	Moderate	Mid-Flood	Middle	5	13:55	8.88	8.39	32.62	22.26	4.13	3
C1A	20211231	Cloudy	Moderate	Mid-Flood	Middle	5	13:55	8.84	8.34	32.57	22.38	4.04	4
C1A	20211231	Cloudy	Moderate	Mid-Flood	Bottom	9	13:54	8.78	8.35	32.63	22.28	4.2	21
C1A	20211231	Cloudy	Moderate	Mid-Flood	Bottom	9	13:54	8.79	8.32	32.62	22.39	4.51	21
C2A	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	13:56	8.14	8.24	33.59	22.18	5.69	6
C2A	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	13:56	8.18	8.25	33.55	22.29	6.61	6
C2A	20211231	Cloudy	Moderate	Mid-Flood	Middle	5.85	13:55	8.23	8.2	33.56	22.27	4.99	15
C2A	20211231	Cloudy	Moderate	Mid-Flood	Middle	5.85	13:55	8.1	8.24	33.61	22.15	5.4	15
C2A	20211231	Cloudy	Moderate	Mid-Flood	Bottom	10.7	13:54	8.11	8.21	33.51	22.23	5.3	7
C2A	20211231	Cloudy	Moderate	Mid-Flood	Bottom	10.7	13:54	8.17	8.25	33.53	22.23	5.28	7
CR1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	15:03	8.4	8.19	33.37	22.23	3.76	4
CR1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	15:03	8.44	8.21	33.29	22.24	3.92	2
CR1	20211231	Cloudy	Moderate	Mid-Flood	Middle	6.3	15:02	8.34	8.23	33.33	22.3	3.23	3
CR1	20211231	Cloudy	Moderate	Mid-Flood	Middle	6.3	15:02	8.34	8.24	33.35	22.37	3.55	4
CR1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	11.6	15:01	8.39	8.27	33.27	22.3	3.83	4
CR1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	11.6	15:01	8.35	8.22	33.27	22.35	3.77	3

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m)	Time	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidity (NTU) Note 1	SS (mg/L)
CR2	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:54	8.23	8.24	32.55	22.26	3.55	28
CR2	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:54	8.2	8.23	32.64	22.28	3.41	28
CR2	20211231	Cloudy	Moderate	Mid-Flood	Middle	5.35	14:53	8.24	8.2	32.58	22.35	3.28	3
CR2	20211231	Cloudy	Moderate	Mid-Flood	Middle	5.35	14:53	8.24	8.24	32.61	22.32	3.6	4
CR2	20211231	Cloudy	Moderate	Mid-Flood	Bottom	9.7	14:52	8.19	8.23	32.51	22.27	3.27	5
CR2	20211231	Cloudy	Moderate	Mid-Flood	Bottom	9.7	14:52	8.21	8.22	32.6	22.35	3.56	5
F1A	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:59	8.69	8.35	32.78	22.23	2.71	6
F1A	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:59	8.73	8.31	32.8	22.24	2.83	4
F1A	20211231	Cloudy	Moderate	Mid-Flood	Middle	4	14:58	8.72	8.31	32.88	22.34	2.62	4
F1A	20211231	Cloudy	Moderate	Mid-Flood	Middle	4	14:58	8.67	8.33	32.76	22.36	2.74	4
F1A	20211231	Cloudy	Moderate	Mid-Flood	Bottom	7	14:57	8.74	8.3	32.84	22.28	3.21	7
F1A	20211231	Cloudy	Moderate	Mid-Flood	Bottom	7	14:57	8.63	8.32	32.82	22.32	2.95	4
H1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:10	8.36	8.29	32.99	22.29	3.46	4
H1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	14:10	8.34	8.26	32.92	22.36	3.85	4
H1	20211231	Cloudy	Moderate	Mid-Flood	Middle	4.05	14:09	8.34	8.25	33.02	22.41	3.33	3
H1	20211231	Cloudy	Moderate	Mid-Flood	Middle	4.05	14:09	8.4	8.3	33	22.43	3.14	4
H1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	7.1	14:08	8.41	8.3	33.04	22.33	3.93	2
H1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	7.1	14:08	8.35	8.27	32.92	22.29	3.63	4
M1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	15:27	8.6	8.34	33.51	22.39	3.29	3
M1	20211231	Cloudy	Moderate	Mid-Flood	Surface	1	15:27	8.54	8.35	33.49	22.45	3.67	3
M1	20211231	Cloudy	Moderate	Mid-Flood	Middle	3.7	15:26	8.51	8.3	33.49	22.45	4.17	3
M1	20211231	Cloudy	Moderate	Mid-Flood	Middle	3.7	15:26	8.54	8.36	33.4	22.47	3.52	4
M1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	6.4	15:25	8.49	8.29	33.48	22.37	3.64	5
M1	20211231	Cloudy	Moderate	Mid-Flood	Bottom	6.4	15:25	8.53	8.33	33.51	22.31	3.56	2

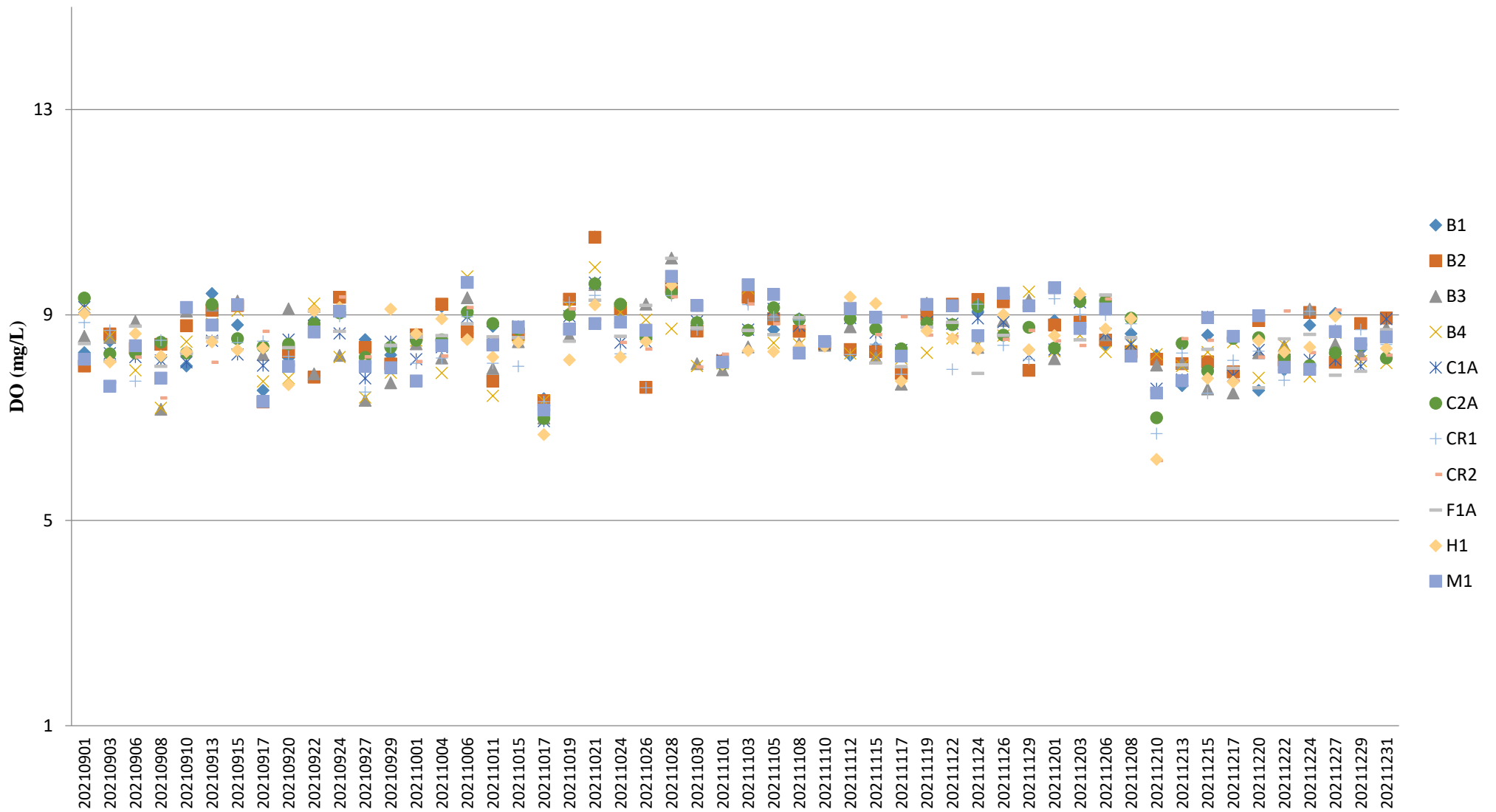
Remark:

Note 1: Measurements of turbidity would be rounding to 0.1 NTU for proven accuracy as per the equipment specs during utilization of data.

Salinity (Depth-averaged) during MID-FLOOD



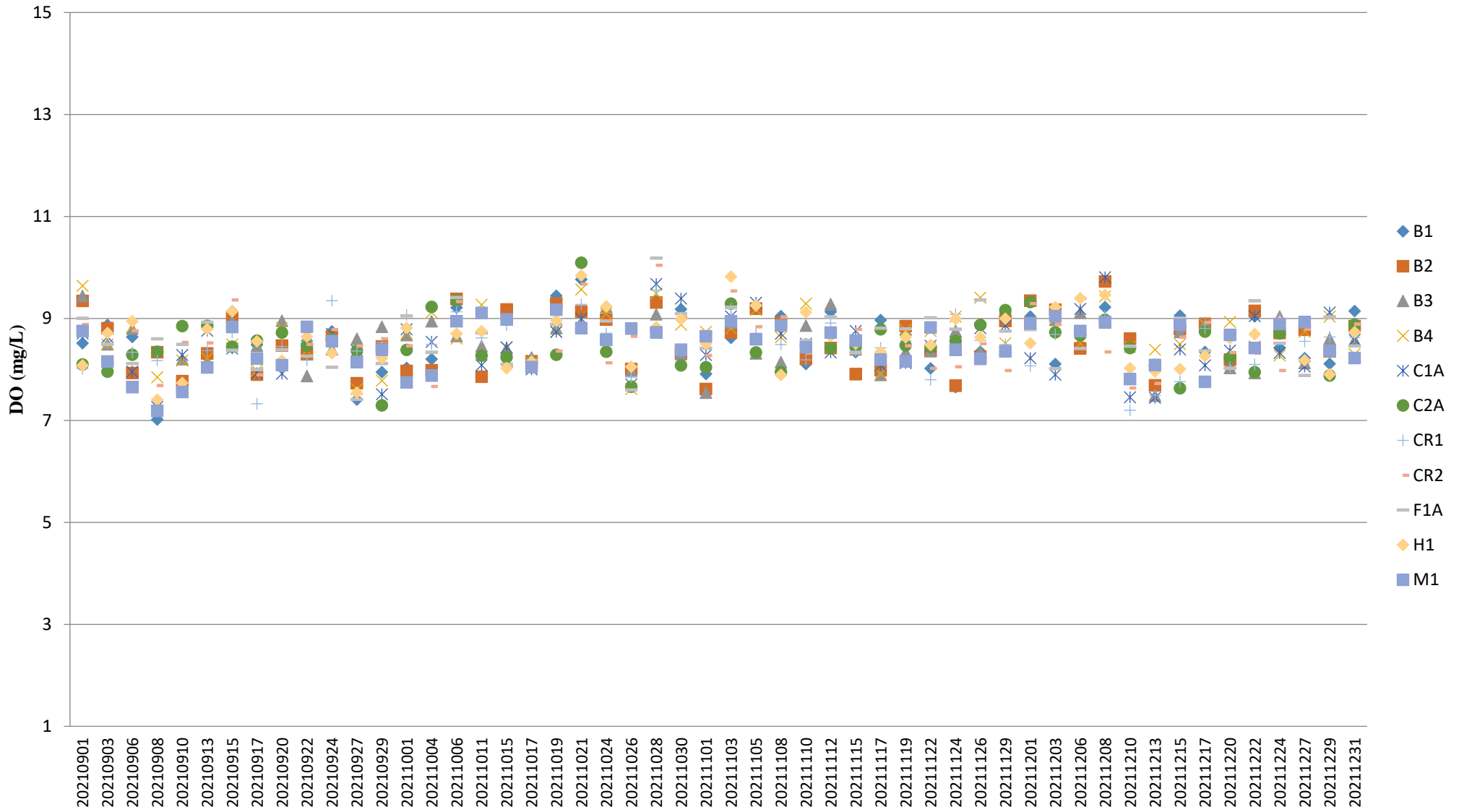
Dissolved Oxygen (Surface & Middle) during MID-FLOOD



Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.

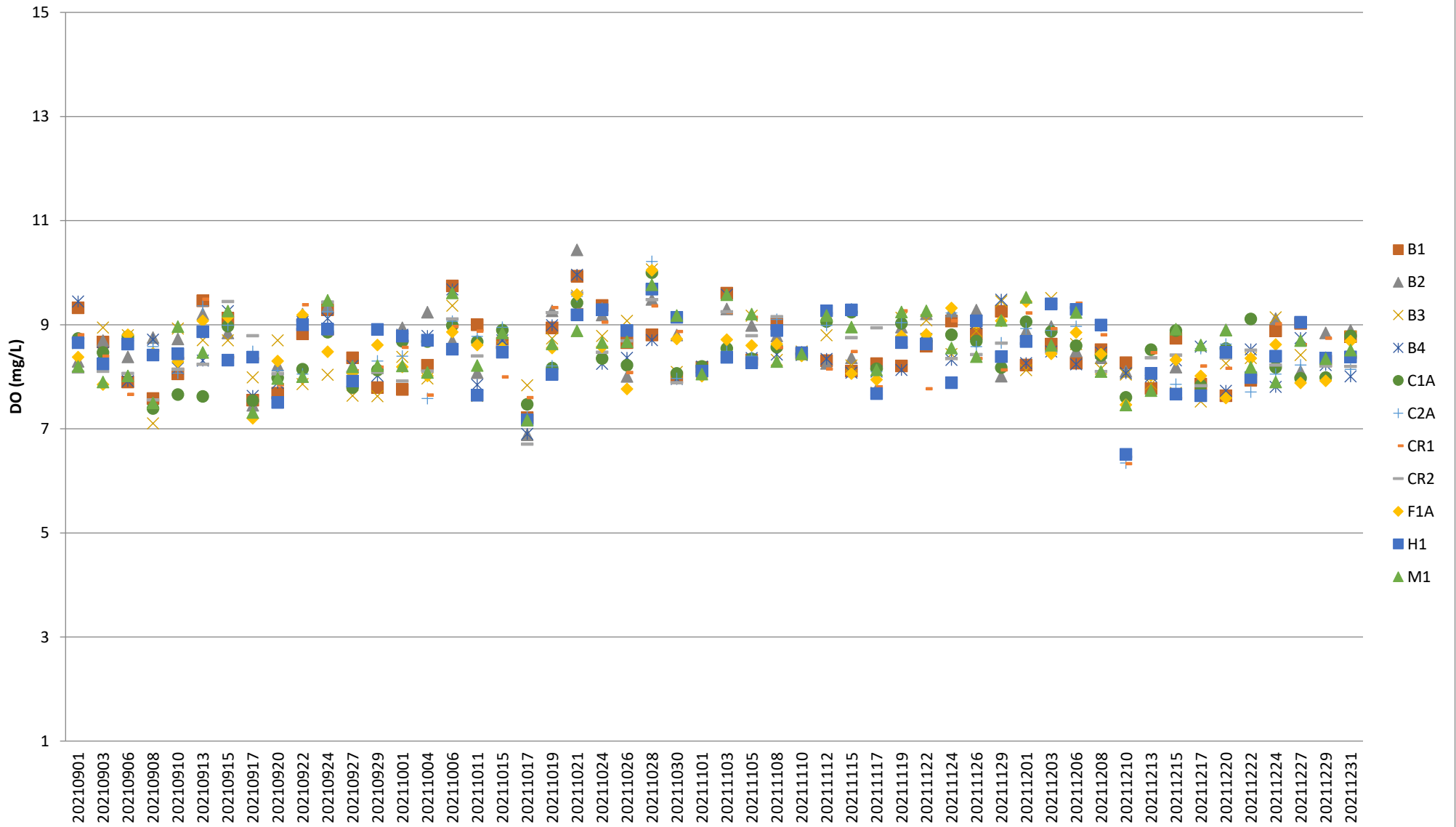
Dissolved Oxygen (Surface & Middle) during MID-EBB



Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.

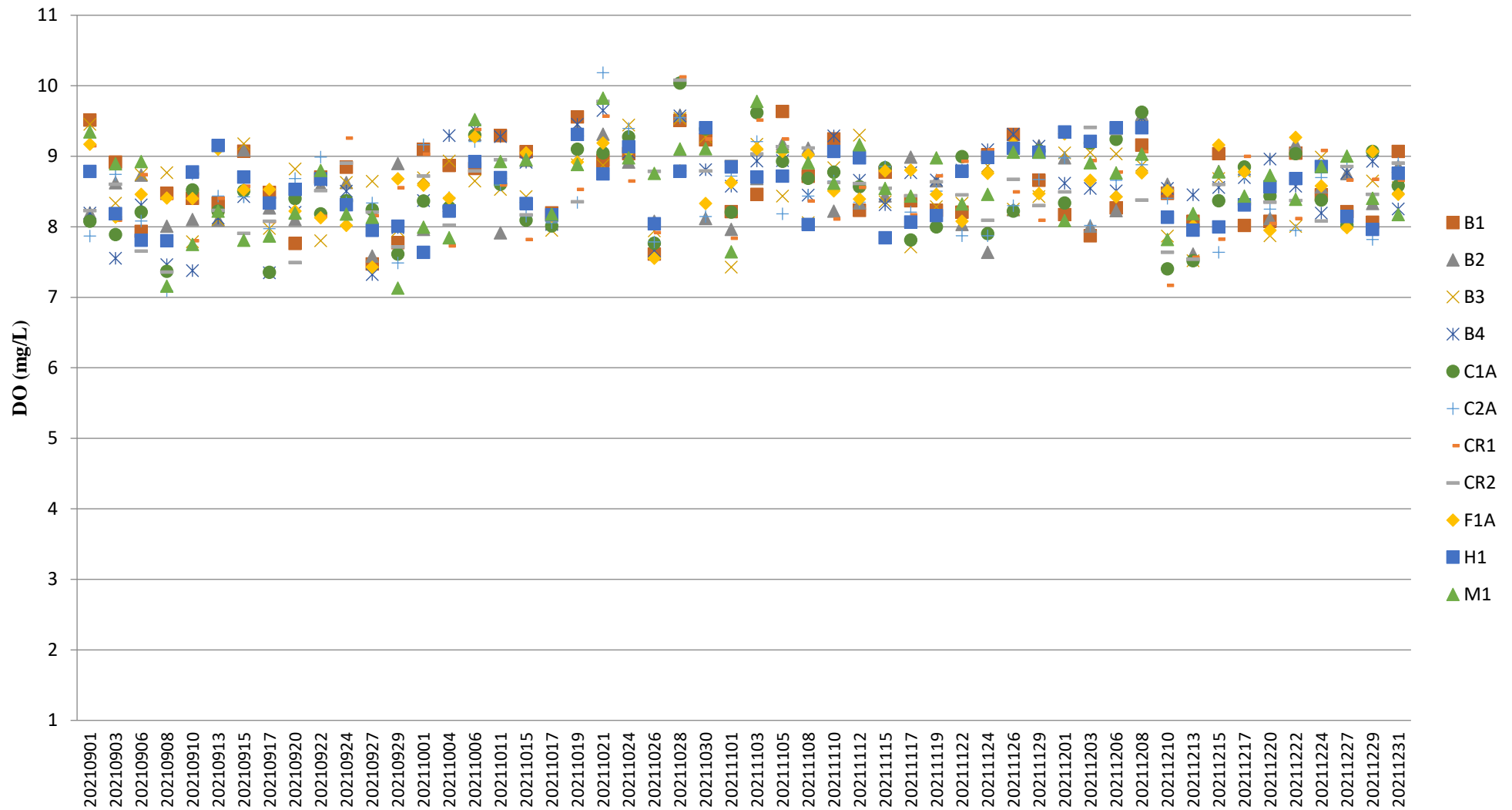
Dissolved Oxygen (Bottom) during MID-FLOOD



Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.

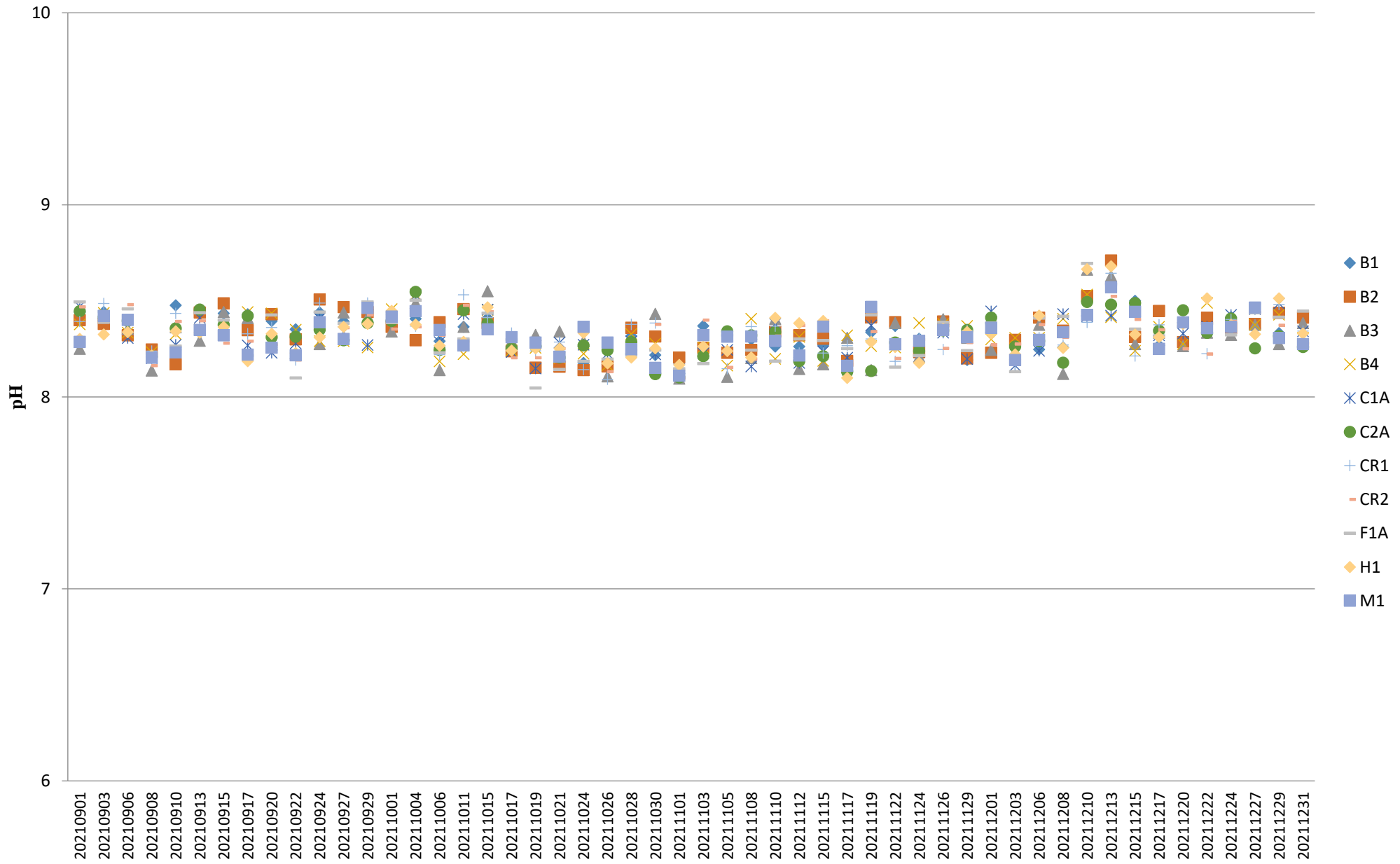
Dissolved Oxygen (Bottom) during MID-EBB



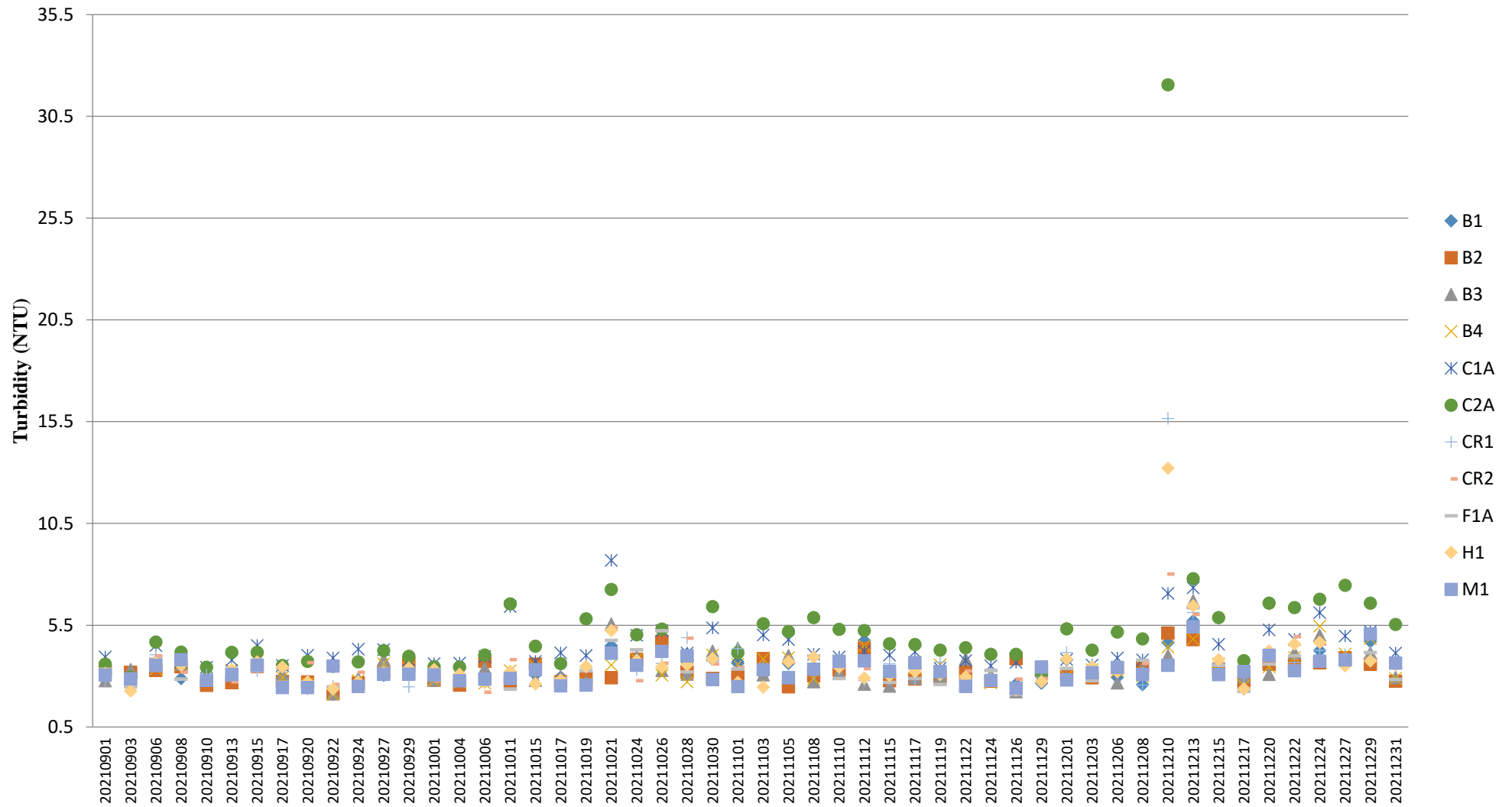
Note:

1. The Action and Limit Level of dissolved oxygen can be referred to **Table 2.8** of the monthly EM&A report.

pH (Depth-averaged) MID-EBB



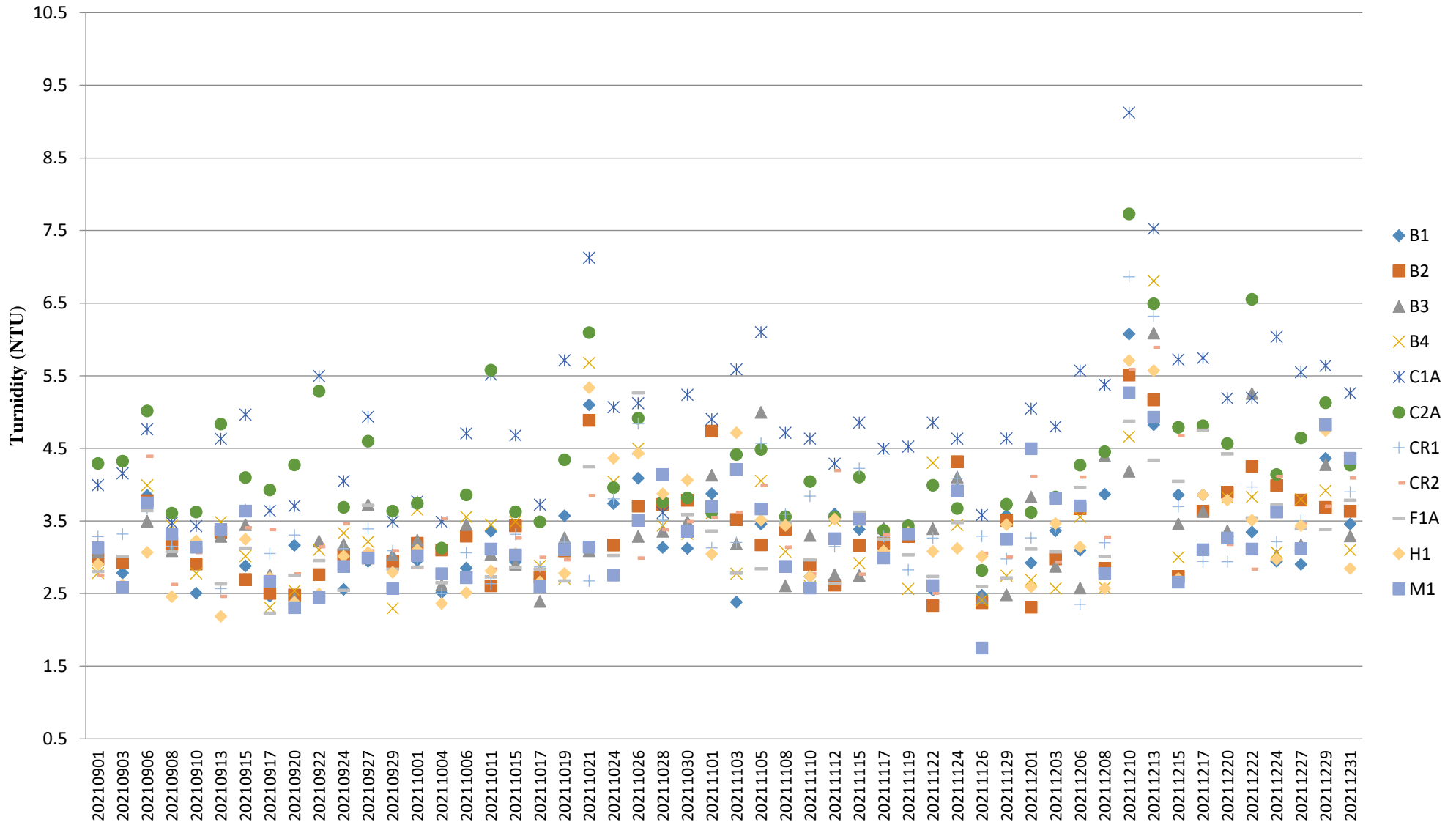
Turbidity (Depth-averaged) during MID-FLOOD



Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report.

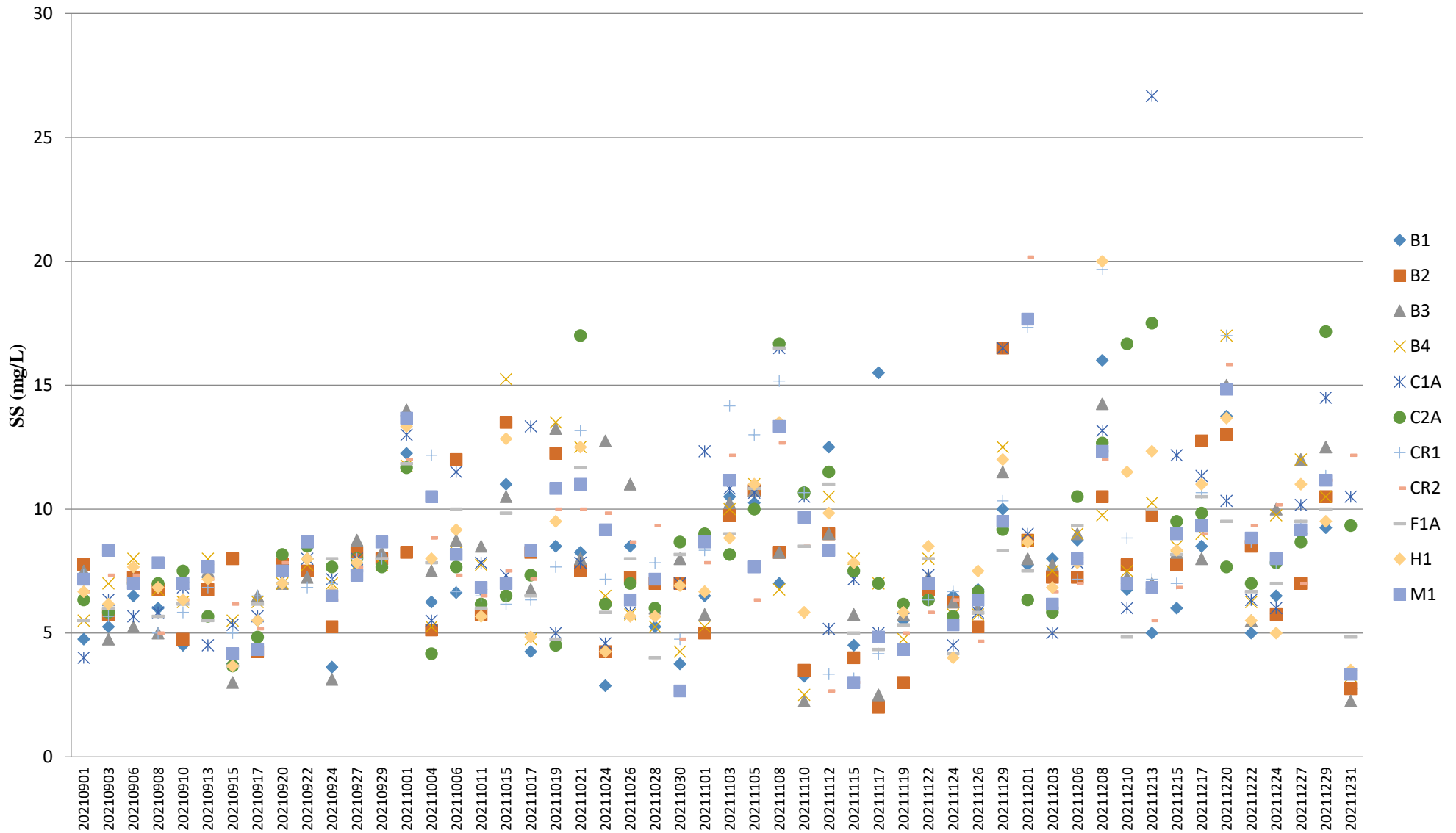
Turbidity (Depth-averaged) during MID-EBB



Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report.

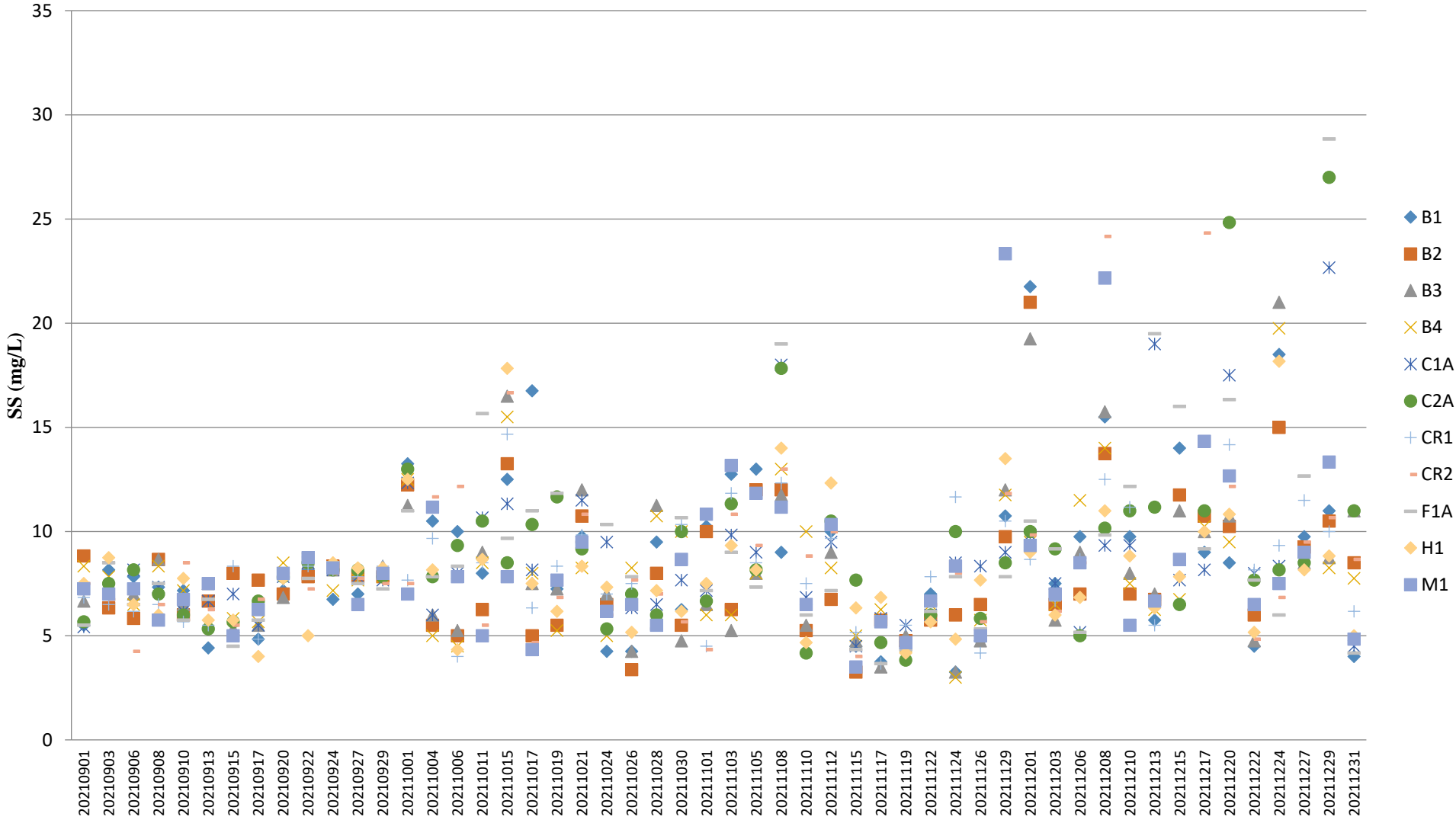
Suspended Solids (Depth-averaged) during MID-FLOOD



Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report.

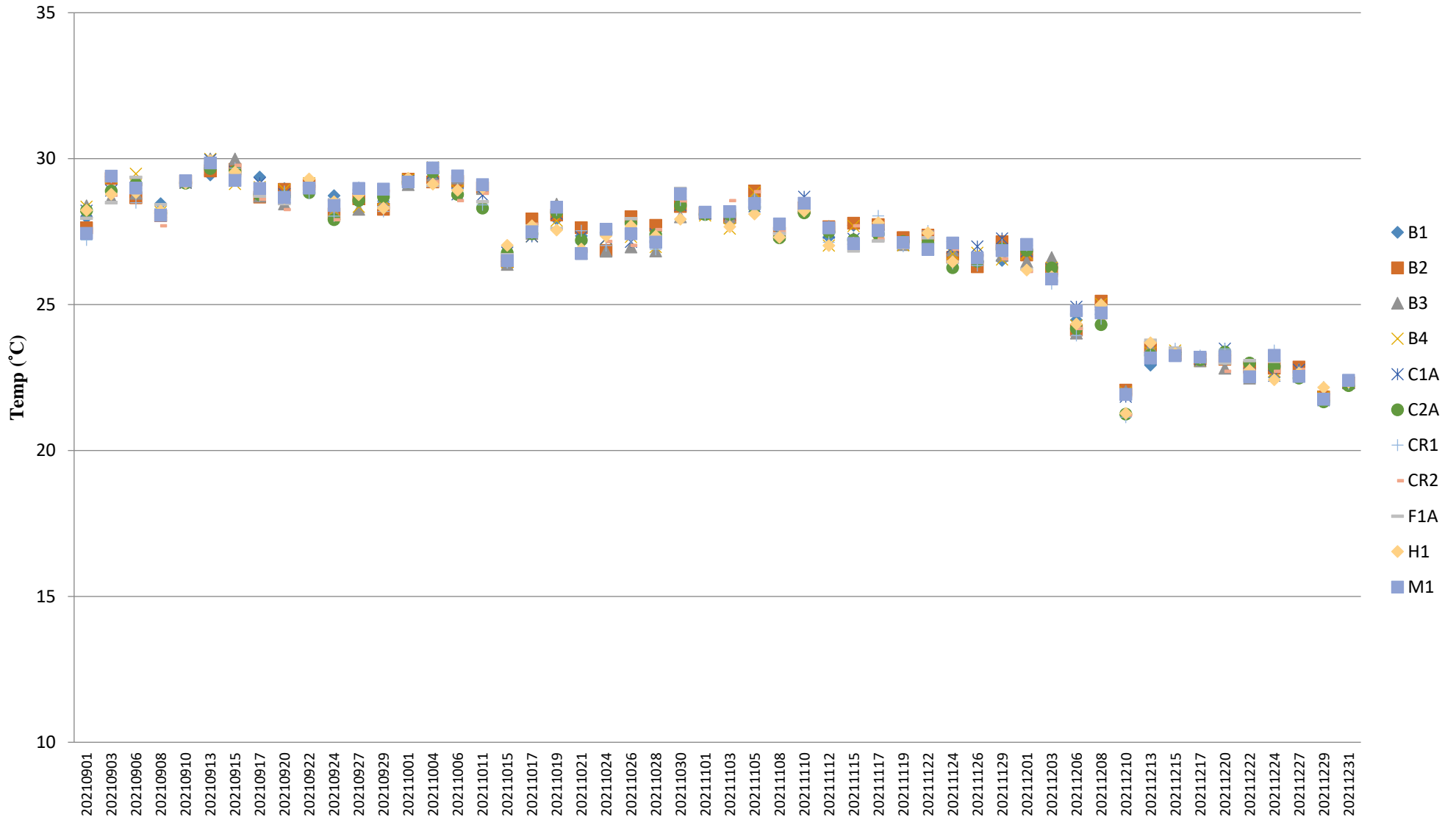
Suspended Solids (Depth-averaged) during MID-EBB



Note:

1. The Action and Limit Level of turbidity can be referred to **Table 2.8** of the monthly EM&A report

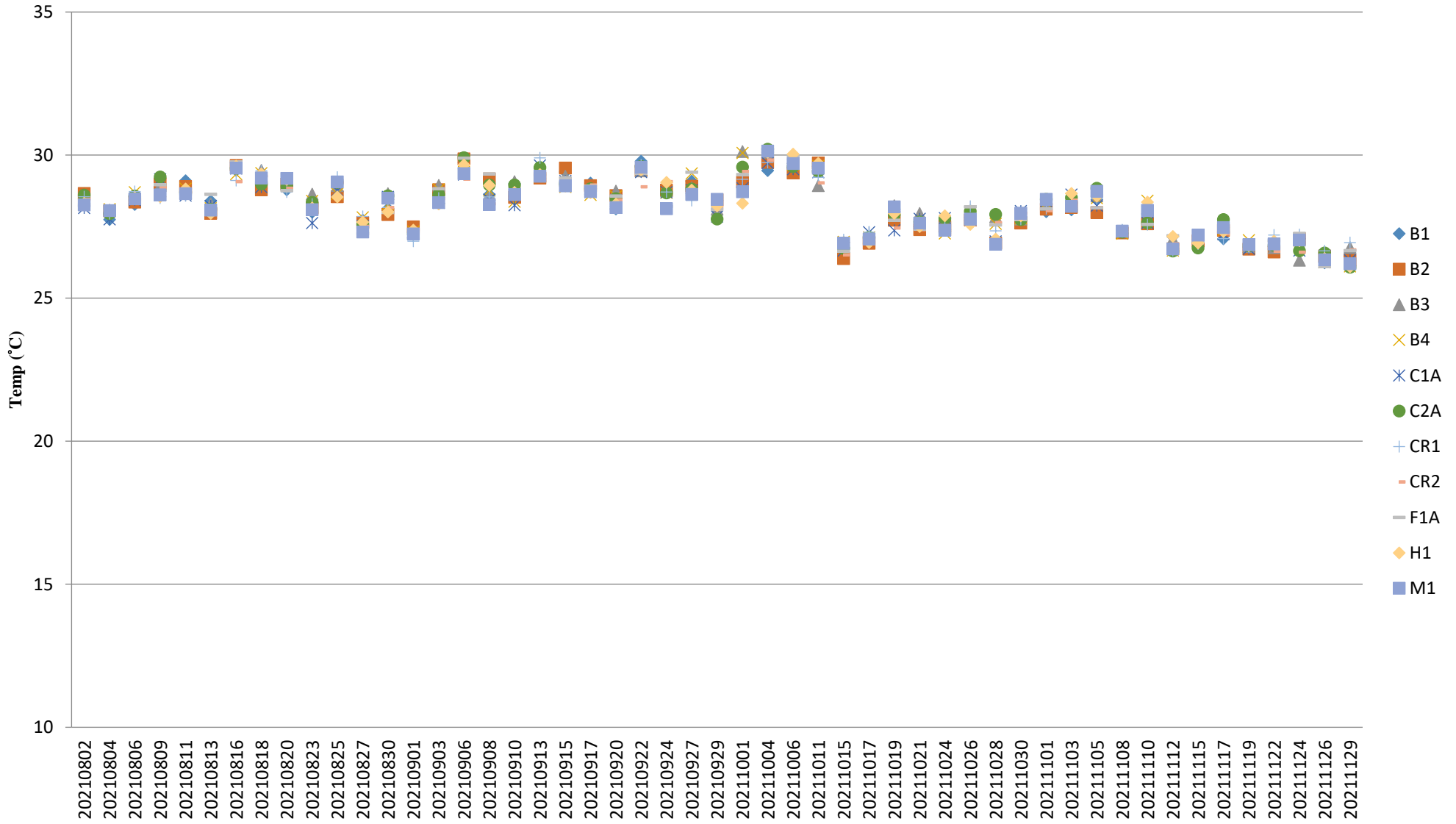
Temperature (Depth-averaged) during MID-FLOOD



Note:

1. The Action and Limit Level of temperature can be referred to **Table 2.8** of the monthly EM&A report.

Temperature (Depth-averaged) during MID-EBB



Note:

1. The Action and Limit Level of temperature can be referred to **Table 2.8** of the monthly EM&A report.

Appendix E HOKLAS Laboratory Certificate



Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

*has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的*

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

*This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence
此實驗所符合ISO / IEC 17025 : 2005 – 《測試及校正實驗所能力的通用規定》所訂的要求。
of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作
獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定
listed in the HOKLAS Directory of Accredited Laboratories within the test category of
測試或校正工作*

Environmental Testing
環境測試

*This laboratory is accredited in accordance with the recognised international Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。*

*This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作
quality management system (see joint IAF-ILAC-ISO Communiqué).
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。*

*The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章*

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
簽發日期：二零零九年五月五日

Registration Number : **HOKLAS 066**
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日





Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ACUMEN LABORATORY AND TESTING LIMITED
浩科檢測中心有限公司

Lot 12, Tam Kon Shan Road, North Tsing Yi, New Territories, Hong Kong
香港新界青衣北担杆山路12路段

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
在認可諮詢委員會的建議下獲香港認可處執行機關接受為

HOKLAS Accredited Laboratory
「香港實驗室認可計劃」認可實驗室

This laboratory meets the requirements of ISO/IEC 17025:2005 and it has been accredited for performing specific tests or calibrations as listed in the scope of accreditation within the test category of

Environmental Testing

*此實驗室符合ISO/IEC 17025:2005所訂的要求
並獲認可進行載於認可範圍內下述測試類別中的指定測試或校正工作*

環境測試

*This accreditation to ISO/IEC 17025:2005 demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (see joint IAF-ILAC-ISO Communiqué).
此項 ISO/IEC 17025:2005 的認可資格證明此實驗室所具備指定範疇內所須的技術能力並實施一套實驗室質量管理體系(見國際認可論壇、國際實驗室認可合作組織及國際標準化組織的聯合公報)。*

*The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章*

WONG Wang-wah, Executive Administrator
執行幹事 黃宏華
Issue Date : 16 July 2014
簽發日期：二零一四年七月十六日

Registration Number : HOKLAS 241
註冊號碼：

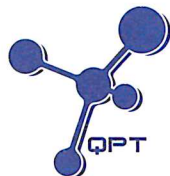


Date of First Registration : 16 July 2014
首次註冊日期：二零一四年七月十六日

*This certificate is issued subject to the terms and conditions laid down by HKAS.
本證書按照香港認可處訂立的條款及條件發出*

L 001195

Appendix F Water Quality Equipment Calibration Certificate



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/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

Report No. : BA100064
Date of Issue : 02 November 2021
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment : HORIBA U-53 Multi Parameters
Manufacturer : HORIBA
Serial Number : S2A98W8H
Date of Received : Oct 26, 2021
Date of Calibration : Oct 26, 2021
Date of Next Calibration^(a) : Jan 25, 2022

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.03	0.03	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.19	0.18	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16	16.24	0.24	Satisfactory
25	25.10	0.10	Satisfactory
33	32.95	-0.05	Satisfactory

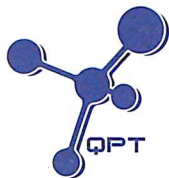
Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) 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.

LEE Chun-ning
Senior Chemist



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/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

Report No. : BA100064
Date of Issue : 02 November 2021
Page No. : 2 of 2

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
2.96	3.30	0.34	Satisfactory
3.41	3.76	0.35	Satisfactory
4.87	5.12	0.25	Satisfactory
7.92	8.00	0.08	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.47	4.70	Satisfactory
20	21.32	6.60	Satisfactory
30	32.20	7.33	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.30	--	Satisfactory
10	10.8	8.0	Satisfactory
20	21.8	9.0	Satisfactory
100	109	9.0	Satisfactory
800	790	-1.3	Satisfactory

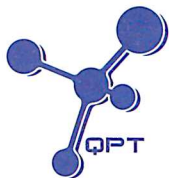
Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

^(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.



REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : R-BA110031
Date of Issue : 25 November 2021
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit E, 12/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment : Multi Water Quality Checker U-53
Manufacturer : Horiba
Serial Number : PPHNOMXY
Date of Received : 24 November 2021
Date of Calibration : 24 November 2021
Date of Next Calibration^(a) : 23 February 2022

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.08	0.06	Satisfactory
7.42	7.52	0.10	Satisfactory
10.01	10.02	0.01	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature


Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15.0	15.21	0.3	Satisfactory
20.5	20.50	0.0	Satisfactory
32.0	31.80	-0.2	Satisfactory

Tolerance limit of temperature should be less than ± 2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.


LEE Chun-ning
Senior Chemist



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

Email: info@qualityprotest.com; Website: www.qualityprotest.com

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : R-BA110031
Date of Issue : 25 November 2021
Page No. : 2 of 2

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
9.62	9.27	-0.35	Satisfactory
5.89	5.60	-0.11	Satisfactory
3.27	3.59	0.32	Satisfactory
0.53	0.96	0.46	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.05	0.50	Satisfactory
20	20.61	3.05	Satisfactory
30	31.66	5.53	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.23	--	Satisfactory
10	11.0	10.0	Satisfactory
20	20.4	2.0	Satisfactory
100	102	2.0	Satisfactory
800	808	1.0	Satisfactory

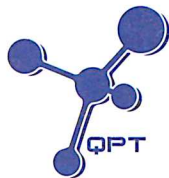
Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

^(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.



專業化驗有限公司
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Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA100007
Date of Issue : 05 October 2021
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment : Multi Water Quality Checker U-53
Manufacturer : Horiba
Serial Number : UHB5F2BB
Date of Received : Sep 28, 2021
Date of Calibration : Sep 29, 2021
Date of Next Calibration^(a) : Dec 28, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.
Oxidation-Reduction Potential	APHA 22e 2580 B

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	3.82	-0.18	Satisfactory
7.42	7.43	0.01	Satisfactory
10.01	10.03	0.02	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature


Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
15	15.1	0.1	Satisfactory
25	25.1	0.1	Satisfactory
33.5	33.1	-0.4	Satisfactory

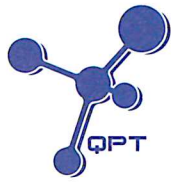
Tolerance limit of temperature should be less than ± 2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

- ^(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.
^(b) The results relate only to the calibrated equipment as received
^(c) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
^(d) "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
^(e) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.


LEE Chun-ning
Senior Chemist



專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA100007
Date of Issue : 05 October 2021
Page No. : 2 of 2

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.65	0.56	-0.09	Satisfactory
1.91	1.79	-0.12	Satisfactory
3.30	3.34	0.04	Satisfactory
6.98	6.99	0.01	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.18	1.80	Satisfactory
20	20.70	3.50	Satisfactory
30	31.45	4.83	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.00	--	Satisfactory
10	10.5	5.0	Satisfactory
20	20.3	1.5	Satisfactory
100	106	6.0	Satisfactory
800	788	-1.5	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

(6) Oxidation-Reduction Potential

Expected Reading (mV)	Displayed Reading (mV)	Tolerance (mV) ^(g)	Results
229	231	2	Satisfactory

Tolerance limit of Oxidation-Reduction Potential should be less than ± 10 (mV)

~ END OF REPORT ~

Remark(s): -

^(f) "Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

^(g) The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted from relevant international standards.

Appendix G Event / Action Plan for Water Quality Exceedance

Event	Action			
	ET	IEC	SO	Contractor
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Repeat measurement on next day of exceedance. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next working day of exceedance. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after Action Level being exceeded by two consecutive sampling days)

Event	Action			
	ET	IEC	SO	Contractor
Limit level being exceeded by one sampling day	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with Contractor, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented. Assess the effectiveness of the implemented measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)

Event	Action			
	ET	IEC	SO	Contractor
Limit level being exceeded by more than one consecutive sampling days	<p>Identify source(s) of impact; Inform IEC, Contractor and EPD; Check monitoring data, all plant, equipment and Contractor’s working methods. Discuss mitigation measures with IEC, SO and Contractor. Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)</p>	<p>Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the SO accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)</p>	<p>Discuss with IEC, ET and Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented. Assess the effectiveness of the implemented measures. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)</p>	<p>Inform the SO and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IEC and SO and propose mitigation measures to IEC and SO within 3 working days; Implement the agreed mitigation measures; As directed by the SOR, to slow down or to stop all or part of the marine work or construction activities. (The above actions should be taken within 1 working day after Limit Level being exceeded by two consecutive sampling days)</p>

Appendix H Noise Monitoring Equipment Calibration Certificate

Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *NTi Audio*
Type No.: *XL2 (Serial No.: A2A-17638-E0)*
Microphone: *ACO 7052 (Serial No.:68746)*
Preamplifier: *NTi Audio M2211 MA220 (Serial No.:7014)*

Submitted by:

Customer: *Acuity Sustainability Consulting Limited*
Address: *Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street,
Cheung Sha Wan, Kowloon*

Upon receipt for calibration, the instrument was found to be:

- Within
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 22 March 2021

Date of calibration: 24 March 2021

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 24 March 2021

Certificate No.: APJ20-185-CC001



Page 1 of 4

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 23.2 °C
 Air Pressure: 1006 hPa
 Relative Humidity: 57.6 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV200041	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	Ref
			104		104.1	±0.3
			114		114.1	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dBA SPL	Fast	94	1000	94.1	Ref
		Slow			94.1	±0.3

Certificate No.: APJ20-185-CC001



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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dB	SPL	Fast	94	31.5	94.1	±2.0
					63	94.2	±1.5
					125	94.2	±1.5
					250	94.1	±1.4
					500	94.2	±1.4
					1000	94.1	Ref
					2000	94.3	±1.6
					4000	94.6	±1.6
				8000	92.8	+2.1; -3.1	

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	31.5	54.7	-39.4±2.0
					63	68.0	-26.2±1.5
					125	78.1	-16.1±1.5
					250	85.5	-8.6±1.4
					500	91.0	-3.2±1.4
					1000	94.1	Ref
					2000	95.5	+1.2±1.6
					4000	95.6	+1.0±1.6
				8000	91.8	-1.1+2.1; -3.1	

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBC	SPL	Fast	94	31.5	91.1	-3.0±2.0
					63	93.3	-0.8±1.5
					125	94.0	-0.2±1.5
					250	94.1	-0.0±1.4
					500	94.2	-0.0±1.4
					1000	94.1	Ref
					2000	94.1	-0.2±1.6
					4000	93.8	-0.8±1.6
				8000	89.8	-3.0+2.1; -3.1	

Certificate No.: APJ20-185-CC001



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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.



Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *SVANTEK*
Type No.: *971 (Serial No.: 96063)*
Microphone: *ACO 7052 E (Serial No.: 78092)*
Preamplifier: *SVANTEK SV 18 (Serial No.: 97278)*

Submitted by:

Customer: *Acuity Sustainability Consulting Limited*
Address: *Unit 1908, Nos. 301-305 Castle Peak Road,
Kwai Chung, N.T.*

Upon receipt for calibration, the instrument was found to be:

- Within**
 Outside

the allowable tolerance.

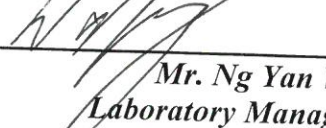
The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 June 2021

Date of calibration: 30 June 2021

Calibrated by: 
Calibration Technician

Certified by: 
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 30 June 2021

Certificate No.: APJ21-030-CC001



Page 1 of 4

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 24.2 °C
 Air Pressure: 1004 hPa
 Relative Humidity: 60.8 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV200041	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA SPL	Fast	94	1000	93.7	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA SPL	Fast	94	1000	93.7	Ref
			104		103.7	±0.3
			114		113.7	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA SPL	Fast	94	1000	93.7	Ref
		Slow			93.7	±0.3

Certificate No.: APJ21-030-CC001



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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
20-140	dB	SPL	Fast	94	31.5	94.0	±2.0
					63	93.9	±1.5
					125	94.0	±1.5
					250	94.0	±1.4
					500	93.9	±1.4
					1000	93.7	Ref
					2000	93.8	±1.6
					4000	95.6	±1.6
					8000	92.1	+2.1; -3.1

A-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
20-140	dBA	SPL	Fast	94	31.5	54.7	-39.4±2.0
					63	67.8	-26.2±1.5
					125	77.9	-16.1±1.5
					250	85.3	-8.6±1.4
					500	90.7	-3.2±1.4
					1000	93.7	Ref
					2000	95.0	+1.2±1.6
					4000	96.3	+1.0±1.6
					8000	91.2	-1.1+2.1; -3.1

C-weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
20-140	dBC	SPL	Fast	94	31.5	90.9	-3.0±2.0
					63	93.1	-0.8±1.5
					125	93.8	-0.2±1.5
					250	94.0	-0.0±1.4
					500	93.9	-0.0±1.4
					1000	93.7	Ref
					2000	93.6	-0.2±1.6
					4000	94.5	-0.8±1.6
					8000	89.3	-3.0+2.1; -3.1

Certificate No.: APJ21-030-CC001



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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

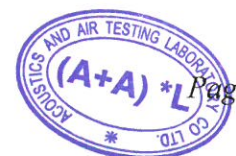
94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

Certificate No.: APJ21-030-CC001



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Certificate of Calibration

for

Description: *Sound Level Meter*
Manufacturer: *SVANTEK*
Type No.: *971 (Serial No.: 96062)*
Microphone: *ACO 7052 E (Serial No.:78090)*
Preamplifier: *SVANTEK SV 18 (Serial No.:103808)*

Submitted by:

Customer: *Acuity Sustainability Consulting Limited*
Address: *Unit 1908, Nos. 301-305 Castle Peak Road,
Kwai Chung, N.T.*

Upon receipt for calibration, the instrument was found to be:

- Within (31.5 Hz to 4k Hz)**
 Outside

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 2 July 2021

Date of calibration: 5 July 2021

Calibrated by: _____
Calibration Technician

Certified by: _____
*Mr. Ng Yan Wa
Laboratory Manager*

Date of issue: 5 July 2021

Certificate No.: APJ21-029-CC001



Page 1 of 4

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 24.2 °C
 Air Pressure: 1004 hPa
 Relative Humidity: 60.8 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV200041	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.0	±0.3
			114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

Certificate No.: APJ21-029-CC001

Page 2 of 4

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dB	SPL	94	31.5	94.1	±2.0
				63	94.1	±1.5
				125	94.1	±1.5
				250	94.1	±1.4
				500	94.1	±1.4
				1000	94.0	Ref
				2000	93.8	±1.6
4000	93.3	±1.6				

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBA	SPL	94	31.5	54.9	-39.4±2.0
				63	68.0	-26.2±1.5
				125	78.0	-16.1±1.5
				250	85.4	-8.6±1.4
				500	90.8	-3.2±1.4
				1000	94.0	Ref
				2000	95.0	+1.2±1.6
4000	94.3	+1.0±1.6				

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
20-140	dBC	SPL	94	31.5	91.1	-3.0±2.0
				63	93.3	-0.8±1.5
				125	93.9	-0.2±1.5
				250	94.1	-0.0±1.4
				500	94.1	-0.0±1.4
				1000	94.0	Ref
				2000	93.6	-0.2±1.6
4000	92.5	-0.8±1.6				

5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.15
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.


Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.



MAXLAB

CALIBRATION CERTIFICATE

<i>Certificate Information</i>			
Date of Issue	20-Mar-2021	Certificate Number	MLCN210569S
<i>Customer Information</i>			
Company Name	Acuity Sustainability Consulting Limited		
Address	Unit C, 11/F., Ford Glory Plaza, Nos. 37-39 Wing Hing Street, Cheung Sha Wan, Kowloon, HK		
<i>Equipment-under-Test (EUT)</i>			
Description	Sound Calibrator		
Manufacturer	Svantek		
Model Number	SV 33B		
Serial Number	83042		
Equipment Number	--		
<i>Calibration Particular</i>			
Date of Calibration	20-Mar-2021		
Calibration Equipment	4231(MLTE008) / AV200063 / 23-Jun-23 1357(MLTE190) / MLEC20/05/02 / 26-May-21		
Calibration Procedure	MLCG00, MLCG15		
Calibration Conditions	Laboratory	Temperature	23 °C ± 5 °C
		Relative Humidity	55% ± 25%
	EUT	Stabilizing Time	Over 3 hours
		Warm-up Time	Not applicable
		Power Supply	Internal battery
Calibration Results	Calibration data were detailed in the continuation pages. All calibration results were within EUT specification.		
<i>Approved By & Date</i>			
		K.O. Lo	20-Mar-2021
<i>Statements</i>			
<ul style="list-style-type: none">* Calibration equipment used for this calibration are traceable to national / international standards.* The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.* MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.* The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.			



MAXLAB

Certificate No. MLCN210569S

<i>Calibration Data</i>				
EUT Setting	Standard Reading	EUT Error	Calibration Uncertainty	EUT Specification
114 dB	114.0 dB	0.0 dB	0.15 dB	± 0.3 dB

- END -

Calibrated By : Dan
Date : 20-Mar-21

Checked : K.O. Lo
Date : 20-Mar-21

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Appendix I Event / Action Plan for Noise Exceedance

Event	Actions to be taken by Environmental Team as immediate as practicable	Actions to be taken by Independent Environmental Checker as immediate as practicable	Actions to be taken by Supervising Officer's Representative as immediate as practicable	Actions to be taken by Contractor as immediate as practicable
Action Level being exceeded	<ol style="list-style-type: none"> 1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, SO and Contractor; 4. Discuss with the IEC and Contractor on remedial measures required; 5. Increase monitoring frequency to check mitigation effectiveness. (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the SO accordingly; 3. Advise the SO on the effectiveness of the proposed remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified). 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified). 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and SO; 2. Implement noise mitigation proposals. (The above actions should be taken within 2 working days after the exceedance is identified)
Limit Level being exceeded	<ol style="list-style-type: none"> 1. Inform IEC, SO, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and SO on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and SO informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss amongst SO, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SO accordingly; (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and SO within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the SO until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)

Appendix J Noise Monitoring Data

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 1 (M1 / N_S1)

Monitoring date: 6, 14, 20, 28 December 2021 (Daytime)

6&7, 14&15, 20&21, 28&29 December 2021 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
6 Dec 2021	11:24	-	11:54	Sunny	56.1	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
6 Dec 2021	19:14	-	19:19	Fine	48.1	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:14	-	20:19		49.8		
	21:24	-	21:29		47.9		
7 Dec 2021	1:14	-	1:19	Fine	47.2	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:29	-	3:34		44.5		
	5:39	-	5:44		44.9		
14 Dec 2021	12:50	-	13:20	Sunny	59.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
14 Dec 2021	19:05	-	19:10	Fine	48.5	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:05	-	20:10		46.8		
	21:05	-	21:10		44.5		
15 Dec 2021	1:20	-	1:25	Fine	44.3	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:25	-	3:30		42.4		
	5:20	-	5:25		43.3		
20 Dec 2021	13:37	-	14:07	Cloudy	61.5	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
20 Dec 2021	19:07	-	19:12	Fine	49.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:12	-	20:17		49.5		
	21:12	-	21:17		47.6		
21 Dec 2021	1:22	-	1:27	Fine	47.0	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:07	-	3:12		48.3		
	5:17	-	5:22		47.1		
28 Dec 2021	10:58	-	11:28	Fine	59.2	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
28 Dec 2021	19:03	-	19:08	Fine	48.8	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:13	-	20:18		46.6		
	21:23	-	21:28		45.6		
29 Dec 2021	1:13	-	1:18	Fine	43.5	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:03	-	3:08		40.7		
	5:08	-	5:13		45.5		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 2 (M2 / N_S2)

Monitoring date: 6, 13, 20, 28 December 2021 (Daytime)

6&7, 13&14, 20&21, 28&29 December 2021 (Evening & Night time)

Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Nil

Noise Monitoring Data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
6 Dec 2021	11:50	-	12:20	Sunny	53.3	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
6 Dec 2021	19:05	-	19:10	Fine	53.5	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:10	-	20:15		51.6		
	21:15	-	21:20		50.9		
7 Dec 2021	1:10	-	1:15	Fine	47.8	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:10	-	3:15		47.3		
	5:15	-	5:20		46.6		
13 Dec 2021	13:13	-	13:43	Sunny	57.8	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
13 Dec 2021	19:03	-	19:08	Fine	52.9	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:08	-	20:13		45.1		
	21:13	-	21:18		47.8		
14 Dec 2021	1:13	-	1:18	Fine	44.5	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:08	-	3:13		43.5		
	5:18	-	5:23		47.7		
20 Dec 2021	13:48	-	14:18	Cloudy	56.4	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
20 Dec 2021	19:03	-	19:08	Fine	53.6	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	20:03	-	20:08		54.1		
	21:08	-	21:13		48.7		
21 Dec 2021	1:08	-	1:13	Fine	50.1	SVAN 971 (Serial No. 96062)	Svantek SV33B (No. 83042)
	3:08	-	3:13		52.0		
	5:28	-	5:33		52.2		
28 Dec 2021	13:46	-	14:16	Fine	62.0	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
28 Dec 2021	19:01	-	19:06	Fine	46.9	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	20:11	-	20:16		44.9		
	21:36	-	21:41		48.9		
29 Dec 2021	1:11	-	1:16	Fine	43.7	SVAN 971 (Serial No. 96063)	Svantek SV33B (No. 83042)
	3:01	-	3:06		42.8		
	5:06	-	5:11		42.6		

Location: Shek Kwu Chau Treatment & Rehabilitation Centre Hostel 3 (M3 / N_S3)

Monitoring date: 6, 13, 20, 28 December 2021 (Daytime)

6&7, 13&14, 20&21, 28&29 December 2021 (Evening & Night time)

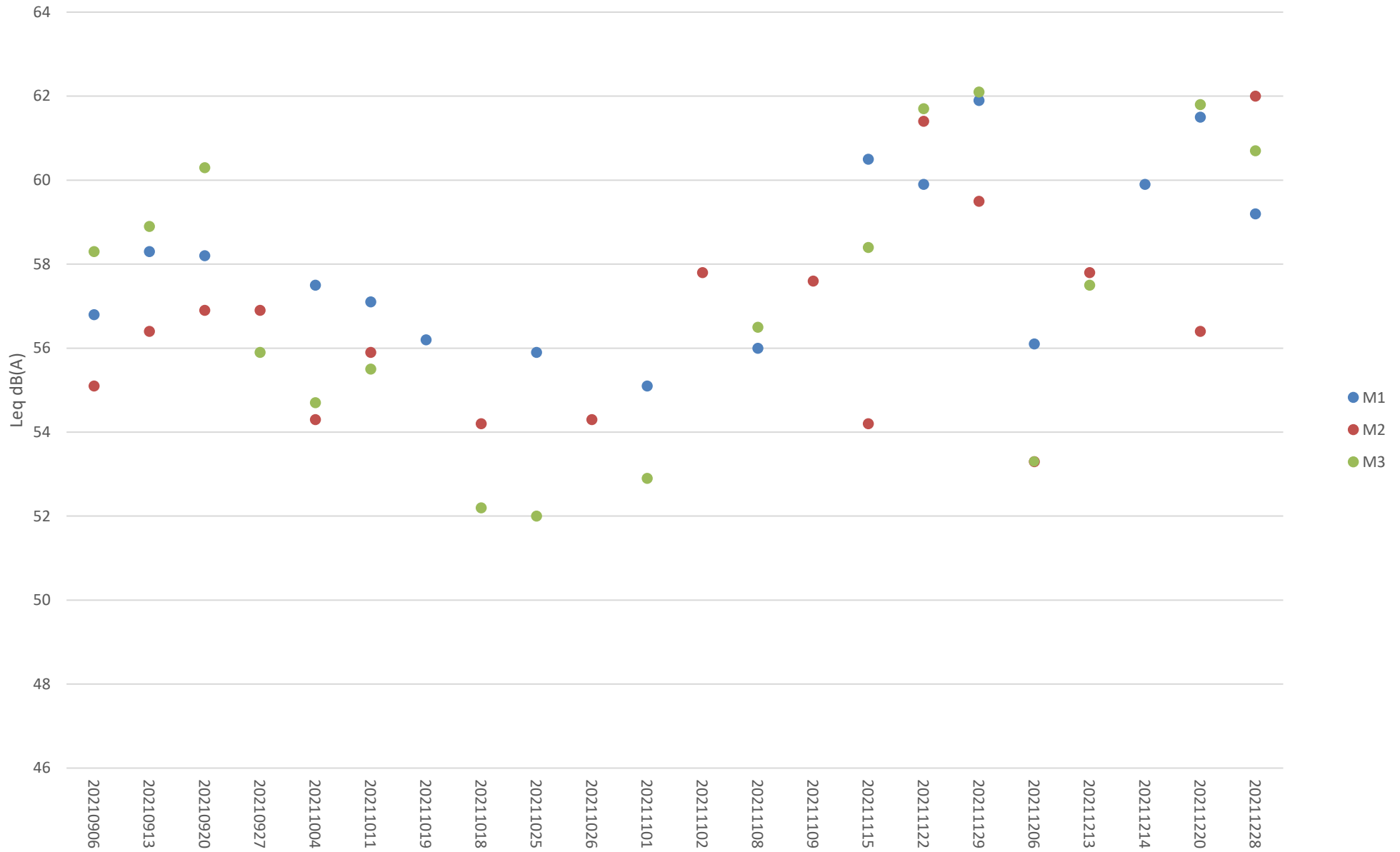
Parameter : $L_{eq\ 30min}$ (Daytime), $L_{eq\ 5min}$ (Evening & Night time)

Noise source other than construction activities from the Project: Air-conditioner

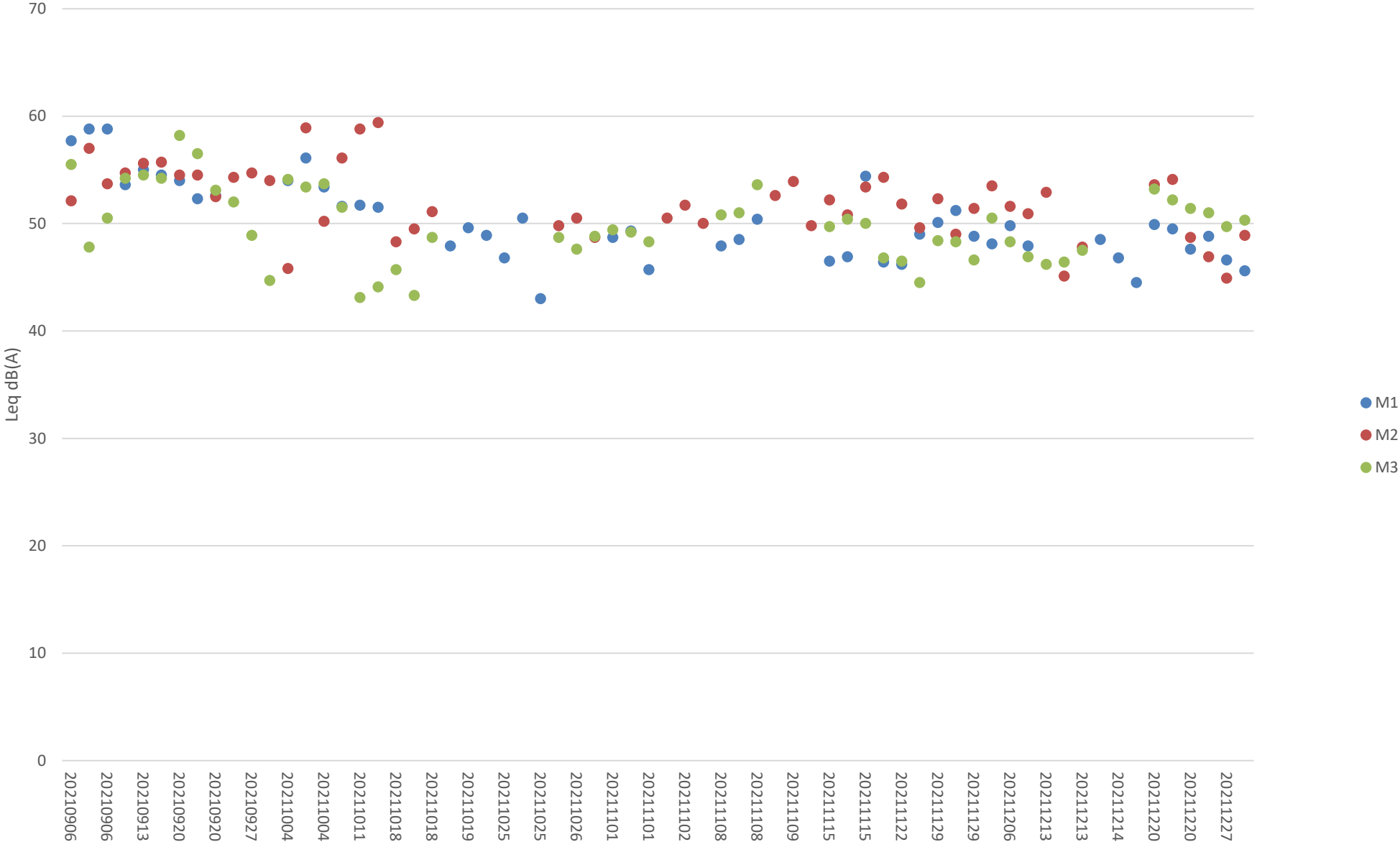
Noise Monitoring data:

Date	Start time		End time	Weather	$L_{eq\ 30min}$ dB(A) / $L_{eq\ 5min}$ dB(A)	Sound Level Meter Used	Calibrator Used
6 Dec 2021	11:35	-	12:05	Sunny	53.3	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
6 Dec 2021	19:05	-	19:10	Fine	50.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:10	-	20:15		48.3		
	21:20	-	21:25		46.9		
7 Dec 2021	1:05	-	1:10	Fine	47.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:05	-	3:10		45.5		
	5:15	-	5:20		45.6		
13 Dec 2021	13:06	-	13:36	Sunny	57.5	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
13 Dec 2021	19:01	-	19:06	Fine	46.2	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:06	-	20:11		46.4		
	21:06	-	21:11		47.5		
14 Dec 2021	1:21	-	1:26	Fine	49.2	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:11	-	3:16		45.5		
	5:16	-	5:21		42.9		
20 Dec 2021	13:25	-	13:55	Cloudy	61.8	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
20 Dec 2021	19:05	-	19:10	Fine	53.2	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:15	-	20:20		52.2		
	21:15	-	21:20		51.4		
21 Dec 2021	1:05	-	1:10	Fine	50.1	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:05	-	3:10		53.3		
	5:10	-	5:15		50.8		
28 Dec 2021	11:18	-	11:48	Fine	60.7	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
28 Dec 2021	19:08	-	19:13	Fine	51.0	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	20:08	-	20:13		49.7		
	21:13	-	21:18		50.3		
29 Dec 2021	1:13	-	1:18	Fine	49.8	NTi XL2 (Serial A2A-17638-E0)	Svantek SV33B (No. 83042)
	3:13	-	3:18		49.2		
	5:23	-	5:28		50.7		

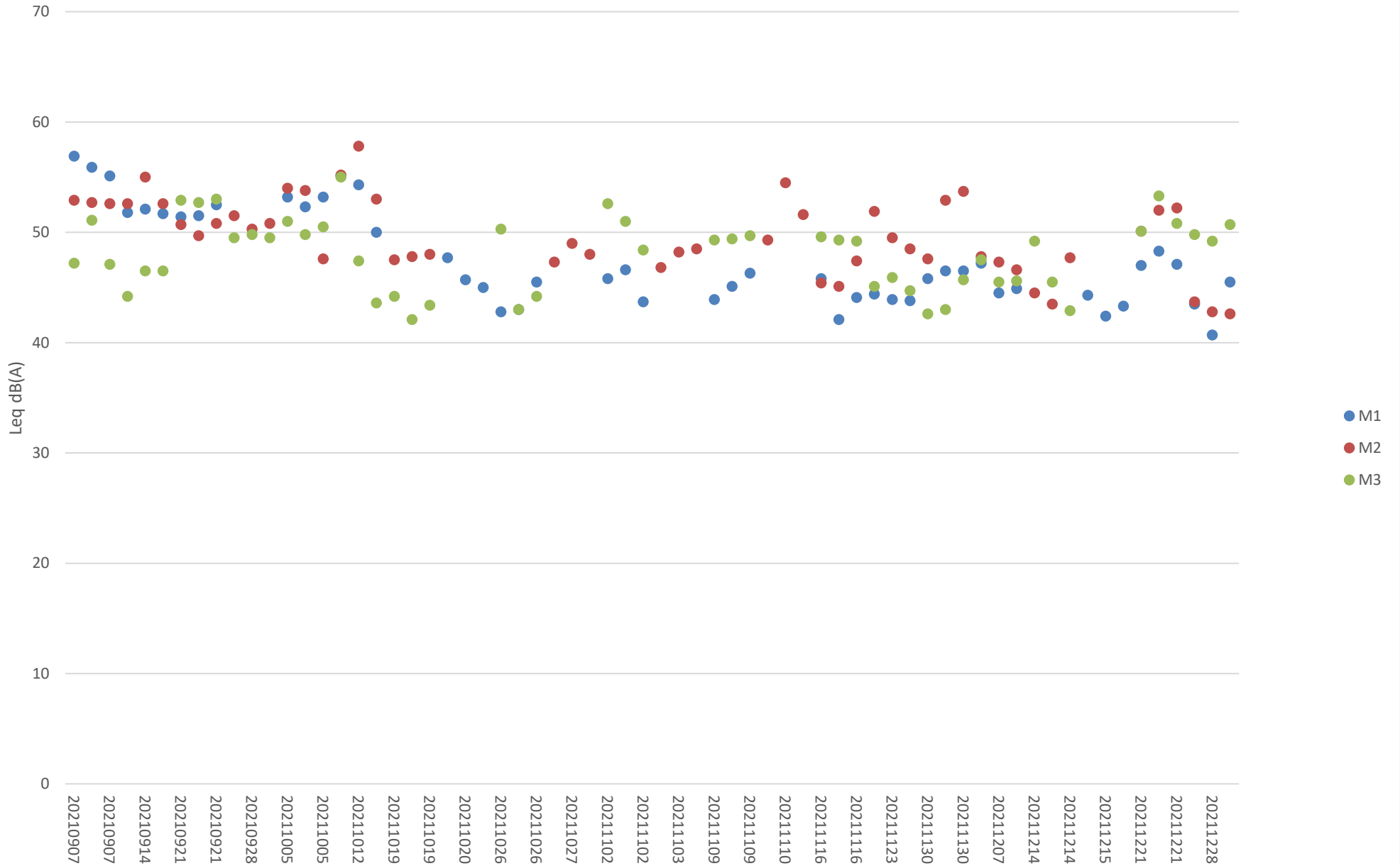
Impact Noise Monitoring Results during Day Time (0700 - 1900 hours)



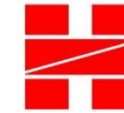
Additional Impact Noise Monitoring Results during Evening Time (1900 - 2300 hours)



Additional Impact Noise Monitoring Results during Night Time (2300 - 0700 hours)



Appendix K Waste Flow Table



Monthly Summary Waste Flow Table for 2018 (year)

Project : Integrated Waste Management Facilities, Phase 1

Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m ³)
Jan	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sub-total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0065
Sep	0	0	0	0	0	2.9619	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0	3.0771	0	0	0	0	0	0	0	0.0130
Nov	0	0	0	0	0	6.7871	0	0	0	0	0	0	0	0
Dec	0	0	0	0	0	59.0709	0	0	0	0	0	0.2000	0.8700	0
Total	0	0	0	0	0	71.8970	0	0	0	0	0	0.2000	0.8700	0.0195

- Notes:
- (1) Broken concrete for recycling into aggregates.
 - (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
 - (3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m³ by volume.



Monthly Summary Waste Flow Table for 2019 (year)

Project : Integrated Waste Management Facilities, Phase 1

Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m ³)
Jan	0	0	0	0	0	82.6139	0	0	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	46.7821	0	0	0	0	0	0	0	0
Mar	0	0	0	0	0	97.1000	0	0.7552	0	0.2560	0	0	0	0
Apr	0	0	0	0	0	58.0413	0	0	0	0	0	0	0	0
May	0	0	0	0	0	14.5625	0	1.4648	0	0	0	0	0	0.0065
Jun	0	0	0	0	0	0	0	6.8421	0	0	0	0	0	0
Sub-total	0	0	0	0	0	299.0998	0	9.0621	0	0.2560	0	0	0	0.0130
Jul	0	0	0	0	0	0	0	0.4289	0	0	0	0	8.4000	0.0130
Aug	0	0	0	0	0	2.5775	0	10.5600	0	0	0	0	0	0
Sep	0	0	0	0	0	6.1081	0	8.4704	0	0.3530	0	0	0	0.0065
Oct	0	0	0	0	0	9.8875	0	7.1900	0	0	0	0	0	0
Nov	0	0	0	0	0	38.3088	0	19.3105	0	0	0	0	0	0.0195
Dec	0	0	0	0	0	54.3469	0	26.9807	0	0	0	0	0	0.0910
Total	0	0	0	0	0	410.3286	0	82.0026	0	0.6090	0	0	8.4000	0.1430

- Notes:
- (1) Broken concrete for recycling into aggregates.
 - (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
 - (3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m³ by volume.



Monthly Summary Waste Flow Table for 2020 (year)

Project : Integrated Waste Management Facilities, Phase 1

Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m ³)
Jan	0	0	0	0	0	37.1550	0	25.0812	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	27.7910	0	18.8300	0	0	0	0	0	0.0065
Mar	0	0	0	0	0	22.5669	0	26.1586	0	0	0	0	7.2000	0.0065
Apr	0	0	0	0	0	12.7800	0	10.1825	0	0	0	0	0	0.0195
May	0	0	0	0	0	16.1138	0	24.3740	0	0.4220	0	0	0	0.0195
Jun	0	0	0	0	0	31.5177	0	28.3030	0	0	0	0	0	0.0065
Sub-total	0	0	0	0	0	147.9244	0	132.9293	0	0.4220	0	0	7.2000	0.0650
Jul	0	0	0	0	0	34.7856	17.0606	35.1800	0	0	0	0	0	0.0195
Aug	0	0	0	0	0	27.1375	65.5667	27.9335	0	0	0	0	0	0
Sep	0	0	0	0	0	11.9813	110.1328	43.5435	0	0	0	0	0	0.0195
Oct	0	0	0	0	0	2.8213	131.6600	22.5415	0	0	0	0	0	0.0130
Nov	0	0	0	0	0	0	162.1811	44.6475	0	0.4090	0	0	0.4000	0.0130
Dec	0	0	0	0	0	0	174.9800	57.8380	0	0	0	0	0	0.0130
Total	0	0	0	0	0	224.6501	661.5812	364.6133	0	0.8310	0	0	7.6000	0.1430

- Notes:
- (1) Broken concrete for recycling into aggregates.
 - (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
 - (3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m³ by volume.



Monthly Summary Waste Flow Table for 2021 (year)

Project : Integrated Waste Management Facilities, Phase 1

Contract No.: EP/SP/66/12

Month	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 1)	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill Sand	Imported Fill Public fill	Imported Fill Rock	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste		Others, e.g. general refuse (see Note 3)
	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)	(in ,000m ³)			(in ,000 kg)	(in ,000kg)	(in ,000kg)	(in ,000kg)	(in ,000L)	(in ,000 m ³)
Jan	0	0	0	0	0	0	198.1311	36.4775	0	0	0	0	0	0.0065
Feb	0	0	0	0	0	0	143.9511	20.9960	0	0	0	0	0	0.6305
Mar	0	0	0	0	0	0	103.1833	23.4510	0	0	0	0	0	0.0130
Apr	0	0	0	0	0	0	161.2956	27.2810	0	0	0	0	0	0.0130
May	0	0	0	0	0	0	193.3300	20.5265	0	0	0	0	0	0.0715
Jun	0	0	0	0	0	0	141.5728	23.7825	0	0.2440	0	0	0	0.0455
Sub-total	0	0	0	0	0	0	941.4639	152.5145	0	0.2440	0	0	0	0.7800
Jul	0	0	0	0	0	0	105.1083	30.6065	0	0	0	0	0	0.0195
Aug	0	0	0	0	0	0	11.1822	7.5180	0	0	0	0	0	0.0130
Sep	0	0	0	0	0	0	0	5.7575	0	0	0	0	0.6000	0.0390
Oct	0	0	0	0	0	0	0	6.8885	0	0	0	0	0	0
Nov	0	0	0	0	0	0	0	6.2975	0	0.1610	0	0	0	0.0130
Dec	0	0	0	0	0	0	0	5.9235	0	0	0	0	0	0
Total	0	0	0	0	0	0	1057.7544	215.5060	0	0.4050	0	0	0.6000	0.8645

- Notes:
- (1) Broken concrete for recycling into aggregates.
 - (2) Plastics refer to plastic bottles/ containers, plastic sheets/ foam from packaging materials.
 - (3) Use the conversion factor : 1 full load of dumping truck being equivalent to 6.5m³ by volume.

Appendix L Event / Action Plan for Coral Monitoring

Event	Action			
	ET Leader	IEC	SO	Contractor
Action Level Exceedance	1. Check monitoring data 2. Inform the IEC, SO ,and Contractor of the findings; 3. Increase the monitoring to at least once a month to confirm findings; 4. Propose mitigation measures for consideration	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SO accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make the agreement on the measures to be implemented.	1. Inform the SO and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SO; 3. Implement the agreed measures.
Limit Level Exceedance	1. Undertake Steps 1-4 as in the Action Level Exceedance. If further exceedance of Limit Level, propose enhancement measures for consideration.	1. Discuss monitoring with the ET and the Contractor; 2. Review proposals for additional monitoring and any other measures submitted by the Contractor and advise the SO accordingly.	1. Discuss with the IEC additional monitoring requirements and any other measures proposed by the ET; 2. Make the agreement on the measures to be implemented.	1. Inform the SO and confirm notification of the non-compliance in writing; 2. Discuss with the ET and the IEC and propose measures to the IEC and the SO; 3. Implement the agreed measures.

Appendix M Event / Action Plan for White-Bellied Sea Eagle

Event	Action		
	Environmental Team	Audit Team	Contractor
Absence of White-bellied Sea Eagle during a whole day of monitoring.	<p>Inform audit team.</p> <p>Increase monitoring frequency to daily.</p>	<p>Inform site engineer and contractor.</p> <p>If the absence remains:</p> <ul style="list-style-type: none"> • Review construction activities and noise monitoring records of the associated period; • Identify potential causes of the absence; • Propose remedial measures, such as change of construction method and sequence; • Confirm the feasibility of the proposed remedial measures with site engineer and contractor; • Discuss with environmental team about the effectiveness of the proposed remedial measures. 	<p>Implement the agreed remedial measures.</p>

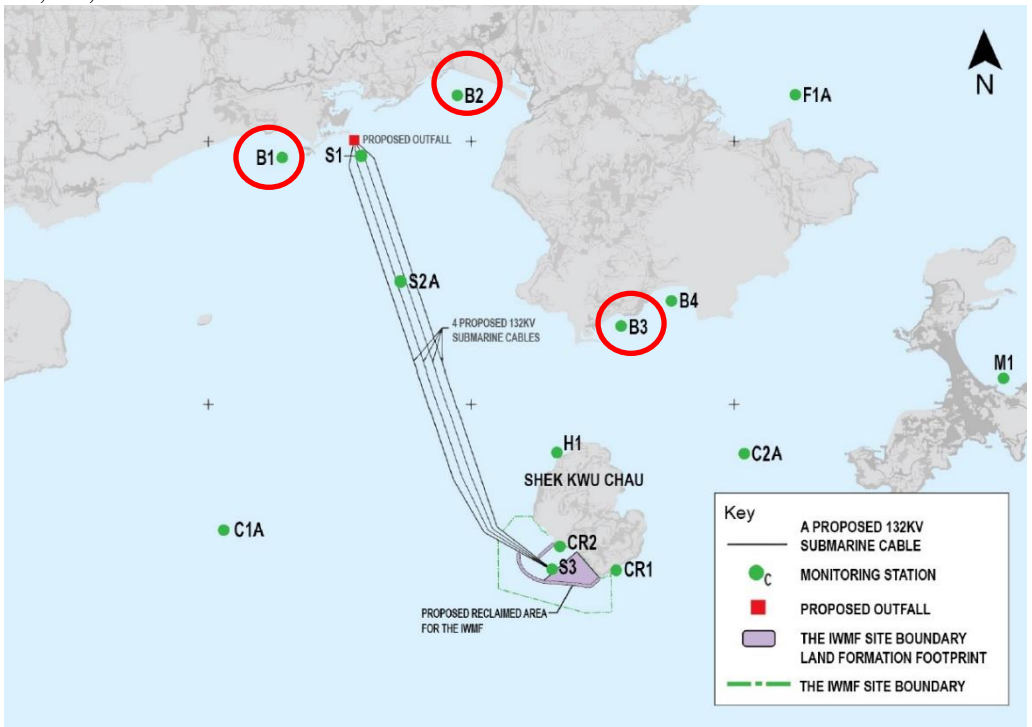
Appendix N Exceedance Report

Statistical Summary of Exceedances in the Reporting Period

Water Quality (Regular Monitoring)			
Location	Action Level	Limit Level	Total
B1	3	5	8
B2	3	7	10
B3	4	7	11
B4	3	5	8
CR1	4	6	10
CR2	3	7	10
F1A	3	3	6
H1	4	3	7
S1	0	0	0
S2A	0	0	0
S3	0	0	0
M1	2	4	6

Noise (Day Time)			
Location	Action Level	Limit Level	Total
M1	0	0	0
M2	0	0	0
M3	0	0	0
Noise (Evening Time)			
Location	Action Level	Limit Level	Total
M1	0	0	0
M2	0	0	0
M3	0	0	0
Noise (Night Time)			
Location	Action Level	Limit Level	Total
M1	0	0	0
M2	0	0	0
M3	0	0	0

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	01 Dec 2021 (Lab result received on 8 Dec 2021)		
Time	08:00 – 11:25 (Mid-Ebb) 14:08 – 17:38 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	B1, B2, B3 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 11.8 mg/L (120% of C1A)		≥ 12.8 mg/L (130% of C1A)
Measurement Level	Impact Station(s) of Exceedance	Measurement Level	Impact Station(s) without Exceedance
	21.8 mg/L (B1) 21.0 mg/L (B2) 19.3 mg/L (B3)	9.8 mg/L (C1A) 10.0 mg/L (C2A)	9.5 mg/L (B4) 10.5 mg/L (F1) 9.0 mg/L (H1) 9.3 mg/L (M1) 8.7 mg/L (CR1) 9.8 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works undertaken on 1 December 2021 include 2.5 tonne armour weighing and dropping test, levelling of underlayer rock at BWA CH870 – 900, landfilling works for below +6.00mPD, landfill works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at B1, B2 and B3. B1, B2 and B3 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances at these monitoring stations are deemed to be unrelated to the Project.</p>		

	<p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 01 Dec 2021.</p> <p>After the investigation, the exceedances on 01 Dec 2021 at B1, B2 and B3 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B1:



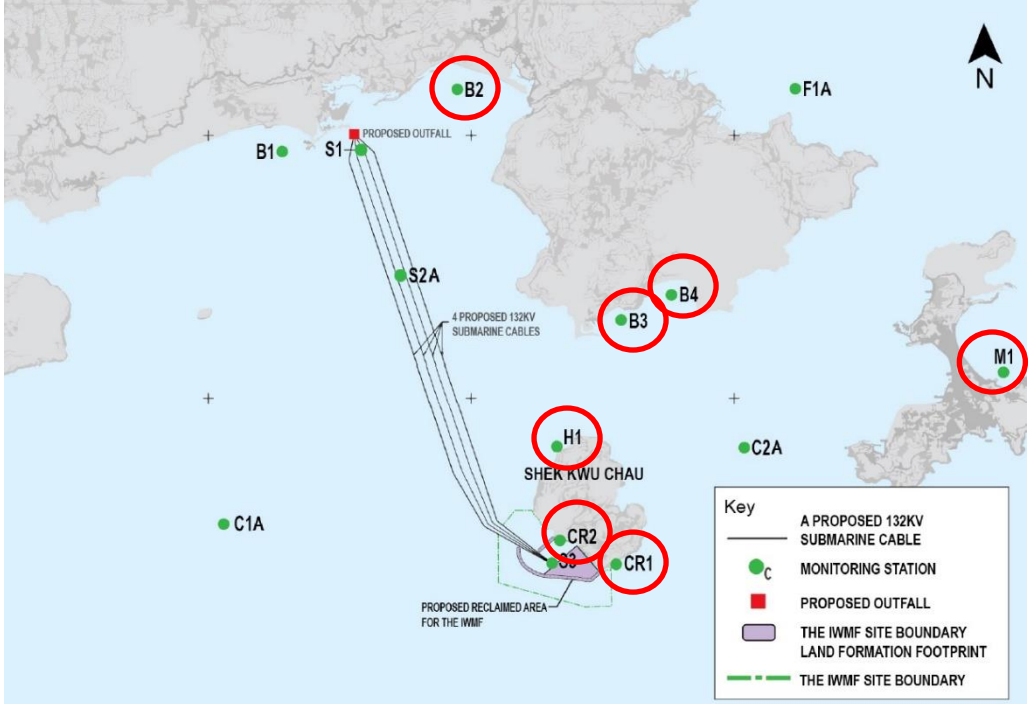
B2:



B3:



Mid-Flood

<p>Monitoring Location</p>	<p>B2, B3, B4, H1, M1, CR1 and CR2</p>  <p>The map shows the Shek Kwu Chau area with various monitoring stations marked by green dots. Stations B2, B3, B4, H1, and M1 are circled in red. A red square indicates the proposed outfall. Four lines represent proposed 132KV submarine cables. A purple shaded area shows the IWMF site boundary footprint, and a dashed green line shows the IWMF site boundary. Other stations include B1, C1A, C2A, F1A, S1, and S2A. A north arrow is in the top right corner.</p>		
<p>Parameter</p>	<p>Suspended Solid (SS)</p>		
<p>Action & Limit Levels</p>	<p>Action Level ≥ 8.0 mg/L</p>	<p>Limit Level ≥ 10.0 mg/L</p>	
<p>Measurement Level</p>	<p>Impact Station(s) of Exceedance</p> <p>8.8 mg/L (B2) 8.0 mg/L (B3) 8.8 mg/L (B4) 8.7 mg/L (H1) 17.7 mg/L (M1) 17.3 mg/L (CR1) 20.2 mg/L (CR2)</p>	<p>Control Stations</p> <p>9.0 mg/L (C1A) 6.3 mg/L (C2A)</p>	<p>Impact Station(s) without Exceedance</p> <p>7.8 mg/L (B1) 7.5 mg/L (F1A)</p>
<p>Possible reason for Action or Limit Level Non-compliance</p>	<p>Works scheduled on site on 01 Dec 2021 include leveling of underlayer rock at BWA CH870 – 900, installation of blockwork for marine access facility, landfilling works for below +6.00MPD, landfilling works for above +6.00MPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>Exceedances of action level were found at B2, B3, B4, H1. Exceedances of limit level were found at M1, CR1 and CR2.</p> <p>B2, B3, B4 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedances of these monitoring stations are deemed to be unrelated to the Project.</p> <p>CR1 and CR2 are located close to the Project site and H1 is the downstream of the Project site during Flood tide while no marine work was conducted on 01 Dec 2021.</p>		

	<p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 01 Dec 2021.</p> <p>After the investigation, the exceedances on 01 Dec 2021 at B2, B3, B4, H1, M1, CR1 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B2:



B3:



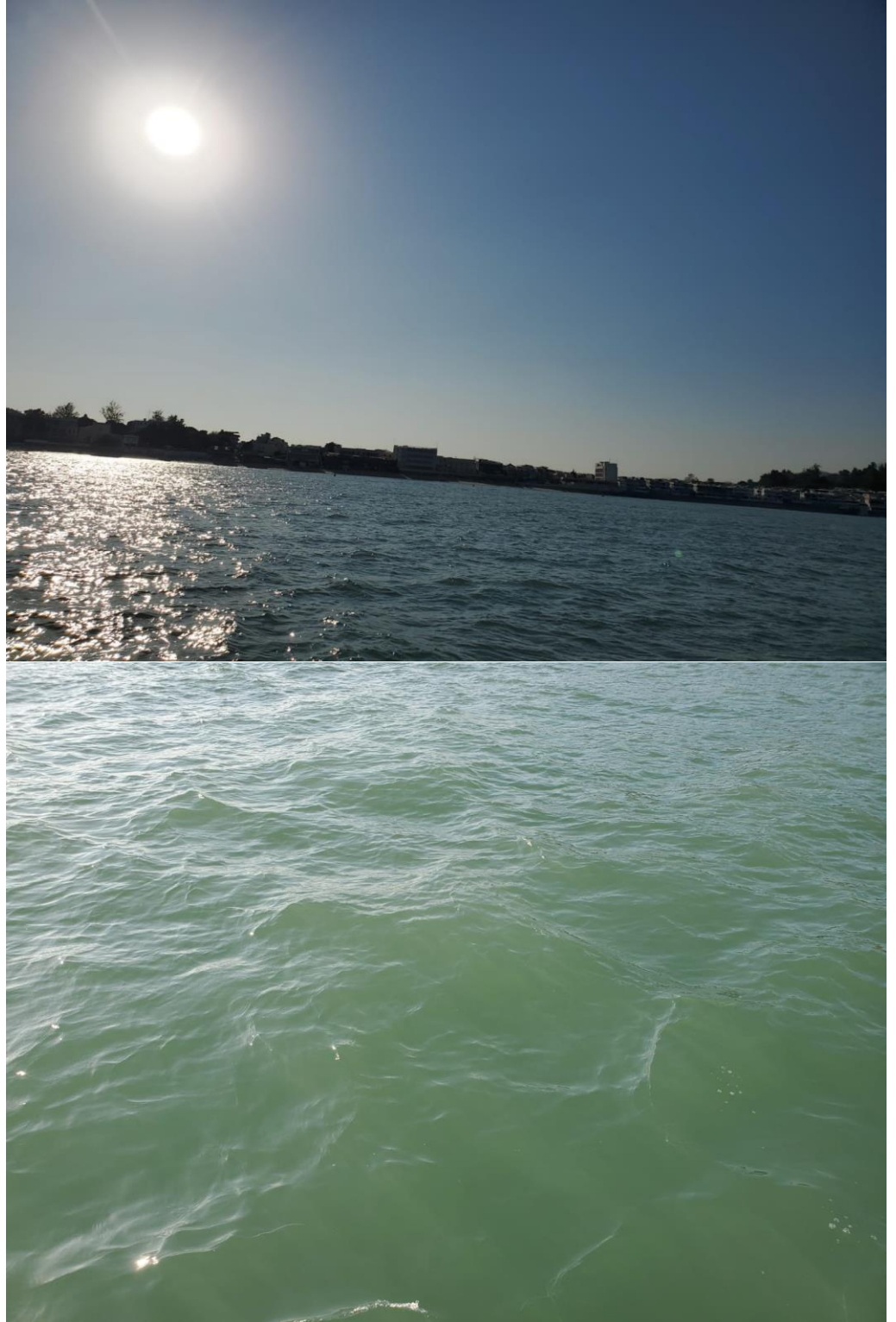
B4:



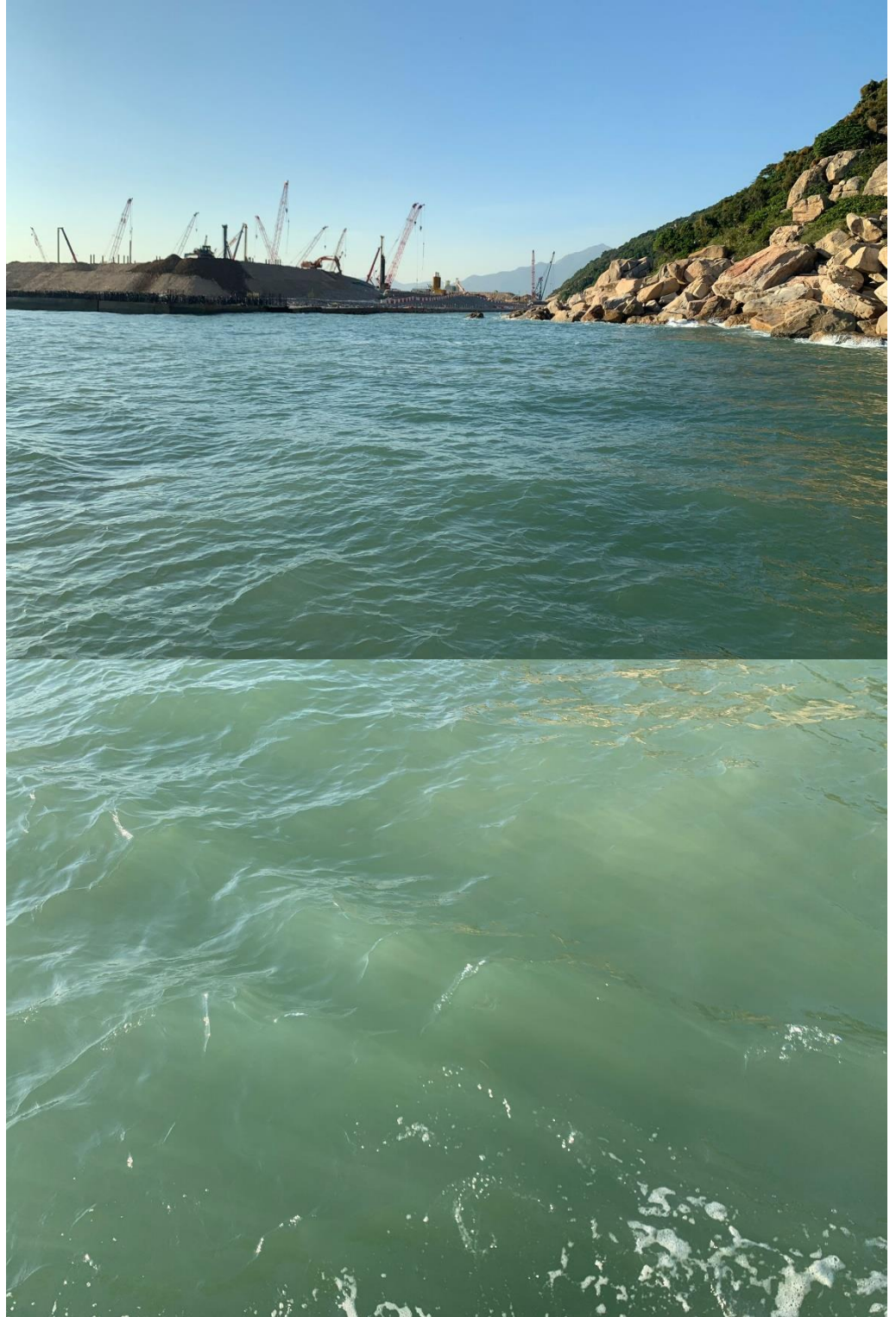
H1:



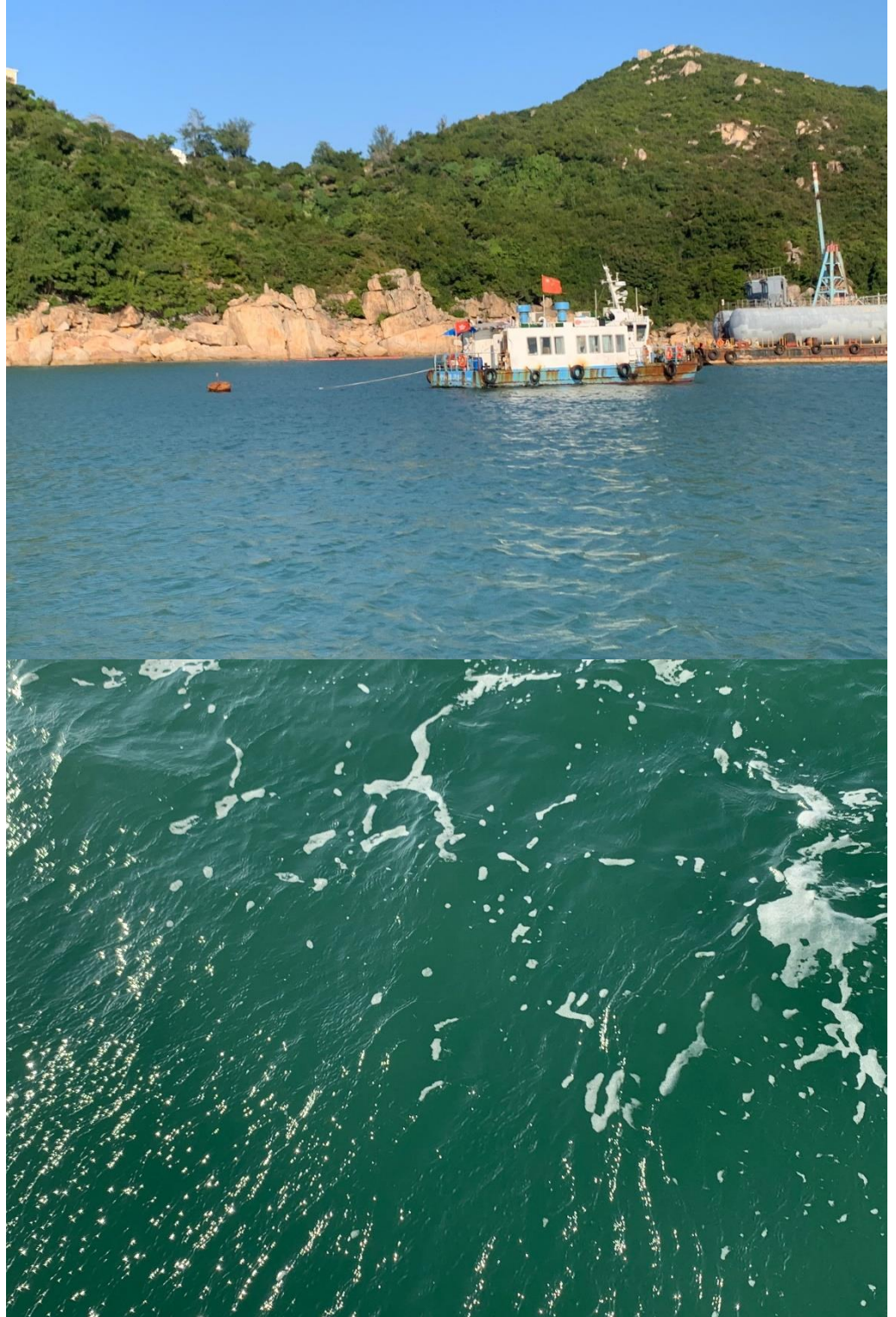
M1:



CR1:



CR2:

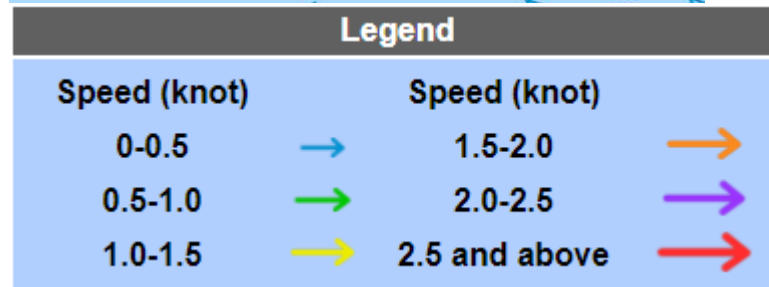


Remarks

Current direction during mid-ebb sampling on 01 Dec 2021:



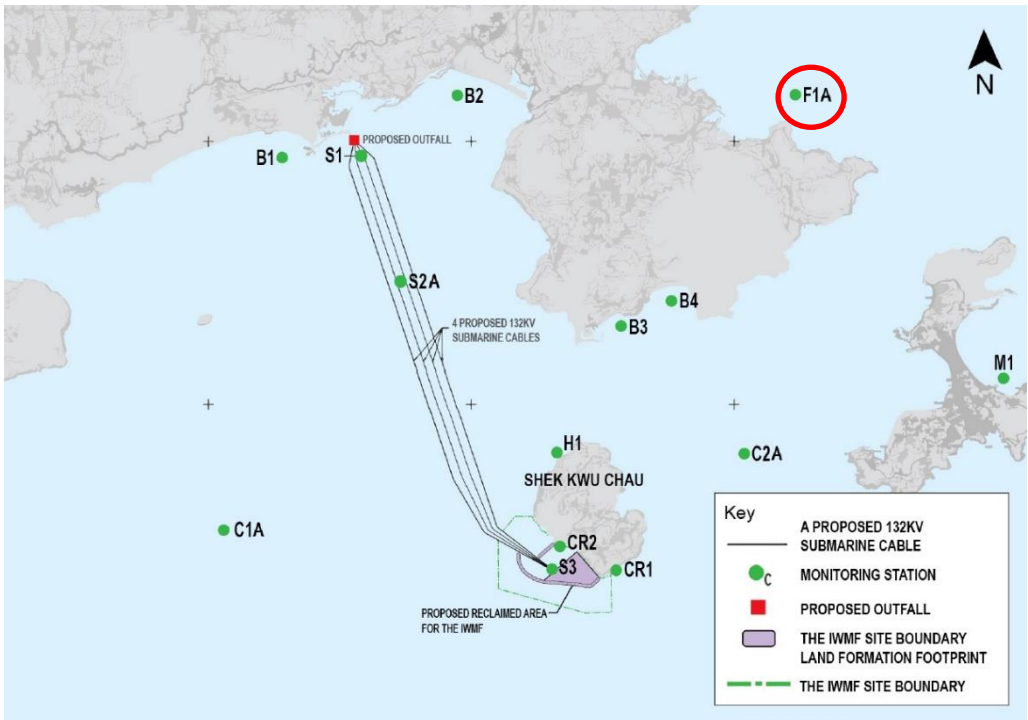
Current direction during mid-flood sampling on 01 Dec 2021:



(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by	Jack Chow
Date	10 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	03 Dec 2021 (Lab result received on 10 Dec 2021)		
Time	09:47 – 13:17 (Mid-Ebb) 15:18 – 18:48 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	F1A 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Action & Limit Levels
	≥ 9.0 mg/L (120% of C1A)		≥ 10.0 mg/L
Measurement Level	Impact Station(s) of Exceedance	Measurement Level	Impact Station(s) of Exceedance
	9.2 mg/L (F1A)	7.5 mg/L (C1A) 9.2 mg/L (C2A)	7.5 mg/L (B1) 6.5 mg/L (B2) 5.8 mg/L (B3) 6.5 mg/L (B4) 6.0 mg/L (H1) 7.0 mg/L (M1) 6.7 mg/L (CR1) 6.2 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on site on 03 Dec 2021 include Leveling of underlayer rock at BWA CH870 – 900, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection. Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau. An exceedance of action level was found at F1A.		

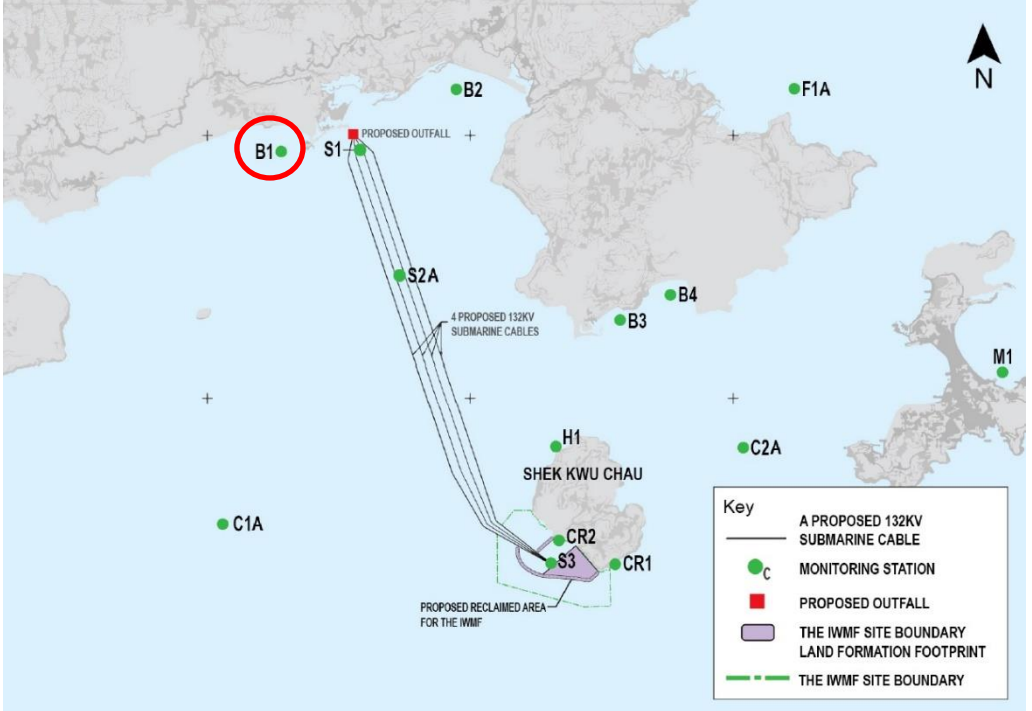
	<p>F1A was located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, the exceedance at this monitoring station is deemed to be unrelated to the Project.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 07 Dec 2021.</p> <p>After the investigation, the exceedance on 03 Dec 2021 at F1A is deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

F1A:



Mid-Flood

<p>Monitoring Location</p>	 <p>The map shows the Shek Kwu Chau area with various monitoring stations marked by green dots: B1 (circled in red), B2, B3, B4, C1A, C2A, H1, M1, S1, S2A, S3, and F1A. A red square indicates the proposed outfall. Four lines represent the proposed 132KV submarine cables. A purple shaded area shows the IWMF site boundary footprint, and a dashed green line shows the IWMF site boundary. A north arrow is in the top right corner.</p>		
<p>Parameter</p>	<p>Suspended Solid (SS)</p>		
<p>Action & Limit Levels</p>	<p>Action Level ≥ 8.0 mg/L</p>		<p>Limit Level ≥ 10.0 mg/L</p>
<p>Measurement Level</p>	<p>Impact Station(s) of Exceedance 8.0 mg/L (B1)</p>	<p>Control Stations 5.0 mg/L (C1A) 5.8 mg/L (C2A)</p>	<p>Impact Station(s) without Exceedance 7.3 mg/L (B2) 7.8 mg/L (B3) 7.5 mg/L (B4) 6.0 mg/L (F1A) 6.8 mg/L (H1) 6.2 mg/L (M1) 6.8 mg/L (CR1) 6.7 mg/L (CR2)</p>
<p>Possible reason for Action or Limit Level Non-compliance</p>	<p>Works scheduled on site on 03 Dec 2021 include Leveling of underlayer rock at BWA CH870 – 900, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>An exceedance of action level was found at B1.</p> <p>B1 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedance at this monitoring station is deemed to be unrelated to the Project.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p>		

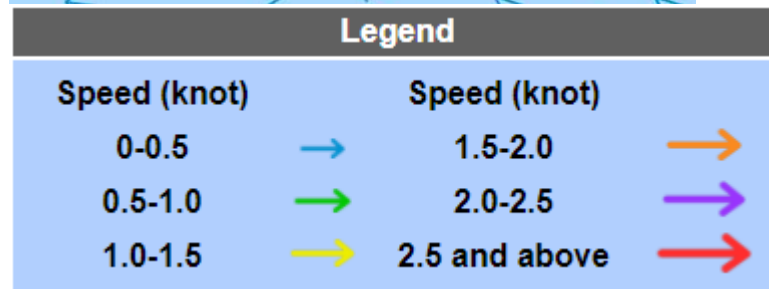
	<p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 07 Dec 2021.</p> <p>After the investigation, the exceedance on 03 Dec 2021 at B1 is deemed to be unrelated to the Project.</p>
<p>Monitoring photos of stations with exceedance</p>	<p>B1:</p>  A photograph showing a coastal area. The foreground is dominated by greenish, slightly rippled water. In the middle ground, there is a sandy beach with some buildings and trees. The background consists of a large, forested hillside under a clear blue sky.

Remarks

Current direction during mid-ebb sampling on 03 Dec 2021:



Current direction during mid-flood sampling on 03 Dec 2021:



(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by	Jack Chow
Date	07 Jan 2022

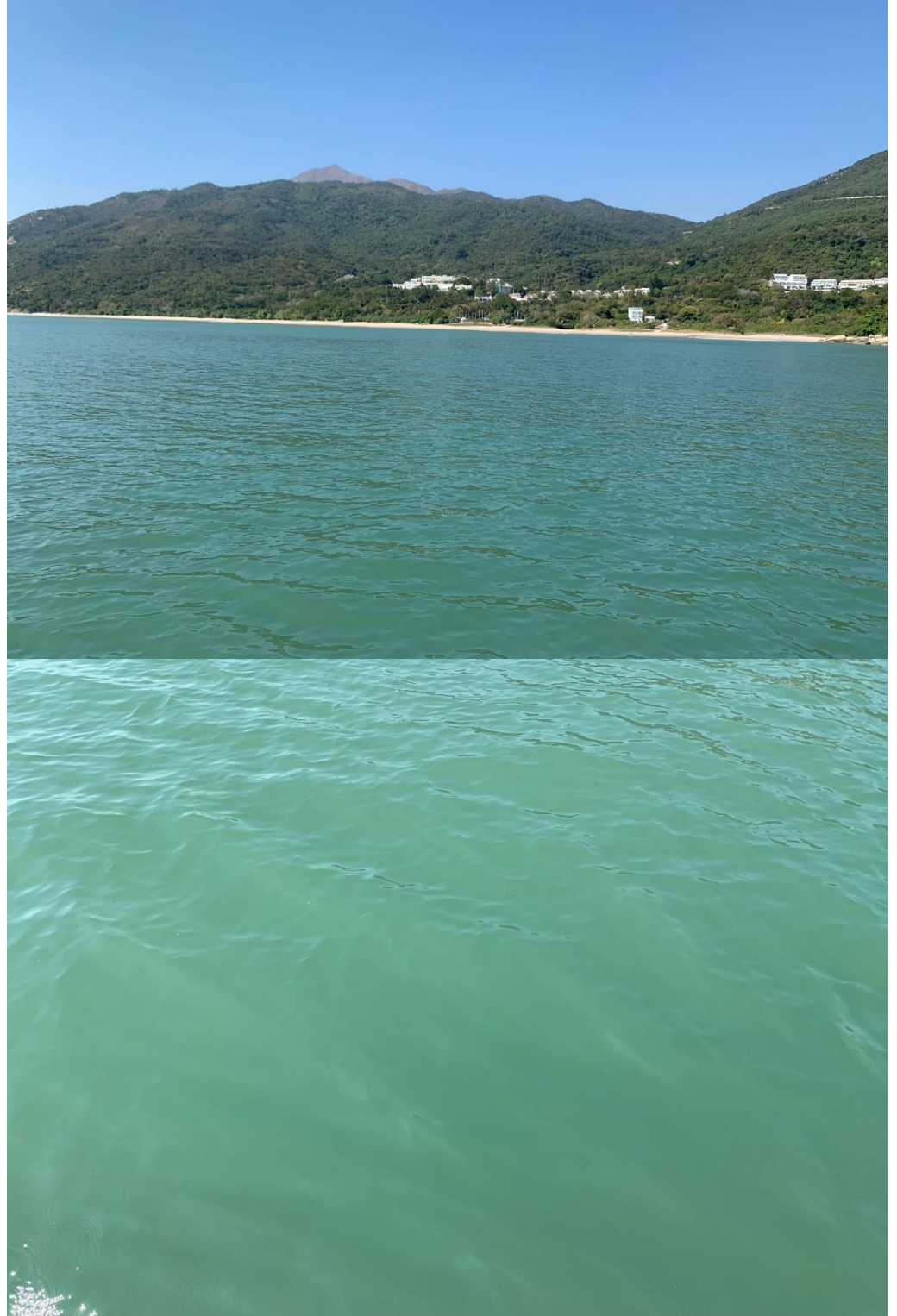
Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	06 Dec 2021 (Lab result received on 13 Dec 2021)		
Time	12:22 – 15:52 (Mid-Ebb)		
	Mid-Ebb		
Monitoring Location	B1, B3, B4, M1, CR1, CR2		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 8.0 mg/L		≥ 10.0 mg/L
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	9.8 mg/L (B1) 9.0 mg/L (B3) 11.5 mg/L (B4) 8.5 mg/L (M1) 8.7 mg/L (CR1) 8.5 mg/L (CR2)	5.2 mg/L (C1A) 5.0 mg/L (C2A)	7.0 mg/L (B2) 5.2 mg/L (F1) 6.8 mg/L (H1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 06 Dec 2021 include Laying 1 T armour rock at Seawall A, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominating sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of action level were found at B1, B3, M1, CR1 and CR2. Exceedances of limit level was found at B4.</p> <p>B1, B3, B4 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedances of these monitoring stations are deemed to be unrelated to the Project.</p>		

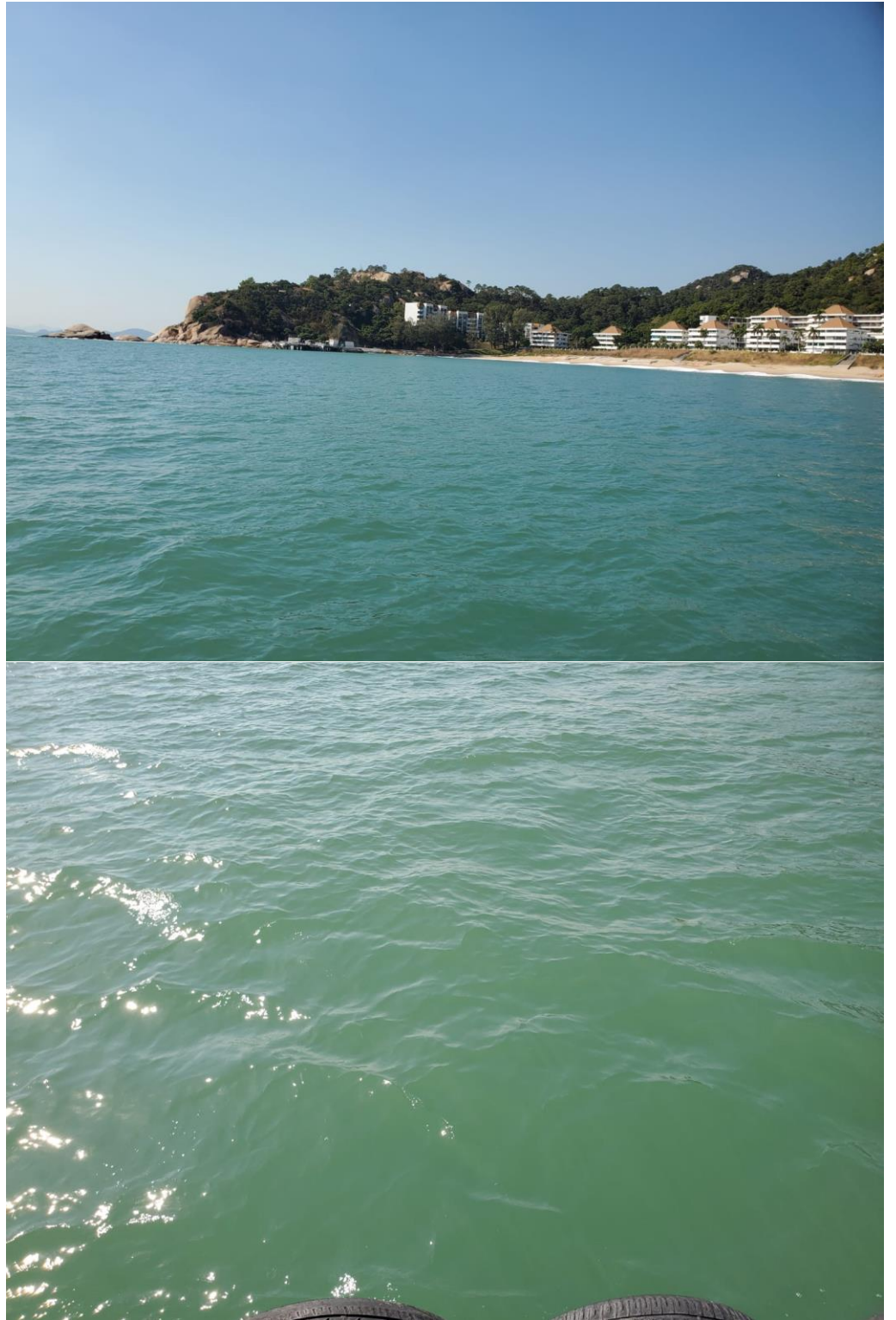
	<p>CR1 and CR2 are located close to the works location within the Project site while no marine work was conducted on 06 Dec 2021.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that could contribute to the increase of the suspended solids was recorded during the weekly inspection on 01 and 07 Dec 2021.</p> <p>After the investigation, the exceedances on 06 Dec 2021 at B1, B3, B4, M1, CR1 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B1:



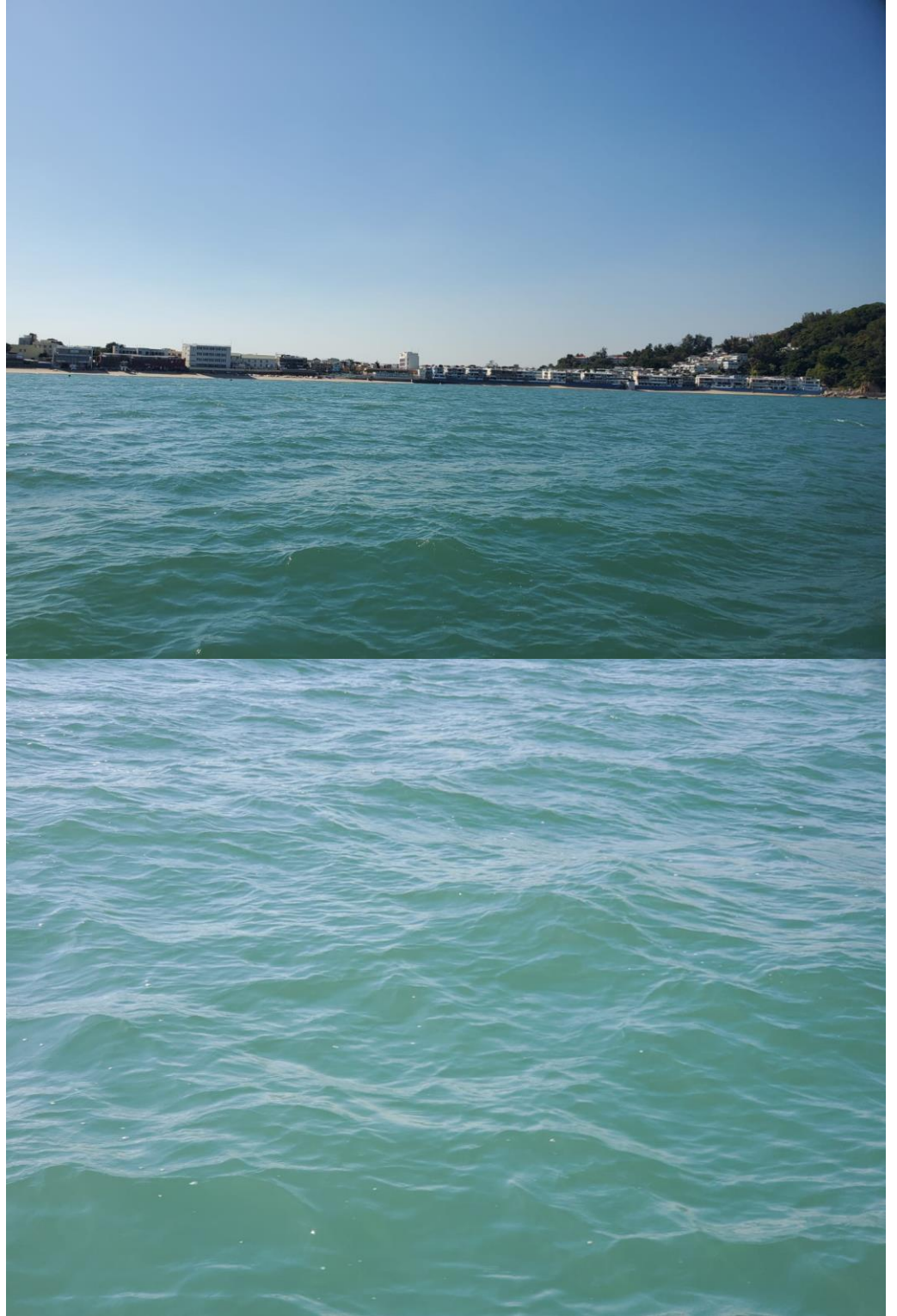
B3:



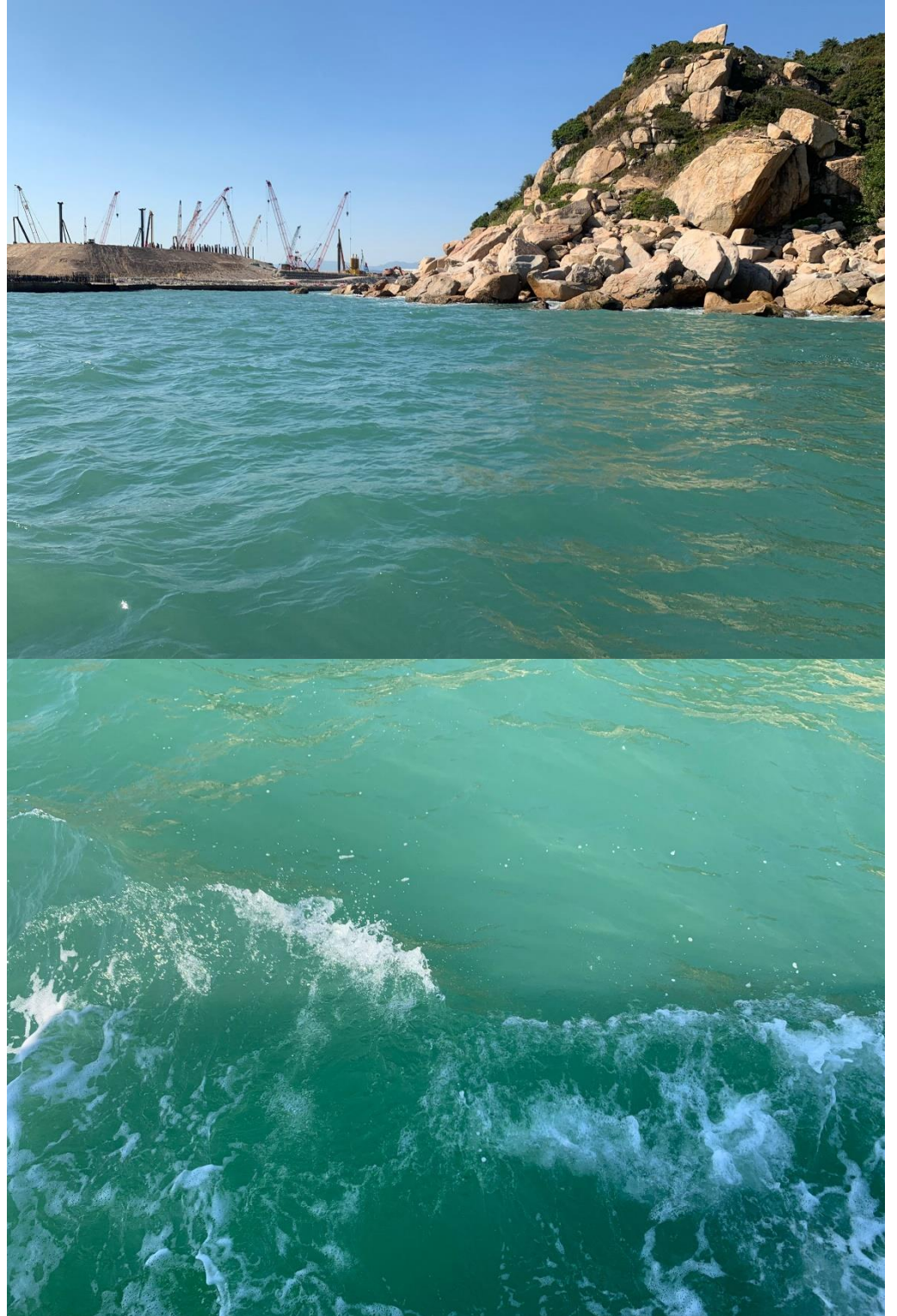
B4:



M1:



CR1:



CR2:



Remarks

Current direction during mid-ebb sampling on 06 Dec 2021:



Legend			
Speed (knot)		Speed (knot)	
0-0.5		1.5-2.0	
0.5-1.0		2.0-2.5	
1.0-1.5		2.5 and above	

(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by	Jack Chow
Date	10 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	08 Dec 2021 (Lab result received on 15 Dec 2021)		
Time	14:18 – 16:54 (Mid-Ebb) 08:50 – 12:20 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	B1, B2, B3, B4, M1, CR1 and CR2		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Action & Limit Levels
	≥ 11.2 mg/L (120% of C1A)		≥ 12.1 mg/L (130% of C1A)
Measurement Level	Impact Station(s) of Exceedance	Measurement Level	Impact Station(s) without Exceedance
	15.5 mg/L (B1) 13.8 mg/L (B2) 15.8 mg/L (B3) 14.0 mg/L (B4) 22.2 mg/L (M1) 12.5 mg/L (CR1) 24.2 mg/L (CR2)	9.3 mg/L (C1A) 10.2 mg/L (C2A)	9.8 mg/L (F1) 11.0 mg/L (H1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 08 Dec 2021 include leveling of 500kg armour rock at Breakwater B CH60 - CH150, leveling of underlayer rock at BWA CH900 - CH930, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at B1, B2, B3, B4, M1, CR1 and CR2.</p>		

	<p>B1, B2, B3, B4 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedances of these monitoring stations are deemed to be unrelated to the Project.</p> <p>CR2 is located within the Project site while no marine work was conducted on 08 Dec 2021.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly inspection on 14 Dec 2021.</p> <p>After the investigation, the exceedances on 08 Dec 2021 at B1, B2, B3, B4, M1, CR1 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B1:



B2:



B3:



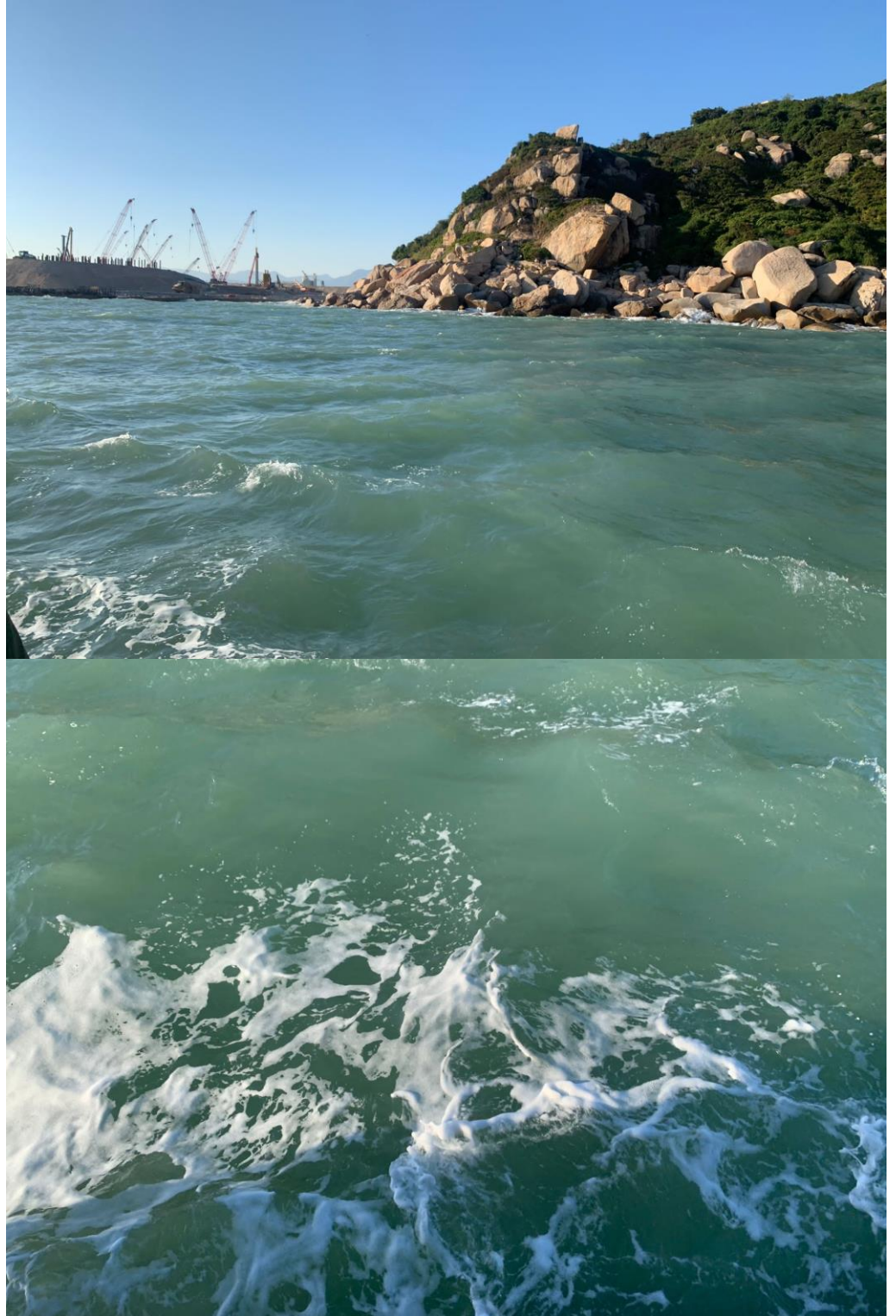
B4:



M1:

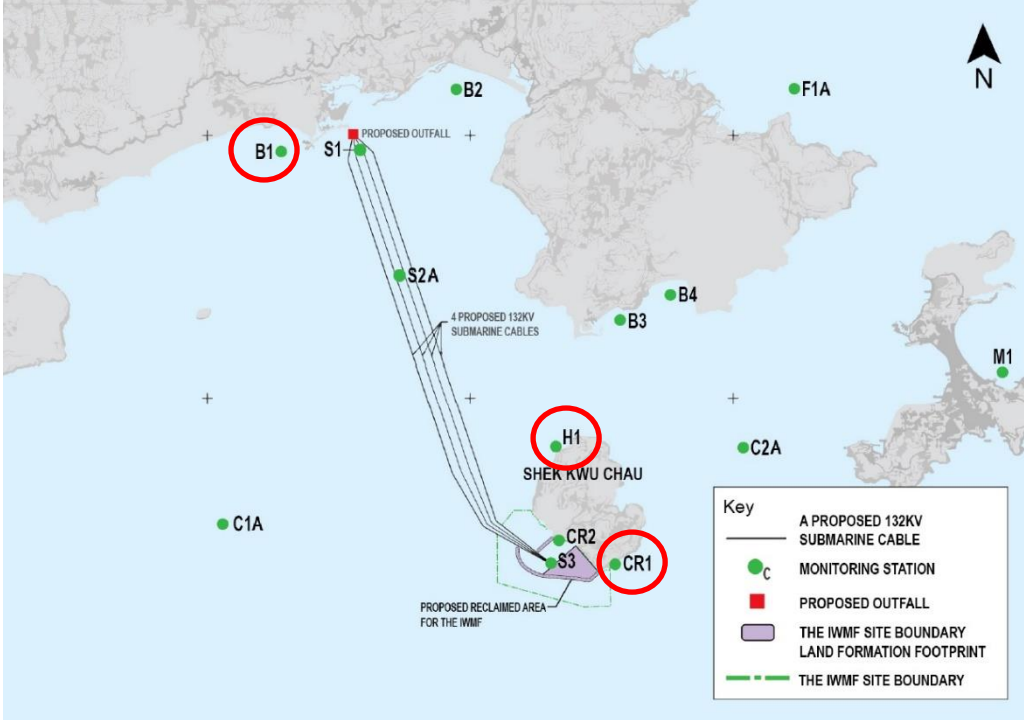


CR1:



CR2:



Mid-Flood			
Monitoring Location	B1, H1 and CR1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 15.2 mg/L (120% of C2A)		≥ 16.5 mg/L (130% of C2A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	16.0 mg/L (B1) 20.0 mg/L (H1) 19.7 mg/L (CR1)	13.2 mg/L (C1A) 12.7 mg/L (C2A)	10.5 mg/L (B2) 14.3 mg/L (B3) 9.8 mg/L (B4) 12.0 mg/L (CR2) 12.3 mg/L (M1) 12.3 mg/L (F1A)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 08 Dec 2021 include leveling of 500kg armour rock at Breakwater B CH60 - CH150, leveling of underlayer rock at BWA CH900 - CH930, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>Exceedances of action level was found at B1 and exceedances of limit level were found at H1 and CR1.</p> <p>B1 is located far away from the works location and H1 and CR1 are located at unrelated stream direction. No marine work was conducted on site on 8 Dec 2021.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p>		

	<p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids was recorded during the weekly inspection on 14 Dec 2021.</p> <p>After the investigation, the exceedances on 08 Dec 2021 at B1, H1 and CR1 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B1:



H1:

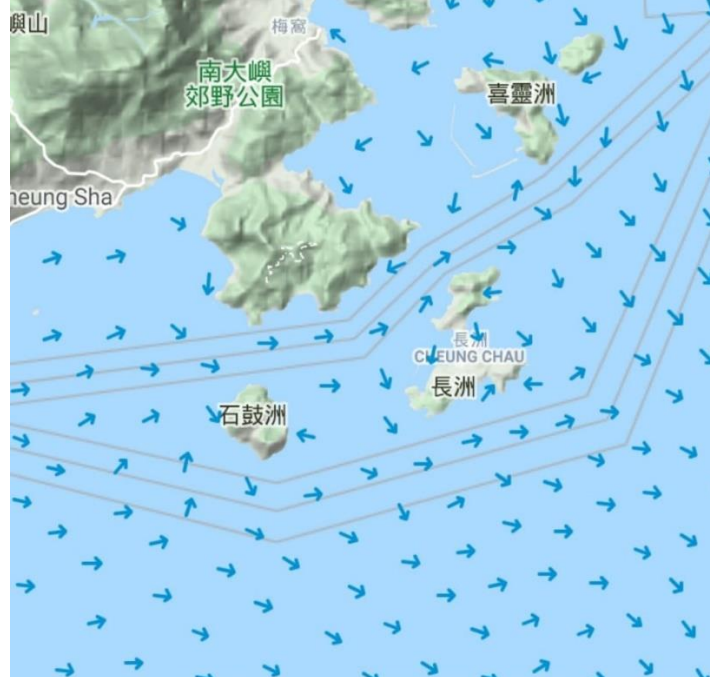


CR1:

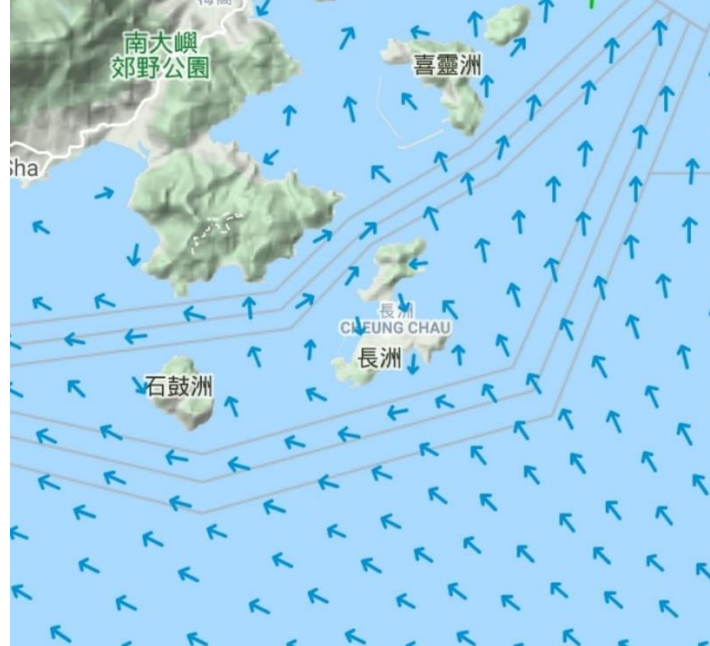


Remarks

Current direction during mid-ebb sampling on 08 Dec 2021:



Current direction during mid-flood sampling on 08 Dec 2021:



Legend

Speed (knot)		Speed (knot)	
0-0.5		1.5-2.0	
0.5-1.0		2.0-2.5	
1.0-1.5		2.5 and above	

(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by Jack Chow

Date 10 Jan 2022

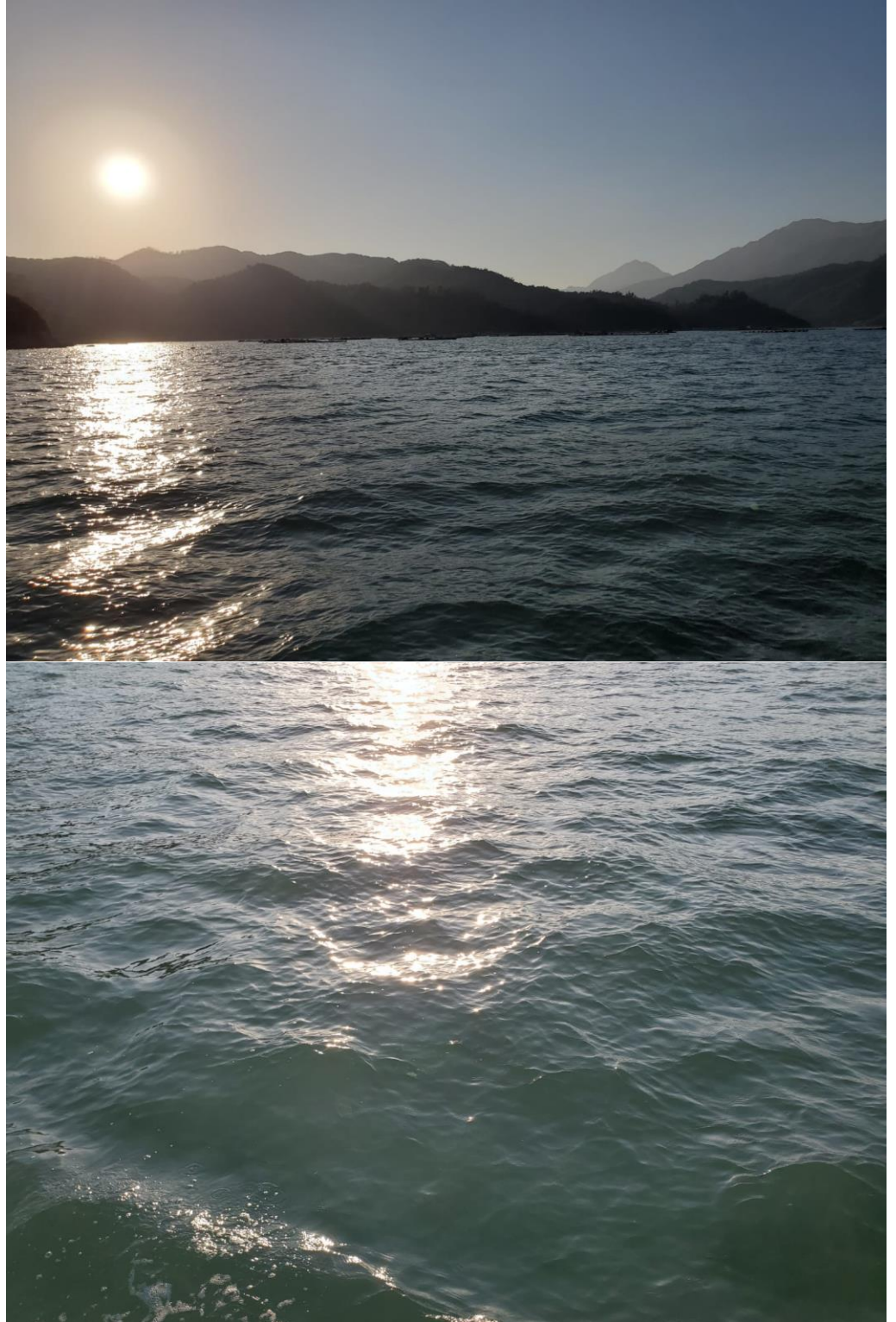
Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	10 Dec 2021 (Lab result received on 16 Dec 2021)		
Time	15:45 – 19:00 (Mid-Ebb)		
Monitoring Location	Mid-Ebb F1A, CR1		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 11.2 mg/L (C1A of 120%)		≥ 12.1 mg/L (C1A of 130%)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	12.2 mg/L (F1A) 11.2 mg/L (CR1)	9.3 mg/L (C1A) 11.0 mg/L (C2A)	9.8 mg/L (B1) 7.0 mg/L (B2) 8.0 mg/L (B3) 7.5 mg/L (B4) 8.8 mg/L (H1) 5.5 mg/L (M1) 5.5 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 10 Dec 2021 include leveling of 500kg armour rock at Breakwater B CH60 - CH150, laying of 900kg armour rock at Seawall A CH320 - CH440, installation of Caisson 49K1, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p>		

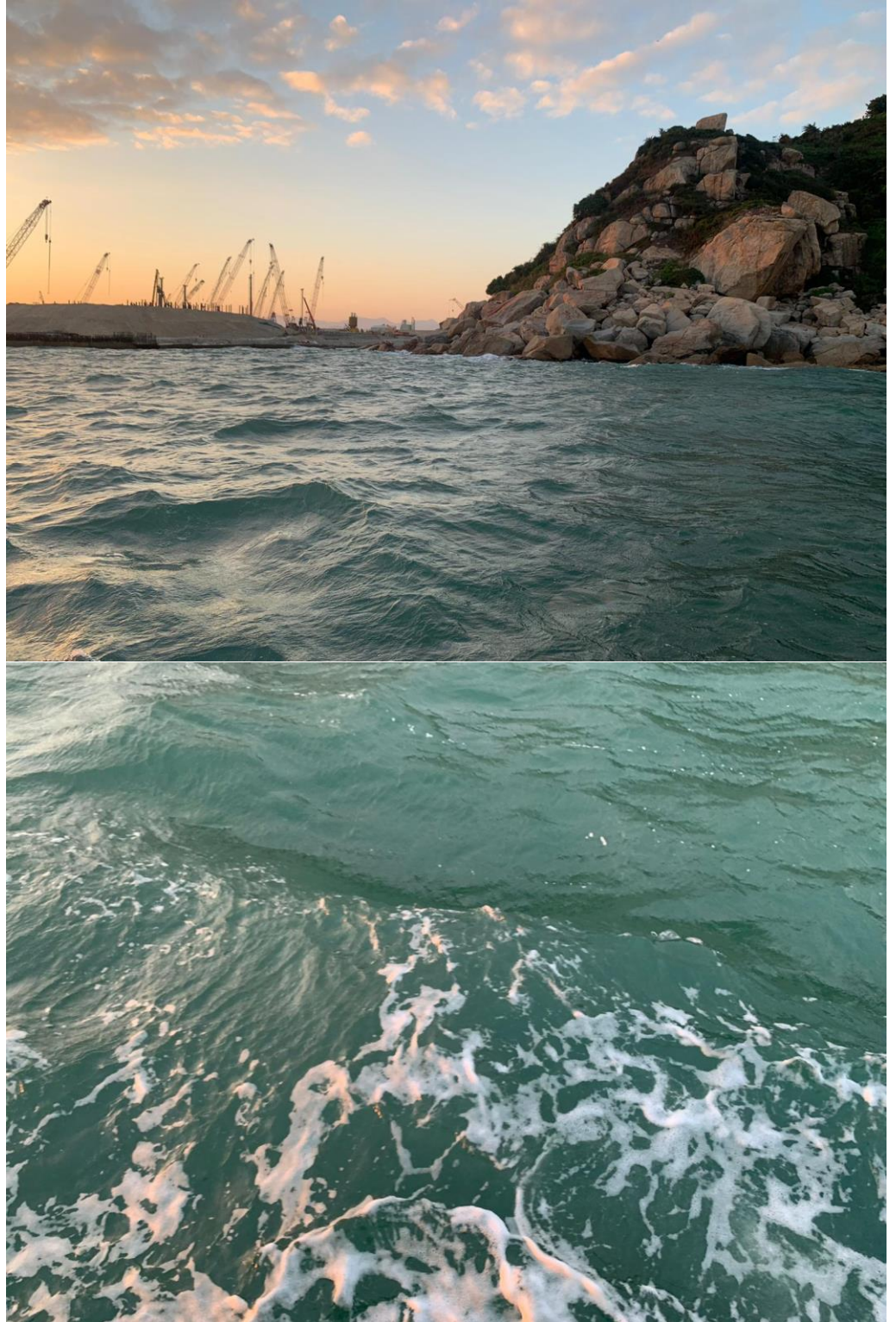
	<p>An exceedance of action level was found at CR1 and an exceedance of limit level was found at F1A.</p> <p>F1A is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedance at this monitoring station is deemed to be unrelated to the Project.</p> <p>CR1 is located within the Project site while no marine work was conducted on 10 Dec 2021.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 14 Dec 2021.</p> <p>After the investigation, the exceedances on 10 Dec 2021 at F1A and CR1 are deemed to be unrelated to the Project.</p>
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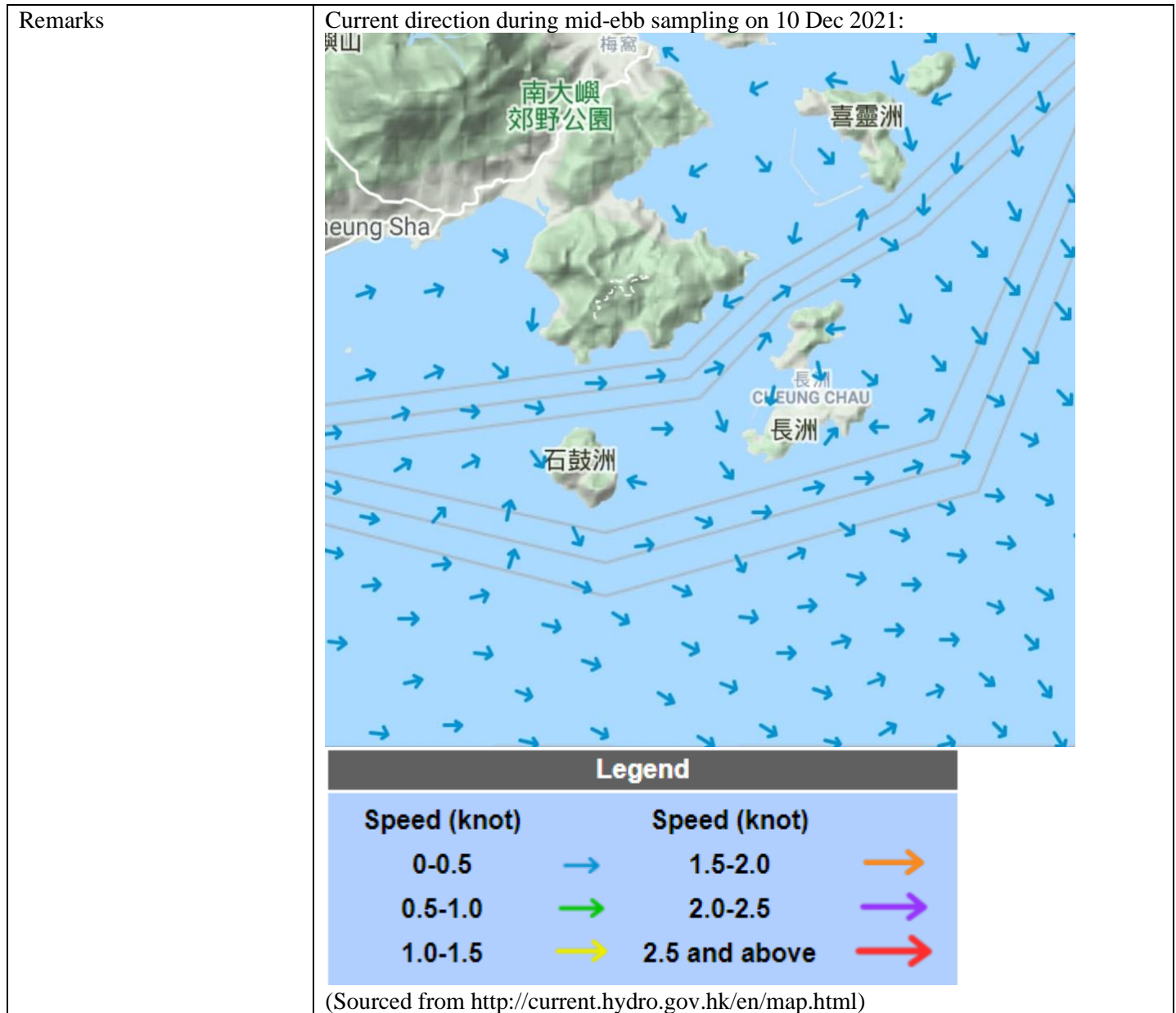
Monitoring photos of
stations with exceedance

F1A:



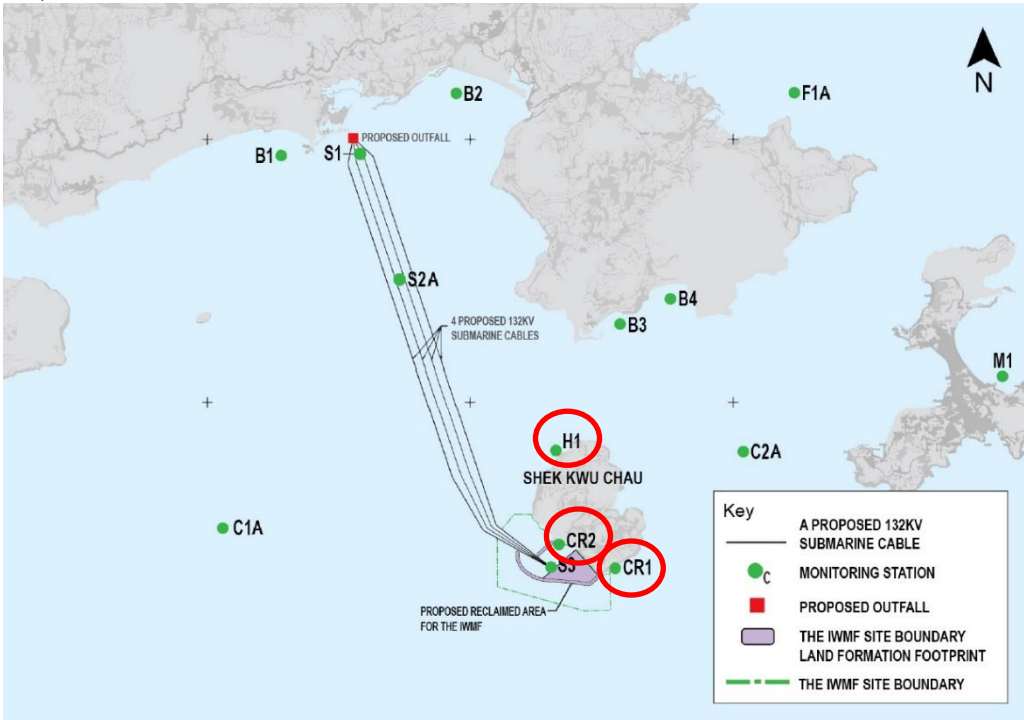
CR1:





Prepared by	Jack Chow
Date	07 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	10 Dec 2021		
Time	10:34 – 14:04 (Mid-Flood)		
Mid-Flood			
Monitoring Location	H1, CR1 and CR2 		
Parameter	Dissolved oxygen (DO)		
Action & Limit Levels	Action Level		Limit Level
	≤ 7.13 mg/L		≤ 4 mg/L
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	6.29 mg/L (H1) 6.45 mg/L (CR1) 6.22 mg/L (CR2)	7.59 mg/L (C1A) 6.61 mg/L (C2A)	8.24 mg/L (B1) 8.12 mg/L (B2) 8.03 mg/L (B3) 8.15 mg/L (B4) 7.49 mg/L (F1A) 7.45 mg/L (M1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 10 Dec 2021 include leveling of 500kg armour rock at Breakwater B CH60 - CH150, laying of 900kg armour rock at Seawall A CH320 - CH440, installation of Caisson 49K1, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of Action level were found at H1, CR1 and CR2.</p> <p>CR1 and CR2 is located within the Project site and H1 is the downstream of the Project site during Flood tide while no marine work was conducted on 10 Dec 2021.</p>		

	<p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume or stain of chemical spillage was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the chemical oxygen demand (COD) were recorded during the weekly inspection on 14 Dec 2021.</p> <p>The exceedances of Action level at location H1, CR1 and CR2 were possibly caused by the natural fluctuation in DO level. With reference to the water quality monitoring data documented in Annual Marine Water Quality Report of 2020 (https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/water/hk_wqrc/files/waterquality/annual-report/marinereport2020.pdf) issued by EPD, the DO level of three monitoring stations (i.e. SM11, SM12 and SM13) that were adjacent to the Project site was ranged from 4.2mg/L to 8.6mg/L. The measured DO levels at monitoring stations H1, CR1 and CR2 were within the range of DO level recorded by the EPD.</p> <p>After the investigation, the exceedances on 10 Dec 2021 at H1, CR1 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

H1:



CR1:

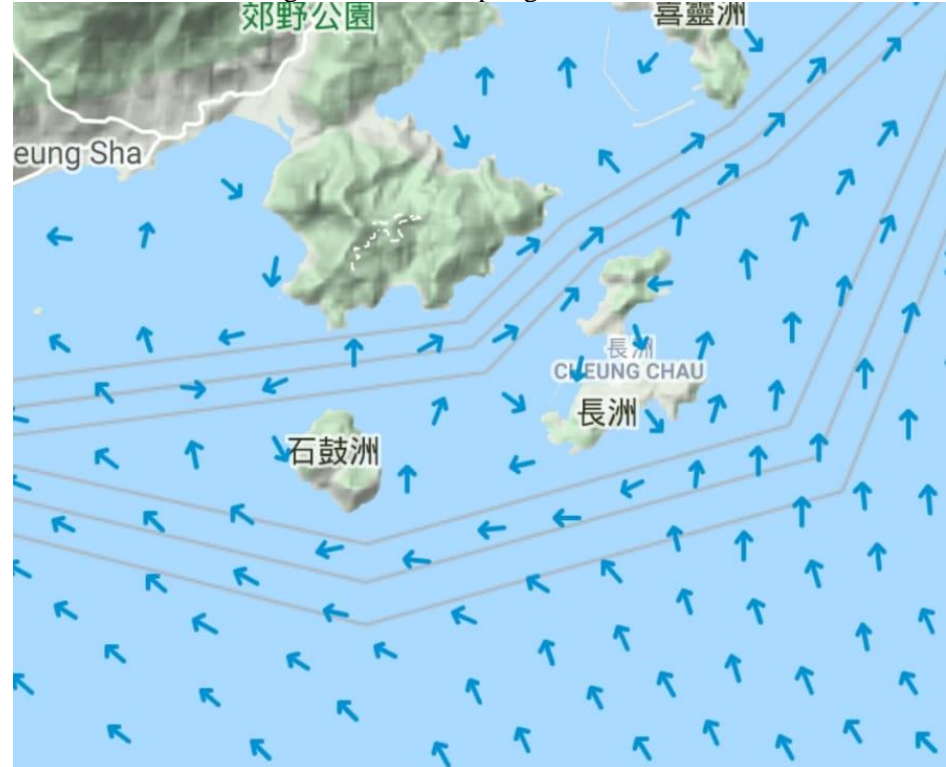


CR2:



Remarks

Current direction during mid-flood sampling on 10 Dec 2021:

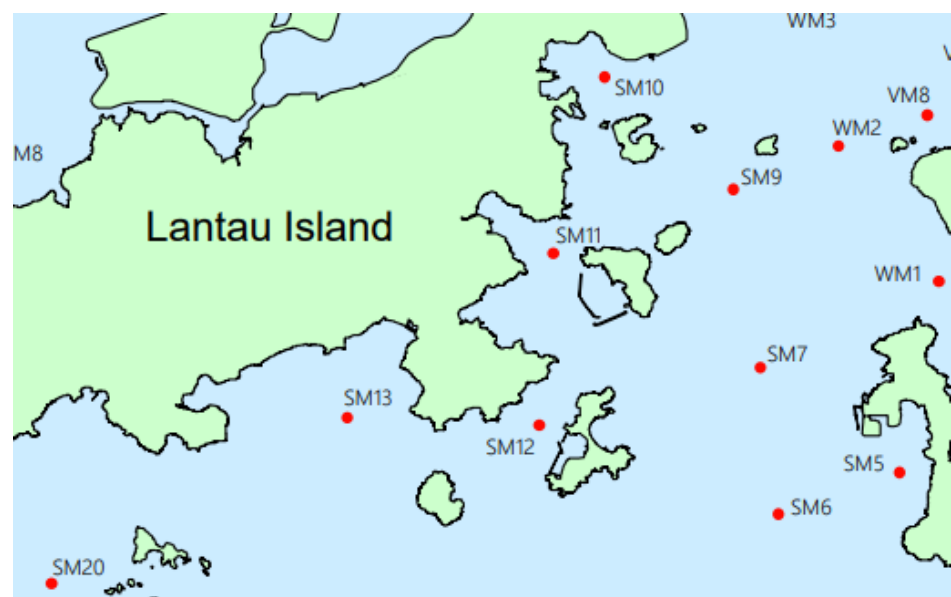


Legend

Speed (knot)	Speed (knot)
0-0.5	1.5-2.0
0.5-1.0	2.0-2.5
1.0-1.5	2.5 and above

(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Screen grab of monitoring locations of EPD marine water quality monitoring in 2020:



(https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/water/hk_wqrc/files/waterquality/annual-report/marinereport2020.pdf)

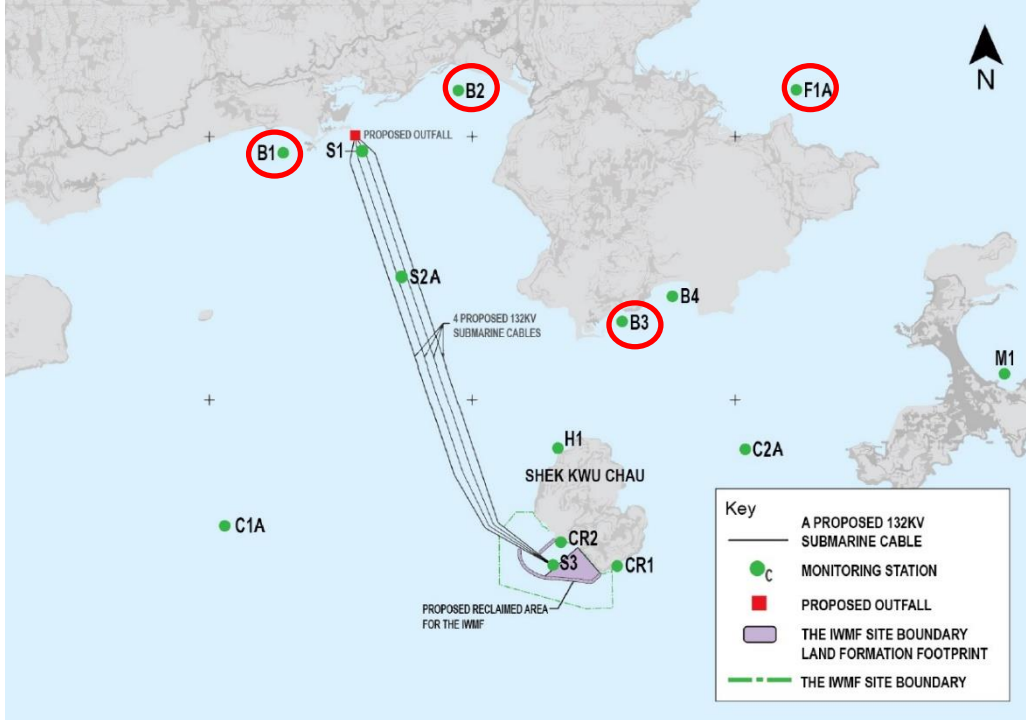
Screen grab of monitoring data of EPD marine water quality monitoring in 2020:

Summary of water quality statistics for the Southern WCZ in 2020 (continued)					
Parameter	Lantau Island (East)			Lantau Island (South)	
	SM10	SM11	SM12	SM13	SM17
Number of samples	8	8	8	8	8
Temperature (°C)	25.8 (20.6 - 29.3)	25.8 (20.8 - 29.0)	25.6 (20.6 - 29.0)	25.9 (20.5 - 29.2)	25.1 (20.1 - 29.0)
Salinity	29.4 (24.8 - 33.1)	29.9 (25.8 - 33.1)	30.1 (25.2 - 33.1)	29.5 (22.6 - 33.3)	31.1 (26.9 - 33.0)
Dissolved Oxygen (mg/L)	6.0 (4.8 - 6.8)	6.4 (4.2 - 8.4)	6.4 (4.7 - 8.1)	6.5 (5.4 - 8.6)	5.9 (5.0 - 6.5)
Bottom	6.0 (4.5 - 6.8)	6.4 (3.8 - 8.7)	6.3 (4.4 - 8.0)	6.6 (5.3 - 9.1)	5.8 (4.2 - 7.3)

(https://www.epd.gov.hk/epd/sites/default/files/epd/english/environmentinhk/water/hk_wqrc/files/waterquality/annual-report/marinereport2020.pdf)

Prepared by	Joe Ho
Date	11 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	15 Dec 2021 (Lab result received on 21 Dec 2021)		
Time	08:07 – 11:37 (Mid-Ebb)		
Mid-Ebb			
Monitoring Location	B1, B2, B3 and F1A 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 9.2 mg/L (120% of C1A)		≥ 10.0 mg/L
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	14.0 mg/L (B1) 11.8 mg/L (B2) 11.0 mg/L (B3) 16.0 mg/L (F1A)	7.7 mg/L (C1A) 6.5 mg/L (C2A)	6.8 mg/L (B4) 7.8 mg/L (H1) 8.7 mg/L (M1) 8.7 mg/L (CR1) 8.5 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 15 Dec 2021 include infilling of G200 rock at Caisson 49K1; laying of 900kg armour rock at Seawall A (CH320 - CH440; CH660 - CH670); leveling of underlayer rock at BWA CH920 – 950, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at B1, B2, B3 and F1A.</p> <p>B1, B2, B3 and F1A are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedances at these monitoring stations are deemed to be unrelated to the Project.</p>		

	<p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine cloudy during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 23 Dec 2021.</p> <p>After the investigation, the exceedances on 15 Dec 2021 at B1, B2, B3 and F1A are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B1:



B2:



B3:



F1A:



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Remarks

Current direction during mid-ebb sampling on 15 Dec 2021:



Legend			
Speed (knot)		Speed (knot)	
0-0.5		1.5-2.0	
0.5-1.0		2.0-2.5	
1.0-1.5		2.5 and above	

(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by	Jack Chow
Date	10 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	17 Dec 2021 (Lab result received on 22 Dec 2021)		
Time	09:31 – 13:01 (Mid-Ebb) 14:50 – 18:20 (Mid-Flood)		
Mid-Ebb			
Monitoring Location	B2, B3, B4, H1, M1, CR1 and CR2		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Action & Limit Levels
	≥ 9.8 mg/L (120% of C1A)		≥ 10.7 mg/L (120% of C1A)
Measurement Level	Impact Station(s) of Exceedance	Measurement Level	Impact Station(s) without Exceedance
	10.8 mg/L (B2) 10.0 mg/L (B3) 10.3 mg/L (B4) 10.0 mg/L (H1) 14.3 mg/L (M1) 14.3 mg/L (CR1) 24.3 mg/L (CR2)	8.2 mg/L (C1A) 11.0 mg/L (C2A)	9.0 mg/L (B1) 9.2 mg/L (F1A)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 17 Dec 2021 include laying of 1T armour rock at Seawall A CH300 - CH350, laying of 900kg armour rock at Seawall A CH350 - CH440, leveling of underlayer rock at BWA CH920 - 950, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of action level were found at B3, B4 and H1. Exceedances of limit level were found at B2, M1, CR1 and CR2.</p>		

	<p>B2, B3, B4, H1 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances at these monitoring stations are deemed to be unrelated to the Project.</p> <p>CR1 and CR2 are located close to the Project site while no marine work was conducted on 17 Dec 2021.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was cloudy during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 23 Dec 2021.</p> <p>After the investigation, the exceedances on 17 Dec 2021 at B2, B3, B4, H1, M1, CR1 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B2:



B3:



B4:



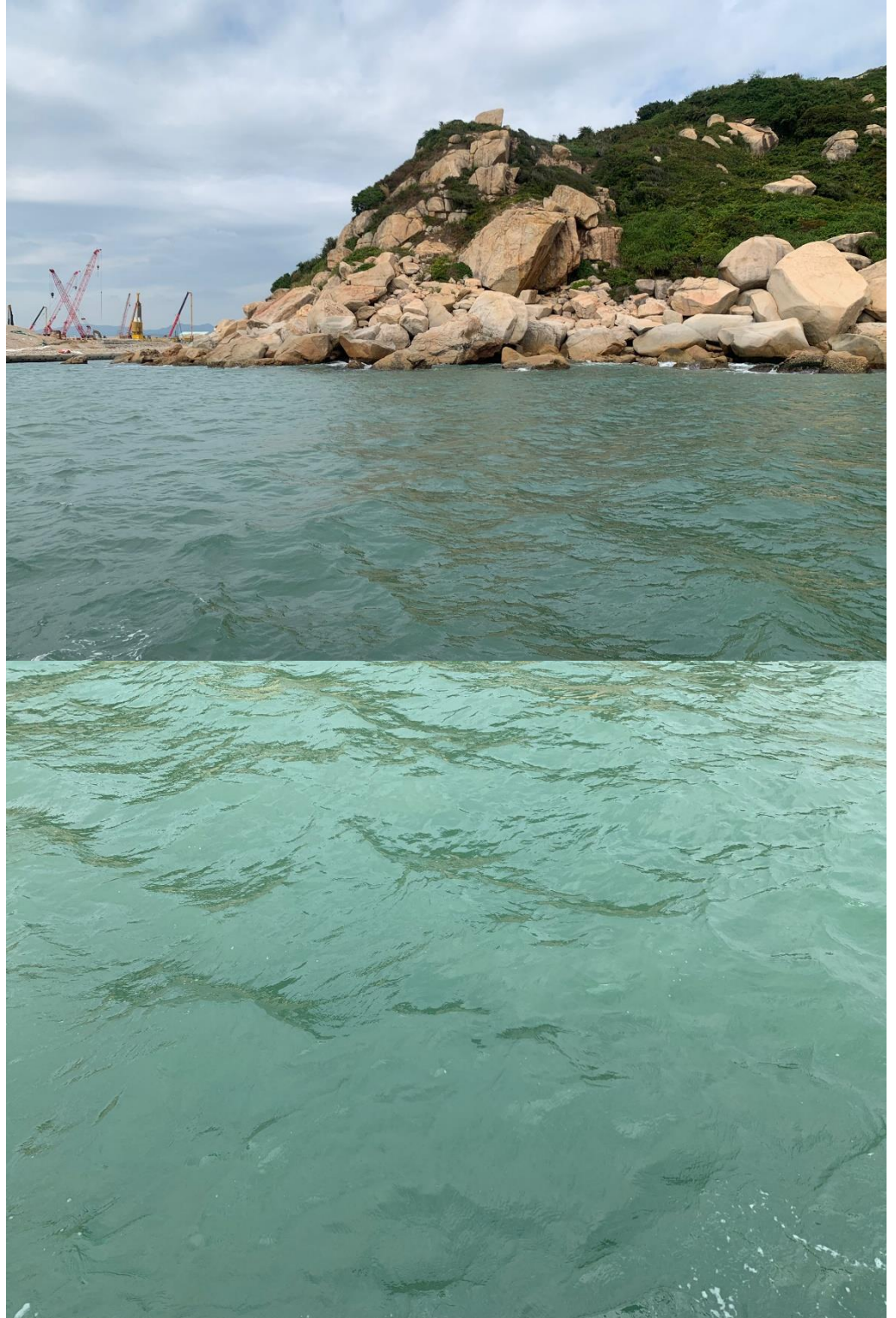
H1:



M1:



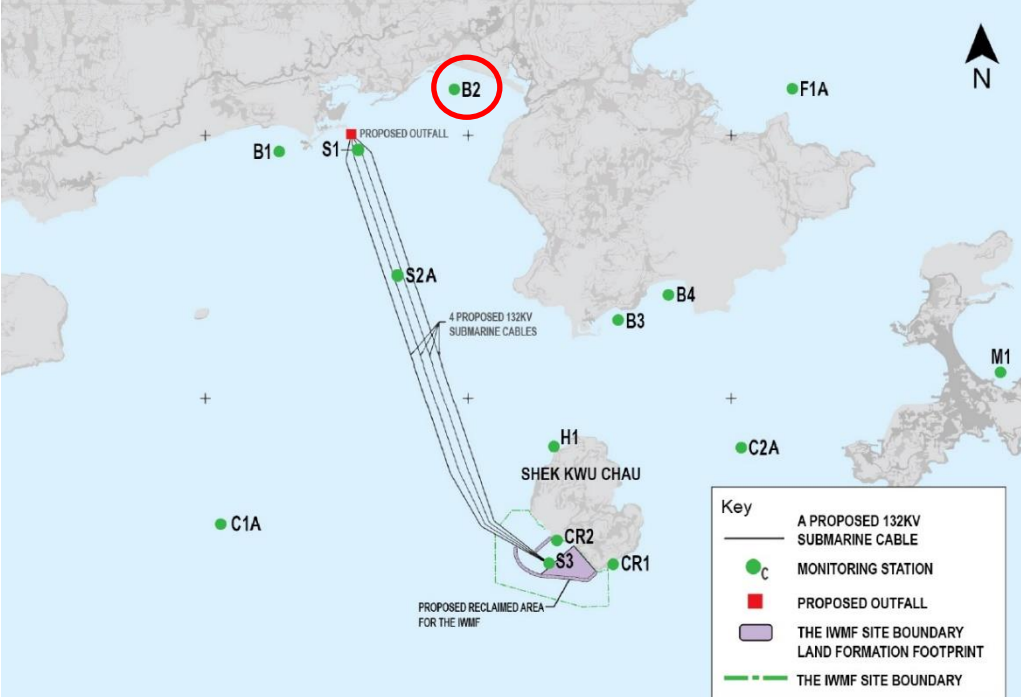
CR1:



CR2:



Mid-Flood

<p>Monitoring Location</p>	<p>B2</p> 		
<p>Parameter</p>	<p>Suspended Solid (SS)</p>		
<p>Action & Limit Levels</p>	<p>Action Level $\geq 11.8 \text{ mg/L}$ (120% of C2A)</p>		<p>Limit Level $\geq 12.7 \text{ mg/L}$ (130% of C2A)</p>
<p>Measurement Level</p>	<p>Impact Station(s) of Exceedance 12.8 mg/L (B2)</p>	<p>Control Stations 11.3 mg/L (C1A) 9.8 mg/L (C2A)</p>	<p>Impact Station(s) without Exceedance 8.5 mg/L (B1) 8.0 mg/L (B3) 9.0 mg/L (B4) 10.5 mg/L (F1A) 11.0 mg/L (H1) 9.3 mg/L (M1) 10.7 mg/L (CR1) 9.0 mg/L (CR2)</p>
<p>Possible reason for Action or Limit Level Non-compliance</p>	<p>Works scheduled on site on 17 Dec 2021 include laying of 1T armour rock at Seawall A CH300 - CH350, laying of 900kg armour rock at Seawall A CH350 - CH440, leveling of underlayer rock at BWA CH920 - 950, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>An exceedance of limit level was found at B2.</p> <p>B2 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. The exceedance at this monitoring station is deemed to be unrelated to the Project.</p>		

	<p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was cloudy during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 23 Dec 2021.</p> <p>After the investigation, the exceedance on 17 Dec 2021 at B2 is deemed to be unrelated to the Project.</p>
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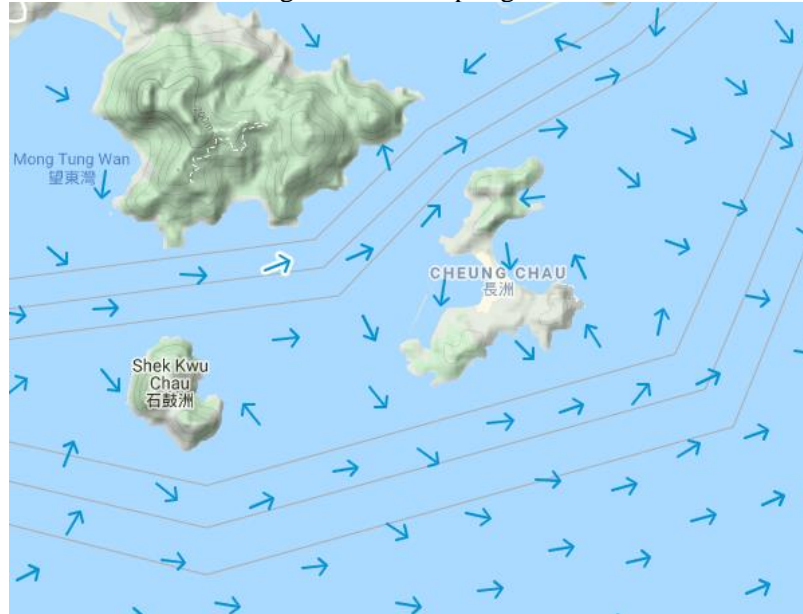
Monitoring photos of
stations with exceedance

B2:

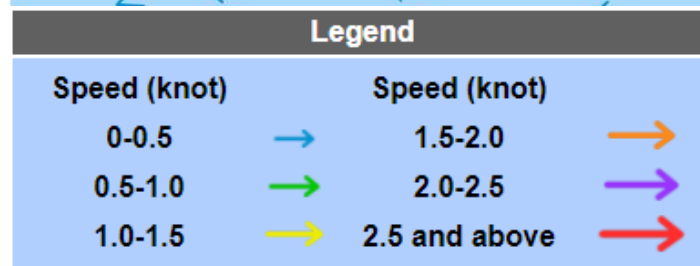
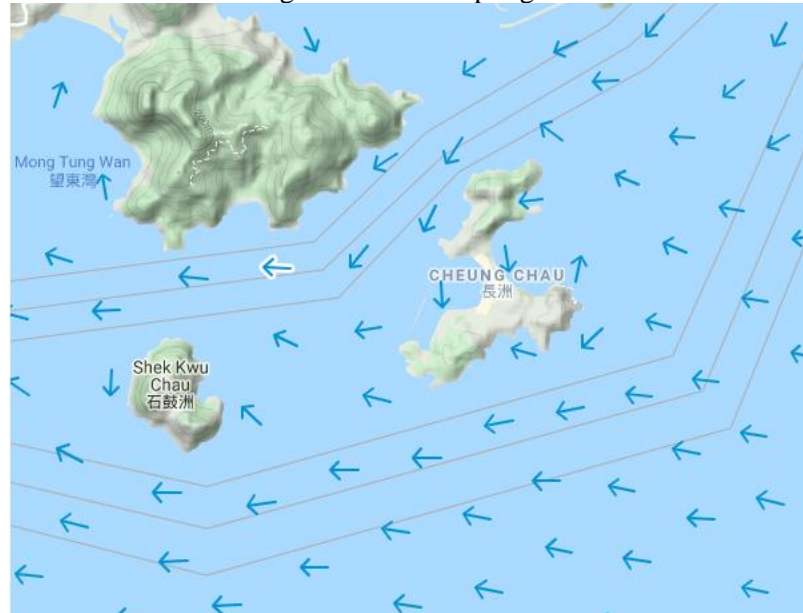


Remarks

Current direction during mid-ebb sampling on 17 Dec 2021:



Current direction during mid-flood sampling on 17 Dec 2021:

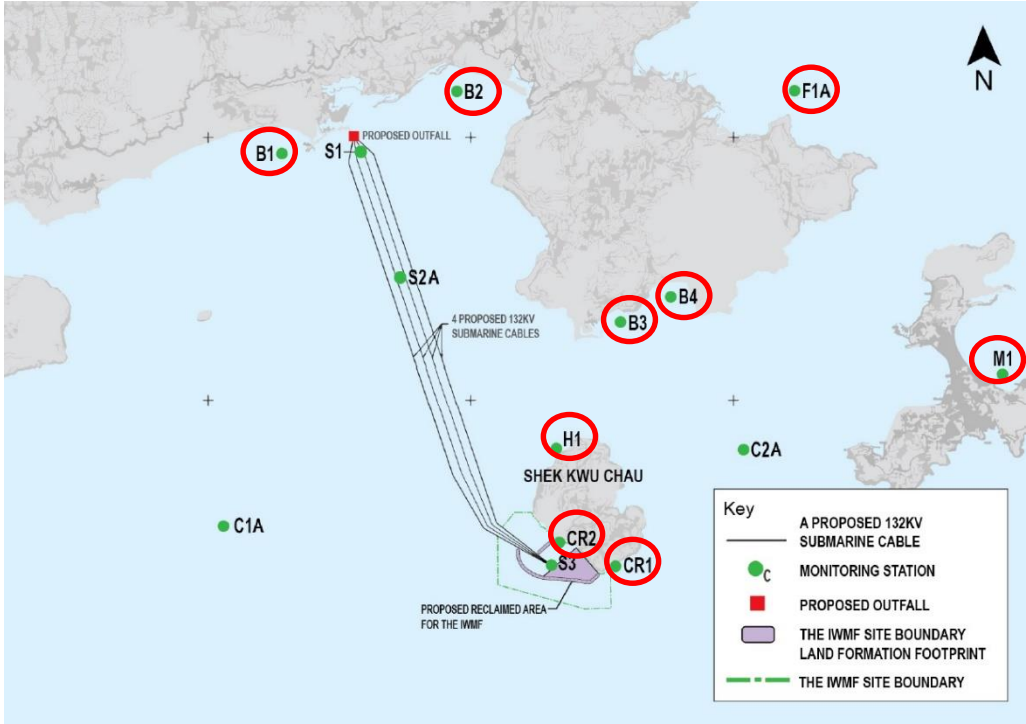


(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by Jack Chow

Date 10 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	20 Dec 2021 (Lab result received on 24 Dec 2021)		
Time	08:00 – 10:42 (Mid-Flood)		
Monitoring Location	<p style="text-align: center;">Mid-Flood</p> <p>B1, B2, B3, B4, F1A, H1, M1, CR1 and CR2</p> 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 9.2 mg/L (120% of C2A)		≥ 10.0 mg/L
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	13.8 mg/L (B1) 13.0 mg/L (B2) 15.0 mg/L (B3) 17.0 mg/L (B4) 9.5 mg/L (F1A) 13.7 mg/L (H1) 14.8 mg/L (M1) 17.0 mg/L (CR1) 15.8 mg/L (CR2)	10.3 mg/L (C1A) 7.7 mg/L (C2A)	N/A
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 20 Dec 2021 including transferring underlayer rock, laying of underlayer rock at Breakwater B Caisson J4, installation of block work at marine access facility, landfill works for the below +6.0mPD, landfilling works for the above +6.0mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-piles, existing caisson extension, and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at B1, B2, B3, B4, H1, M1, CR1 and CR2. An exceedance of action level was found at F1A.</p>		

B1, B2, B3, B4, F1A, H1 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedances of these monitoring stations are deemed to be unrelated to the Project.

CR1 and CR2 are located close to the works location within the Project site while no major marine work was conducted on 20 Dec 2021.

The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.

According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was cloudy during the sampling event.

No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 14 and 23 Dec 2021.

After the investigation, the exceedances on 20 Dec 2021 at B1, B2, B3, B4, F1A, H1, M1, CR1 and CR2 are deemed to be unrelated to the Project.

Monitoring photos of
stations with exceedance

B1:



B2:



B3:



B4:



F1A:



H1:



M1:

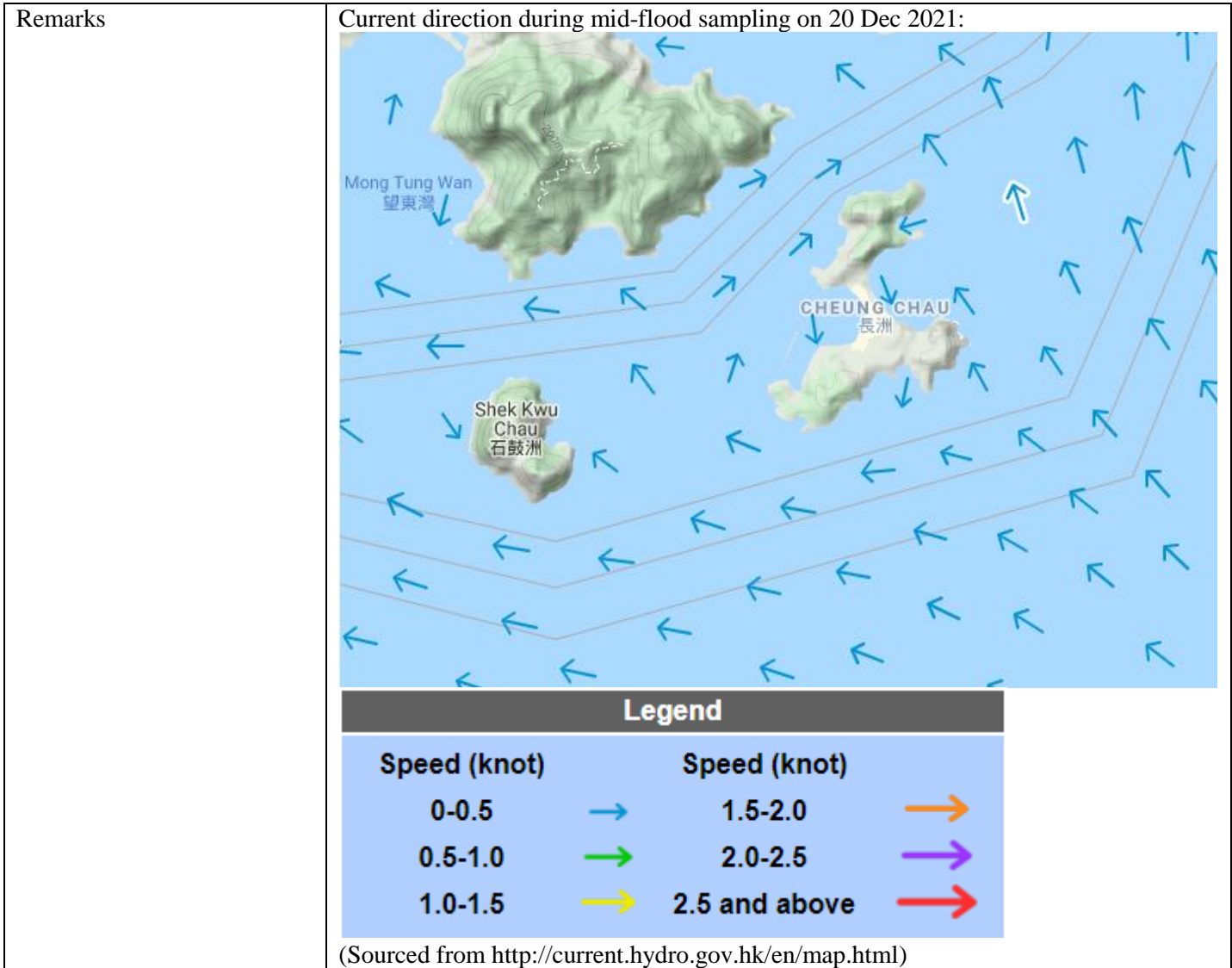


CR1:



CR2:





Prepared by	Howard Chan
Date	07 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	22 Dec 2021 (Lab result received on 29 Dec 2021)		
Time	12:48– 14:54 (Mid-Flood)		
Mid-Flood			
Monitoring Location	B2, M1, CR1 and CR2		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 8.4 mg/L (120% of C2A)		≥ 10.0 mg/L
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.5 mg/L (B2) 8.8 mg/L (M1) 8.7 mg/L (CR1) 9.3 mg/L (CR2)	6.3 mg/L (C1A) 7.0 mg/L (C2A)	5.0 mg/L (B1) 5.5 mg/L (B3) 6.3 mg/L (B4) 6.7 mg/L (F1A) 5.5 mg/L (H1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 22 Dec 2021 include, levelling of 500 kg scour apron at Breakwater B, installation of layer 8 block work, levelling of underlayer rock at Breakwater A, transloading public fill from Zone C to Zone A, filling and levelling public fill at Zone J, drilling of boreholes, piling works, pre-boring works for driven H piles, landfill work for below +6.00mPD, armour scour protection and formwork erection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>Exceedances of action level were found at B2, M1, CR1 and CR2.</p> <p>B2 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedances at these monitoring stations are deemed to be unrelated to the Project.</p>		

	<p>CR1 and CR2 are located close to the works location within the Project site while no major marine work was conducted on 22 Dec 2021.</p> <p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 14 and 23 Dec 2021.</p> <p>After the investigation, the exceedances on 22 Dec 2021 at B2, M1, CR1 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B2:



M1:

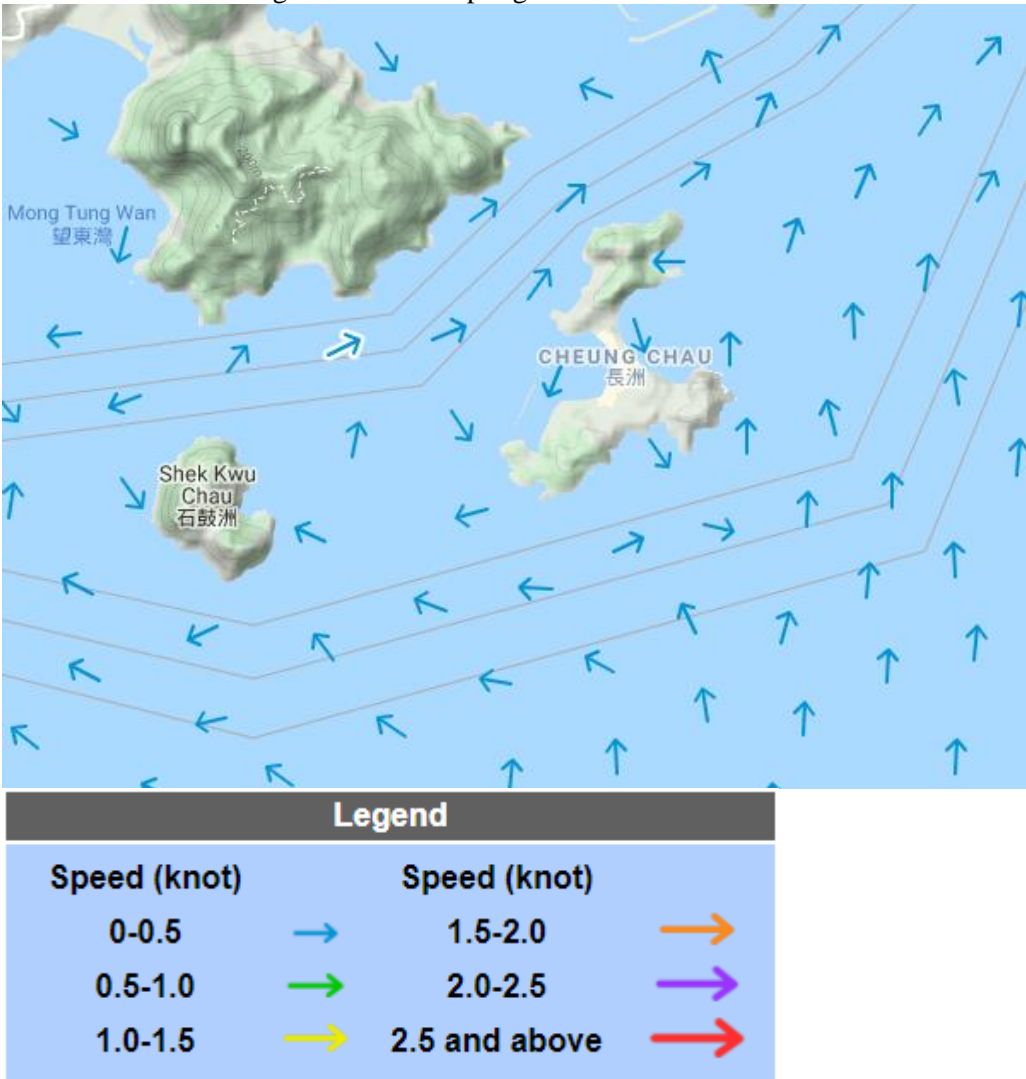


CR1:



CR2:



<p>Remarks</p>	<p>Current direction during mid-flood sampling on 22 Dec 2021:</p>  <p>The map displays current directions around three islands: Mong Tung Wan (望東灣), Shek Kwu Chau (石鼓洲), and Cheung Chau (長洲). Blue arrows indicate the direction and speed of the current. A legend below the map defines the speed ranges in knots and their corresponding arrow colors:</p> <table border="1"> <thead> <tr> <th colspan="4">Legend</th> </tr> <tr> <th colspan="2">Speed (knot)</th> <th colspan="2">Speed (knot)</th> </tr> </thead> <tbody> <tr> <td>0-0.5</td> <td>→</td> <td>1.5-2.0</td> <td>→</td> </tr> <tr> <td>0.5-1.0</td> <td>→</td> <td>2.0-2.5</td> <td>→</td> </tr> <tr> <td>1.0-1.5</td> <td>→</td> <td>2.5 and above</td> <td>→</td> </tr> </tbody> </table> <p>(Sourced from http://current.hydro.gov.hk/en/map.html)</p>	Legend				Speed (knot)		Speed (knot)		0-0.5	→	1.5-2.0	→	0.5-1.0	→	2.0-2.5	→	1.0-1.5	→	2.5 and above	→
Legend																					
Speed (knot)		Speed (knot)																			
0-0.5	→	1.5-2.0	→																		
0.5-1.0	→	2.0-2.5	→																		
1.0-1.5	→	2.5 and above	→																		
<p>Prepared by</p>	<p>Howard Chan</p>																				
<p>Date</p>	<p>06 Jan 2022</p>																				

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	24 Dec 2021 (Lab result received on 31 Dec 2021)		
Time	08:49 – 12:19 (Mid-Flood) 14:06 – 16:08 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	B3, B4 and CR2		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 9.4 mg/L (120% of C2A)		≥ 10.1 mg/L (130% of C2A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	10.0 mg/L (B3) 9.8 mg/L (B4) 10.2 mg/L (CR2)	6.8 mg/L (C1A) 7.8 mg/L (C2A)	6.5 mg/L (B1) 5.8 mg/L (B2) 7.0 mg/L (F1A) 5.0 mg/L (H1) 8.0 mg/L (M1) 7.8 mg/L (CR1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on 24 Dec 2021 include, levelling of 500kg scour apron at Breakwater B CH60 - Ch180, laying of 100 – 150kg underlayer rock at Breakwater A CH730 – CH760, installation of block work at marine access facility, levelling of underlayer rock at Breakwater A CH940 - CH960, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pipe, piling works for pre-bored socketed H-pipe, existing caisson extension, and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>Exceedances of action level were found at B3 and B4 and exceedance of limit level was found at CR2.</p>		

	<p>B3 and B4 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedance of the monitoring station is deemed to be unrelated to the Project.</p> <p>CR2 is located close to the works location within the Project site while no major marine work was conducted on 24 Dec 2021.</p> <p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 24 and 29 Dec 21.</p> <p>After the investigation, the exceedances on 24 Dec 2021 at B3, B4 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B3:

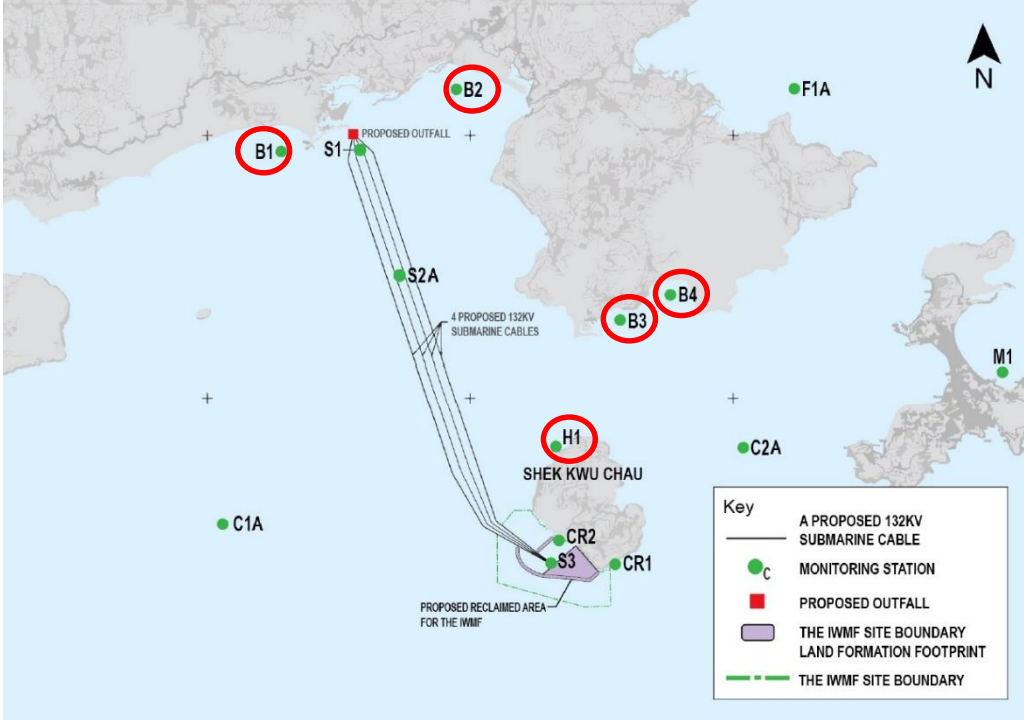


B4:



CR2:



Mid-Ebb			
Monitoring Location	B1, B2, B3, B4 and H1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 10.0 mg/L (120% of C1A)		≥ 10.8 mg/L (130% of C1A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	18.5 mg/L (B1) 15.0 mg/L (B2) 21.0 mg/L (B3) 19.8 mg/L (B4) 18.2 mg/L (H1)	8.3 mg/L (C1A) 8.2 mg/L (C2A)	6.0 mg/L (F1) 7.5 mg/L (M1) 9.3 mg/L (CR1) 6.8 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on 24 Dec 2021 include, levelling of 500kg scour apron at Breakwater B CH60 - Ch180, laying of 100 – 150kg underlayer rock at Breakwater A CH730 – CH760, installation of block work at marine access facility, leveling of underlayer rock at Breakwater A CH940 - CH960, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pipe, piling works for pre-bored socketed H-pipe, existing caisson extension, and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at B1, B2, B3, B4 and H1.</p> <p>B1, B2, B3, B4 and H1 are located at unrelated stream direction (neither upstream nor downstream) to the works location. Exceedances at these monitoring stations are deemed to be unrelated to the Project.</p> <p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p>		

	<p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 24 and 29 Dec 21.</p> <p>After the investigation, the exceedances on 24 Dec 2021 at B1, B2, B3, B4 and H1 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

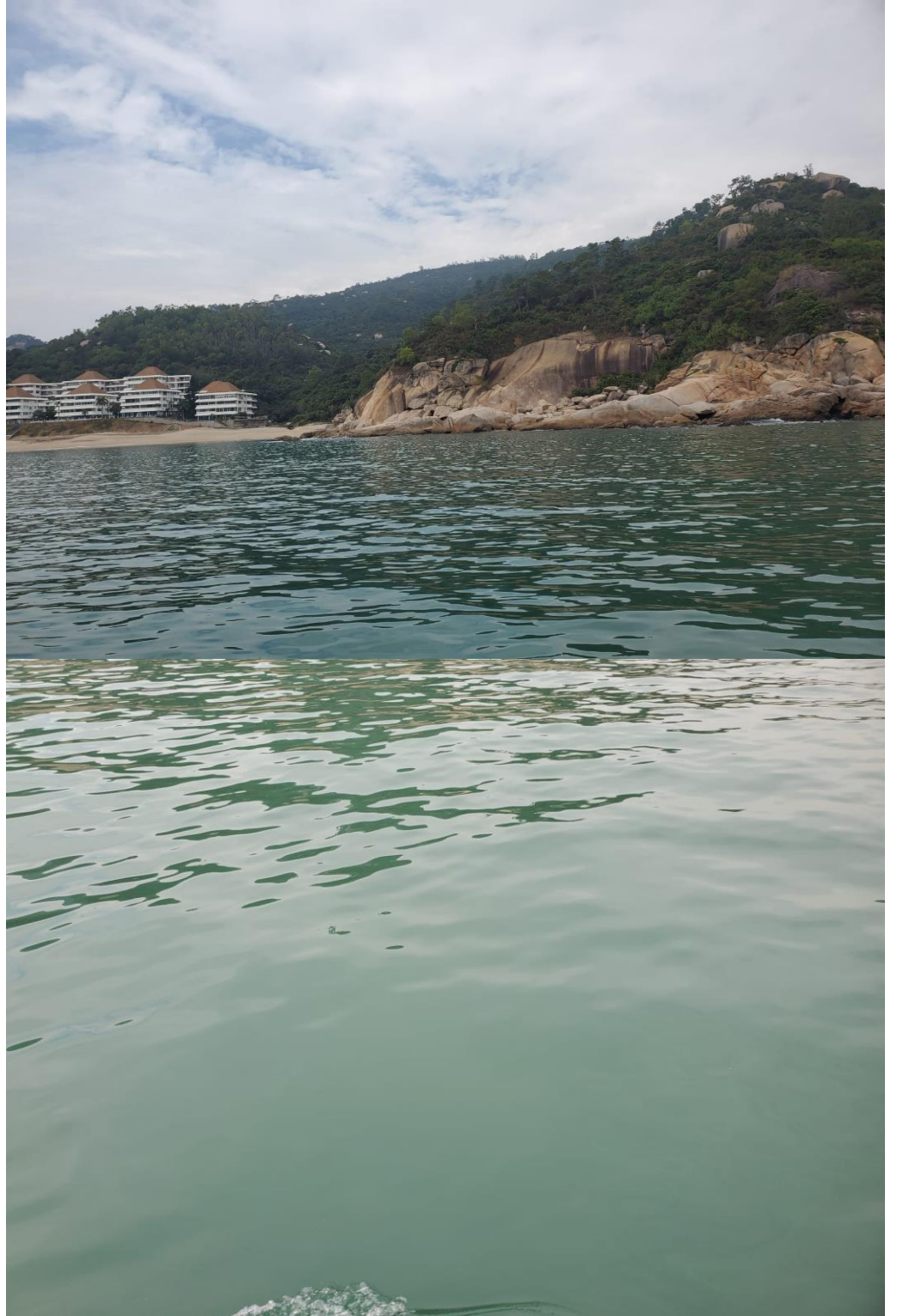
B1:



B2:



B3:



B4:

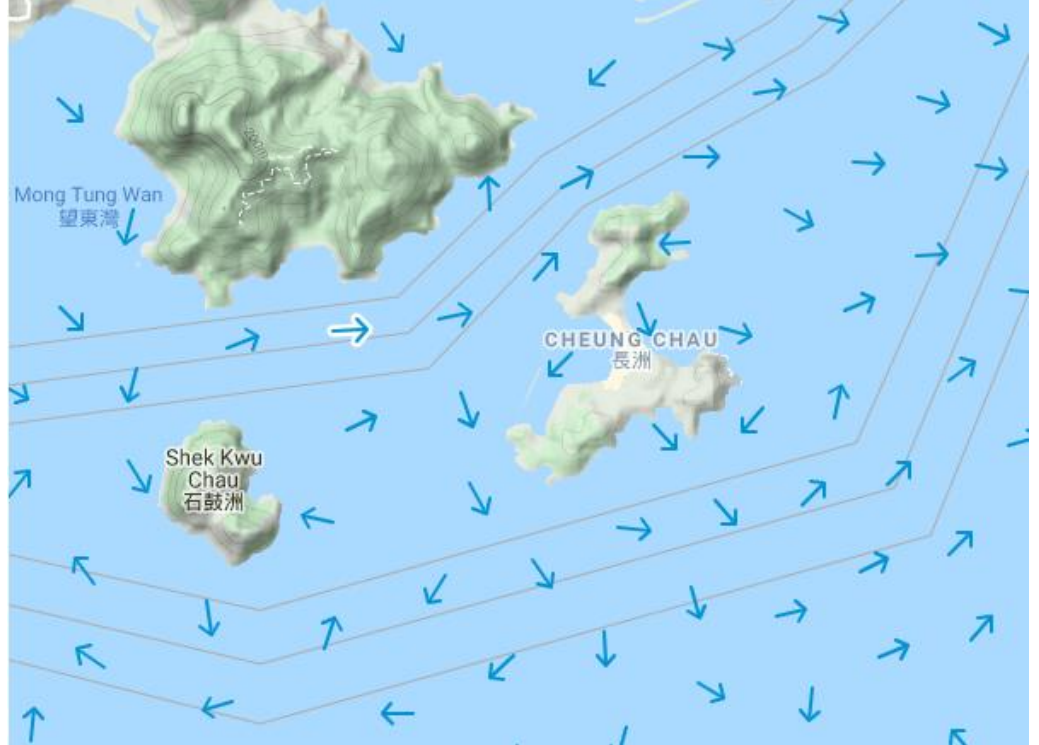


H1:

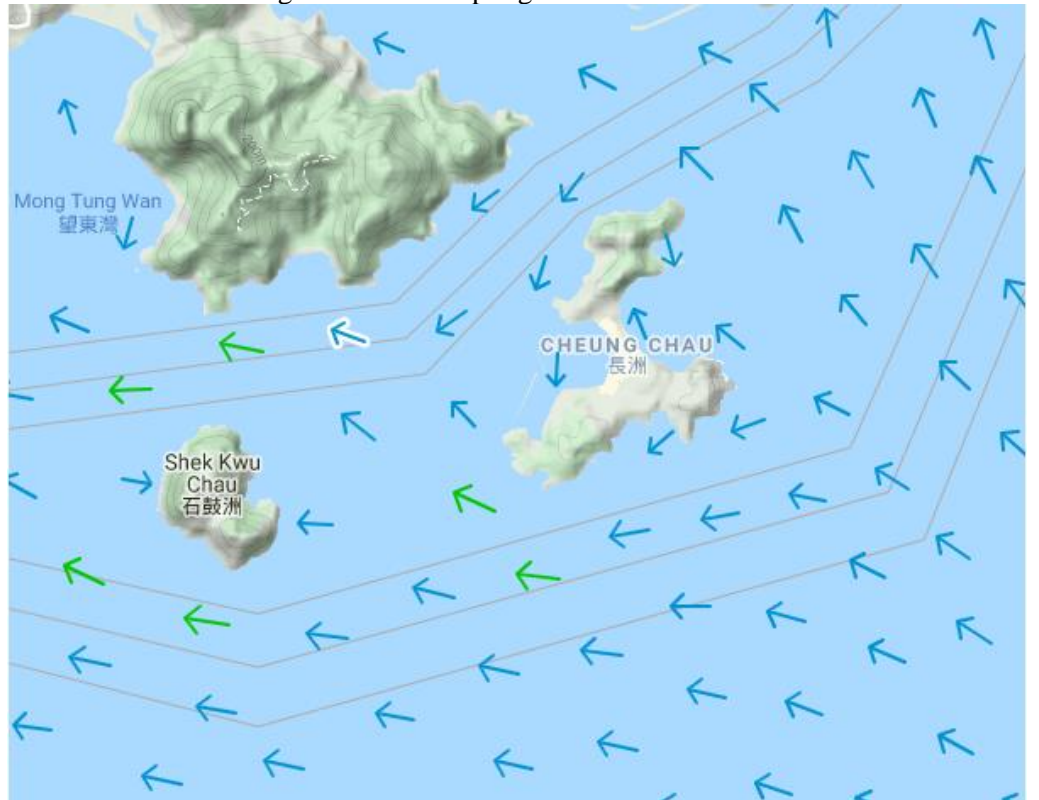


Remarks

Current direction during mid-ebb sampling on 24 Dec 2021:



Current direction during mid-flood sampling on 24 Dec 2021:



	Legend								
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Speed (knot)</th> <th style="text-align: left; padding: 5px;">Speed (knot)</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">0-0.5 →</td> <td style="padding: 5px;">1.5-2.0 →</td> </tr> <tr> <td style="padding: 5px;">0.5-1.0 →</td> <td style="padding: 5px;">2.0-2.5 →</td> </tr> <tr> <td style="padding: 5px;">1.0-1.5 →</td> <td style="padding: 5px;">2.5 and above →</td> </tr> </tbody> </table>	Speed (knot)	Speed (knot)	0-0.5 →	1.5-2.0 →	0.5-1.0 →	2.0-2.5 →	1.0-1.5 →	2.5 and above →
Speed (knot)	Speed (knot)								
0-0.5 →	1.5-2.0 →								
0.5-1.0 →	2.0-2.5 →								
1.0-1.5 →	2.5 and above →								
(Sourced from http://current.hydro.gov.hk/en/map.html)									
Prepared by	Howard Chan								
Date	11 Jan 2022								

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	27 Dec 2021 (Lab result received on 3 January 2022)		
Time	11:19 – 14:49 (Mid-Flood) 16:57 – 19:00 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	B3, B4 and H1		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 10.4 mg/L (120% of C2A)		≥ 11.3 mg/L (130% of C2A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	12.0 mg/L (B3) 12.0 mg/L (B4) 11.0 mg/L (H1)	10.2 mg/L (C1A) 8.7 mg/L (C2A)	9.0 mg/L (B1) 7.0 mg/L (B2) 9.5 mg/L (F1A) 9.2 mg/L (M1) 9.3 mg/L (CR1) 7.0 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on 27 Dec 2021 include installation of block work at marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at B3 and B4 and an exceedance of action level was found at H1.</p> <p>B3 and B4 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location. Exceedances at these monitoring stations are deemed to be unrelated to the Project.</p>		

	<p>H1 is the downstream of the Project site during Flood tide while no marine work was conducted on 27 Dec 2021.</p> <p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 24 and 29 Dec 21.</p> <p>After the investigation, the exceedances on 27 Dec 2021 at B3, B4 and H1 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

B3:

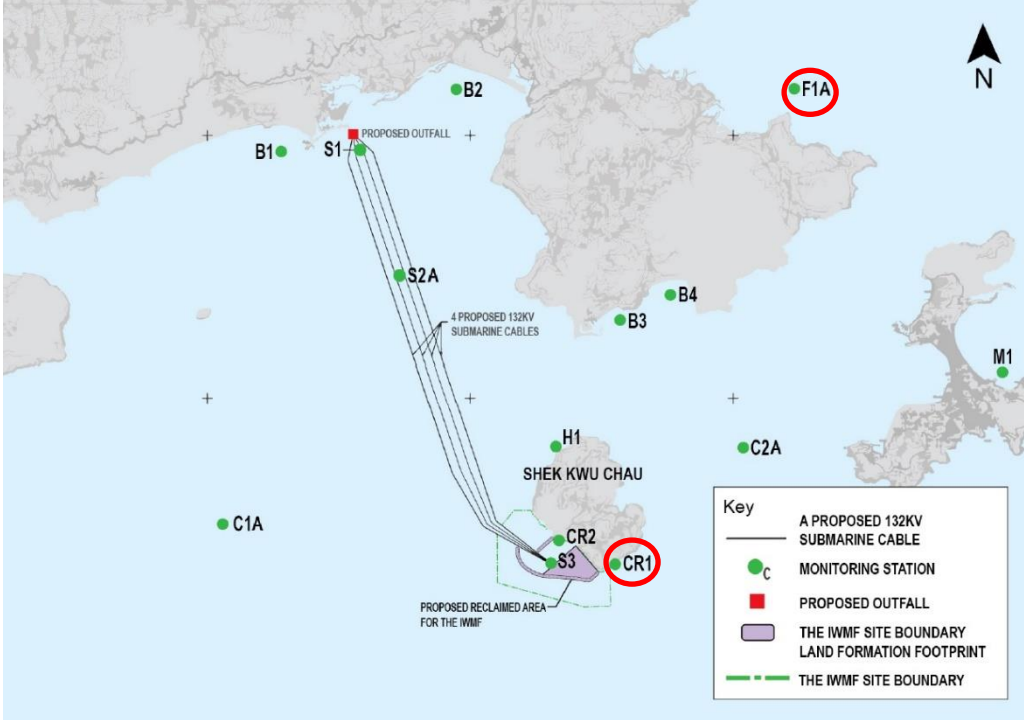


B4:



H1:



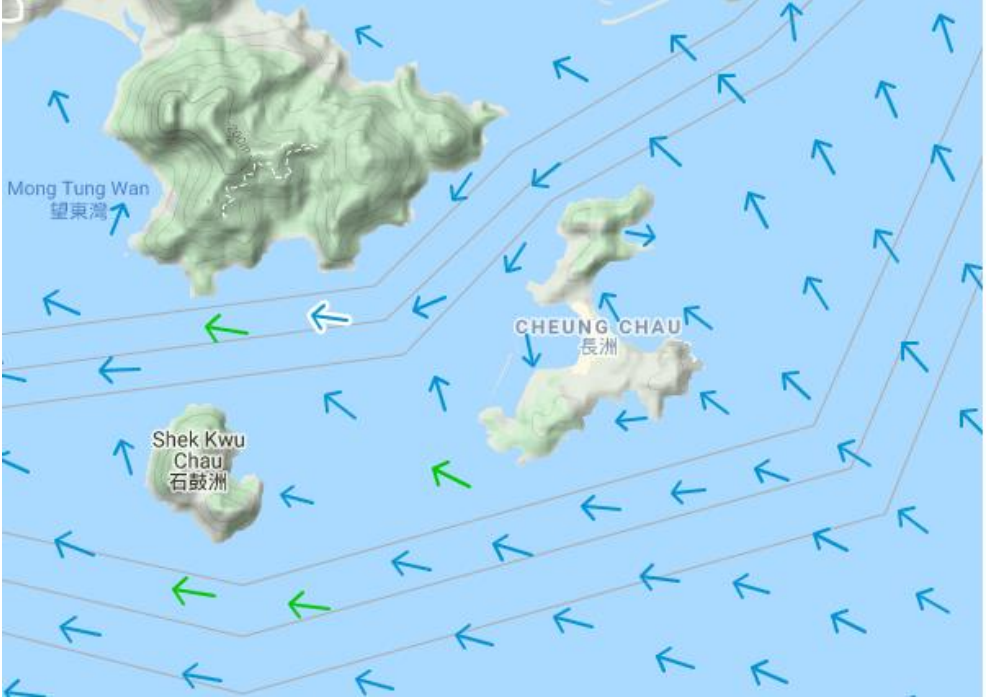
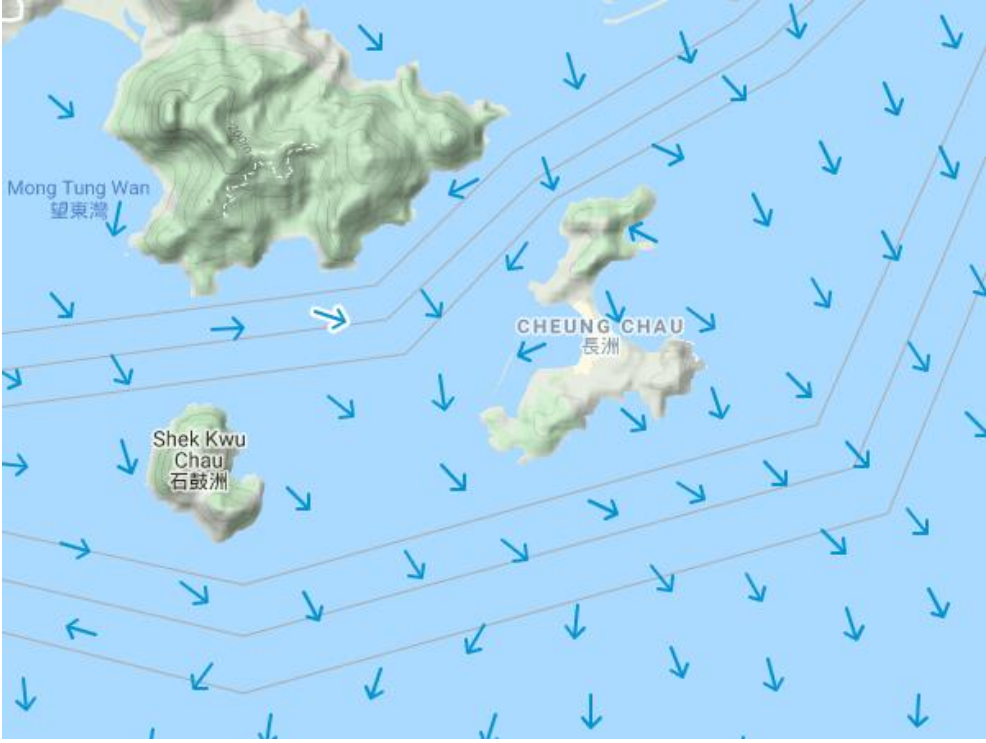
Mid-Ebb			
Monitoring Location	F1A and CR1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 10.6 mg/L (120% of C1A)		≥ 11.4 mg/L (130% of C1A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	12.7 mg/L (F1A) 11.5 mg/L (CR1)	8.8 mg/L (C1A) 8.5 mg/L (C2A)	9.8 mg/L (B1) 9.3 mg/L (B2) 8.5 mg/L (B3) 9.0 mg/L (B4) 8.2 mg/L (H1) 9.0 mg/L (M1) 9.5 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on 27 Dec 2021 include installation of block work at marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>Exceedances of limit level were found at F1A and CR1.</p> <p>F1A is located at unrelated stream direction (neither upstream nor downstream) to the works location. Exceedances at the monitoring stations are deemed to be unrelated to the Project.</p> <p>CR1 is located close to the works location within the Project site while no major marine work was conducted on 27 Dec 2021.</p> <p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p>		

	<p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 24 and 29 Dec 21.</p> <p>After the investigation, the exceedances on 27 Dec 2021 at F1A and CR1 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

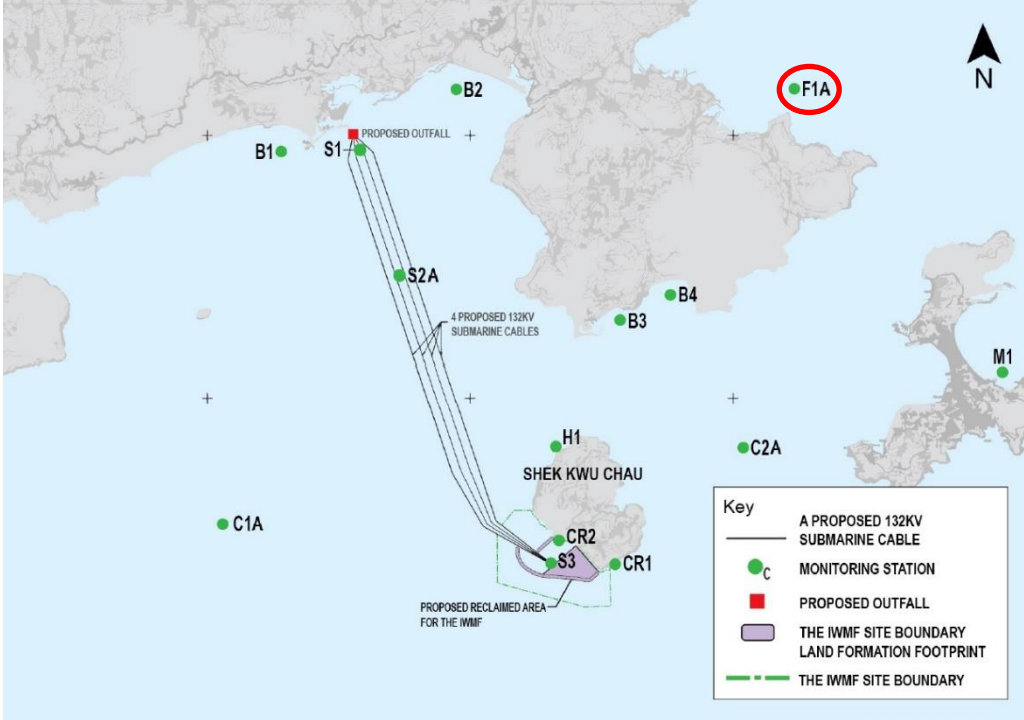
F1A:



	<p>CR1: No clear photos could be taken at the site after the sunset due to the darkness of surrounding environment.</p>
Remarks	<p>Current direction during mid-flood sampling on 27 Dec 2021:</p>  <p>Current direction during mid-ebb sampling on 27 Dec 2021:</p> 

	Legend								
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Speed (knot)</th> <th style="text-align: left; padding: 5px;">Speed (knot)</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">0-0.5 →</td> <td style="padding: 5px;">1.5-2.0 →</td> </tr> <tr> <td style="padding: 5px;">0.5-1.0 →</td> <td style="padding: 5px;">2.0-2.5 →</td> </tr> <tr> <td style="padding: 5px;">1.0-1.5 →</td> <td style="padding: 5px;">2.5 and above →</td> </tr> </tbody> </table>	Speed (knot)	Speed (knot)	0-0.5 →	1.5-2.0 →	0.5-1.0 →	2.0-2.5 →	1.0-1.5 →	2.5 and above →
Speed (knot)	Speed (knot)								
0-0.5 →	1.5-2.0 →								
0.5-1.0 →	2.0-2.5 →								
1.0-1.5 →	2.5 and above →								
(Sourced from http://current.hydro.gov.hk/en/map.html)									
Prepared by	Howard Chan								
Date	11 Jan 2022								

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	29 Dec 2021 (Lab result received on 05 Jan 2022)		
Time	08:00 – 10:42 (Mid-Ebb)		
	Mid-Ebb		
Monitoring Location	F1A 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 27.2 mg/L (120% of C1A)		≥ 29.5 mg/L (130% of C1A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	28.8 mg/L (F1A)	22.7 mg/L (C1A) 27.0 mg/L (C2A)	11.0 mg/L (B1) 10.5 mg/L (B2) 8.8 mg/L (B3) 8.3 mg/L (B4) 13.3 mg/L (M1) 8.8 mg/L (H1) 10.0 mg/L (CR1) 10.7 mg/L (CR2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 29 Dec 2021 include leveling of 500kg scour apron at Breakwater B CH190 - CH220, leveling of 100 - 150kg underlayer rock at Breakwater A CH770 -CH780, leveling of underlayer rock at Breakwater A CH950 - CH970, installation of blockwork for marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile and existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p>		

	<p>An exceedance of action level was found at F1A.</p> <p>F1A was located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, the exceedance at this monitoring station is deemed to be unrelated to the Project.</p> <p>The installation of caisson No.19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and the weather was cloudy during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 29 Dec 2021.</p> <p>After the investigation, the exceedance on 29 Dec 2021 at F1A is deemed to be unrelated to the Project.</p>
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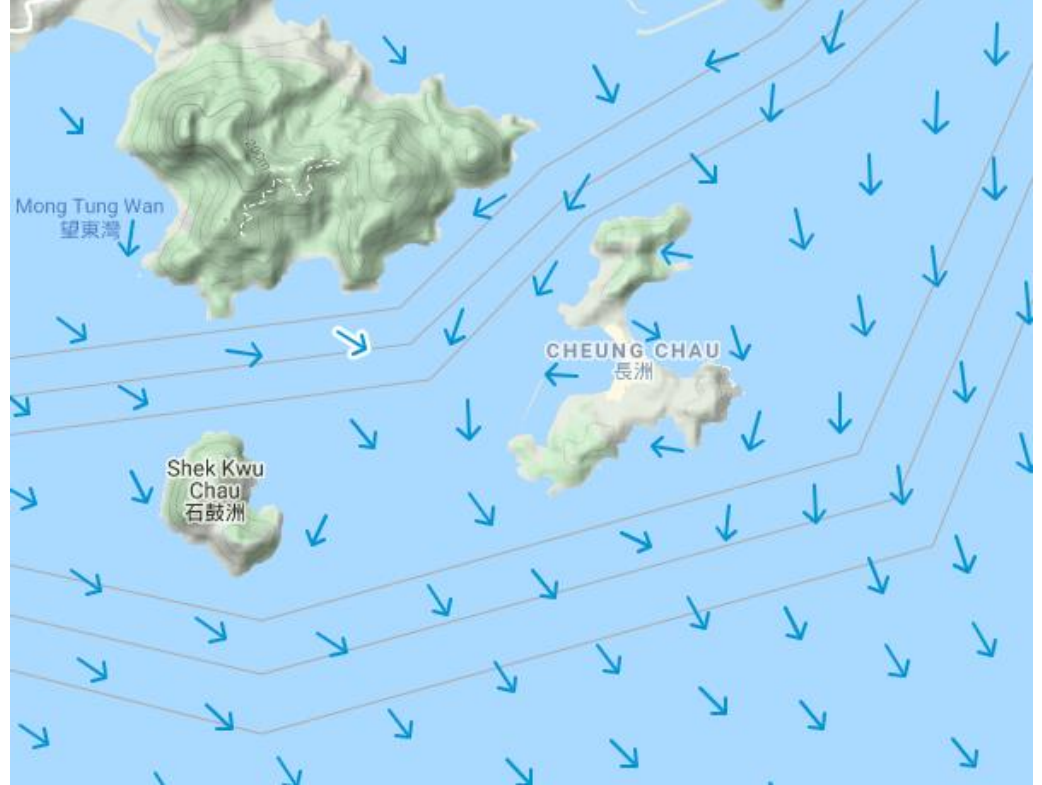
Monitoring photos of
stations with exceedance

F1A:



Remarks

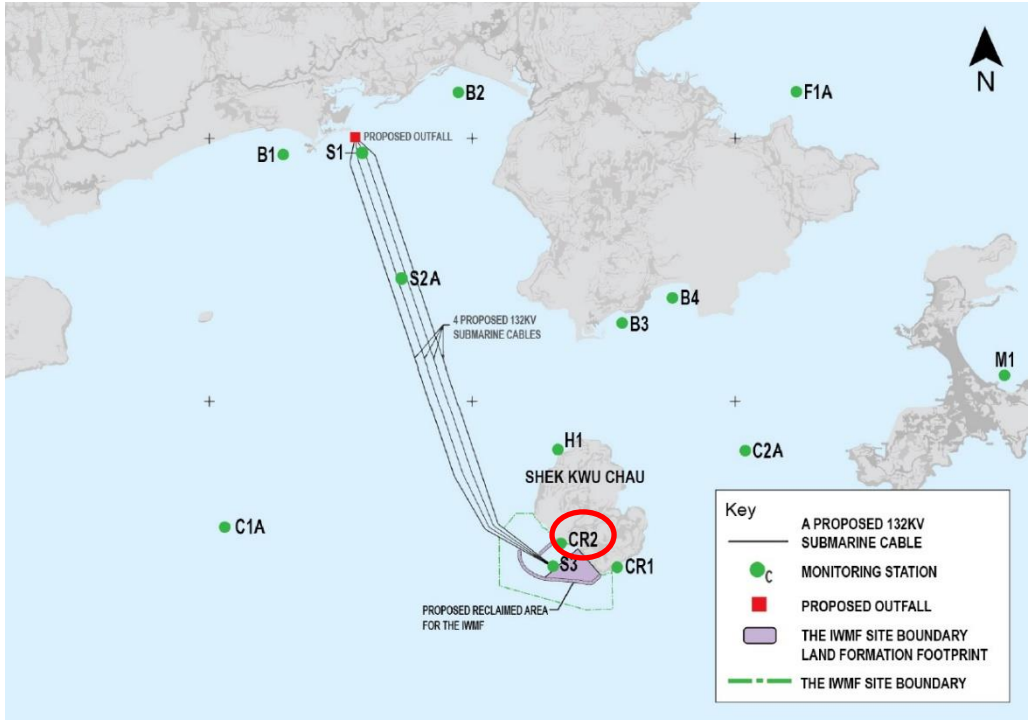
Current direction during mid-ebb sampling on 29 Dec 2021:



(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by	Jack Chow
Date	11 Jan 2022

Incident Report on Action Level or Limit Level Non-compliance

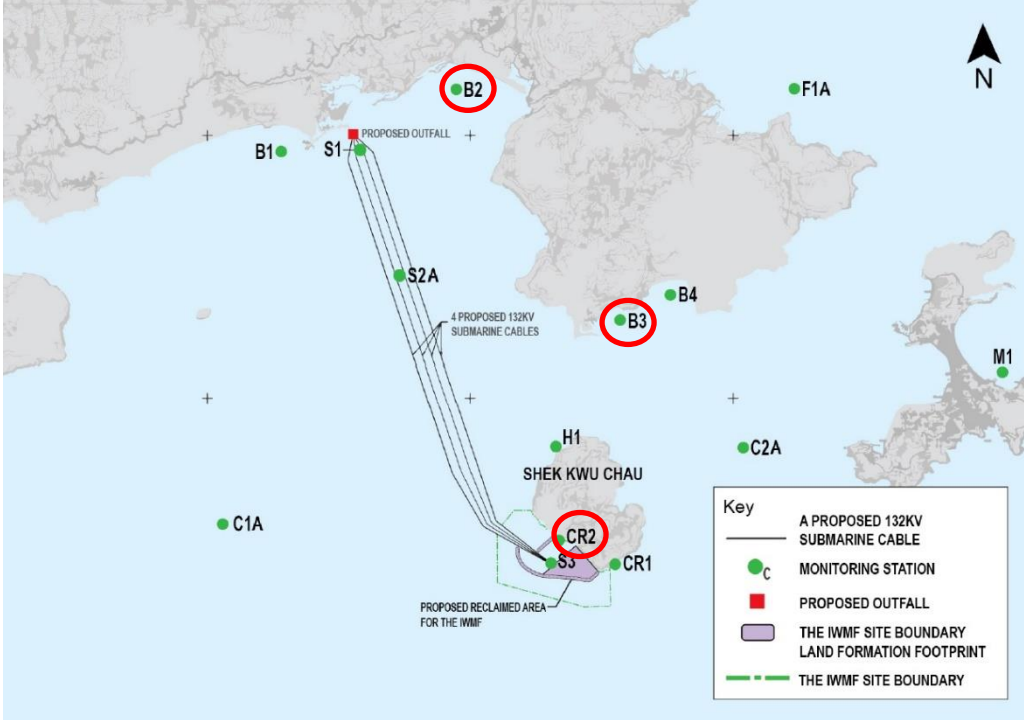
Project	Integrated Waste Management Facilities, Phase 1		
Date	31 Dec 2021 (Lab result received on 06 January 2022)		
Time	13:54 – 17:24 (Mid-Flood) 08:33 – 12:03 (Mid-Ebb)		
Mid-Flood			
Monitoring Location	CR2 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 11.2 mg/L (120% of C2A)		≥ 12.1 mg/L (130% of C2A)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	12.2 mg/L (CR2)	10.5 mg/L (C1A) 9.3 mg/L (C2A)	3.5 mg/L (B1) 3.0 mg/L (B2) 3.0 mg/L (B3) 3.7 mg/L (B4) 3.8 mg/L (H1) 3.6 mg/L (M1) 4.8 mg/L (F1A) 3.6 mg/L (CR1)
Possible reason for Action or Limit Level Non-compliance	Works scheduled on 31 Dec 2021 include installation of block work at marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection. Dominant sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau. Exceedance of limit level was found at CR2.		

	<p>CR2 is located close to the works location within the Project site while no major marine work was conducted on 31 Dec 2021.</p> <p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 29 Dec 2021 and 04 Jan 2022.</p> <p>After the investigation, the exceedances on 31 Dec 2021 at CR2 is deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

CR2:



Mid-Ebb			
Monitoring Location	B2, B3 and CR2 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action Level		Limit Level
	≥ 8.0 mg/L		≥ 10.0 mg/L
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.5 mg/L (B2) 11.0 mg/L (B3) 10.0 mg/L (CR2)	4.5 mg/L (C1A) 11.0 mg/L (C2A)	4.0 mg/L (B1) 7.8 mg/L (B4) 5.0 mg/L (H1) 4.8 mg/L (M1) 4.2 mg/L (F1A) 6.2 mg/L (CR1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on 31 Dec 2021 include installation of block work at marine access facility, landfilling works for below +6.00mPD, landfilling works for above +6.00mPD, installation of instrumentation, piling pre-drilling works, piling works, piling works for driven pile, piling works for pre-bored socketed H-pile, existing caisson extension and armour scour protection.</p> <p>Dominant sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>An exceedance of action level was found at B2 and exceedances of limit level were found at B3 and CR2.</p> <p>B2 and B3 are located at unrelated stream direction (neither upstream nor downstream) to the works location. Exceedances at these monitoring stations are deemed to be unrelated to the Project.</p> <p>CR2 is located close to the works location within the Project site while no major marine work was conducted on 31 Dec 2021.</p>		

	<p>The installation of caisson No. 19 was completed on 18 Mar 2021, the reclamation area was enclosed.</p> <p>According to the field observation by sampling team during sampling event, no silt plume was observed in the Project site and weather was fine during the sampling event.</p> <p>No major observation of improper site practices that contributed to the increase of the suspended solids were recorded during the weekly inspection on 29 Dec 2021 and 04 Jan 2022.</p> <p>After the investigation, the exceedances on 31 Dec 2021 at B2, B3 and CR2 are deemed to be unrelated to the Project.</p>
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Monitoring photos of
stations with exceedance

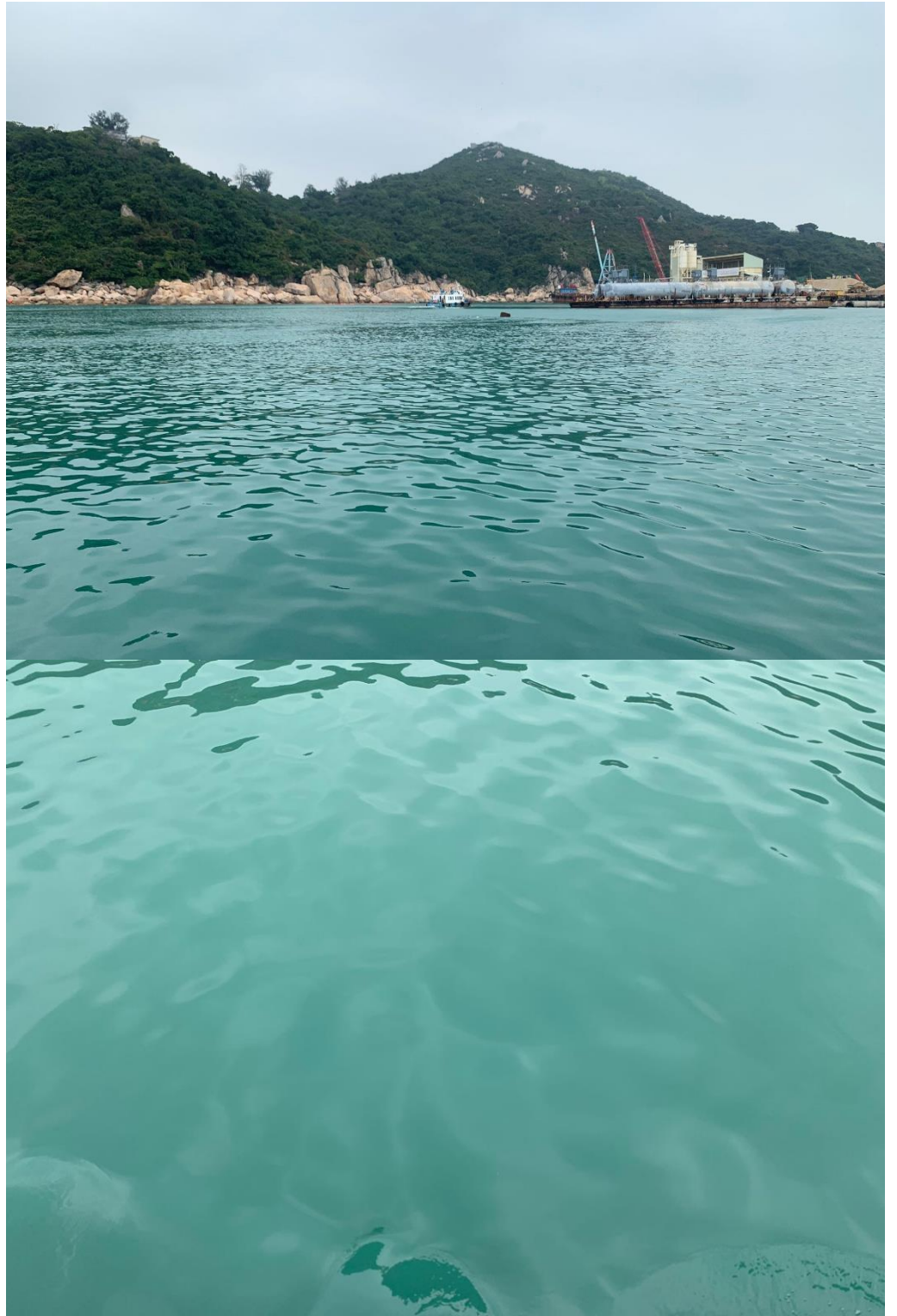
B2:



B3:

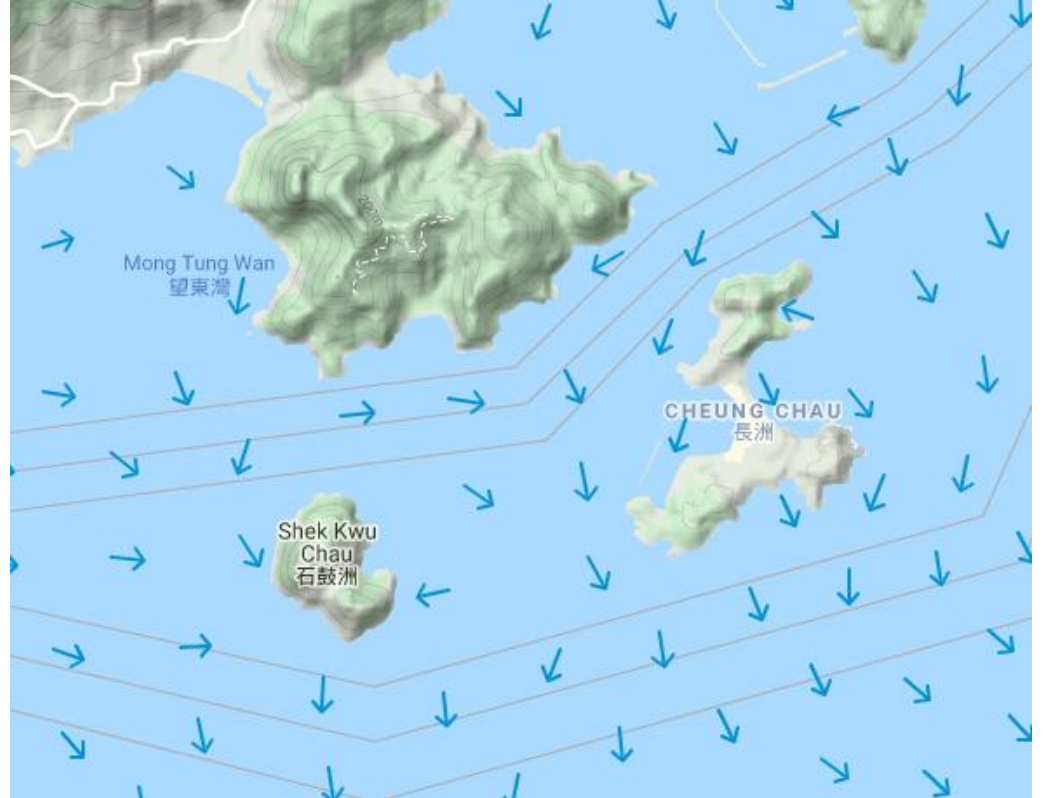


CR2:

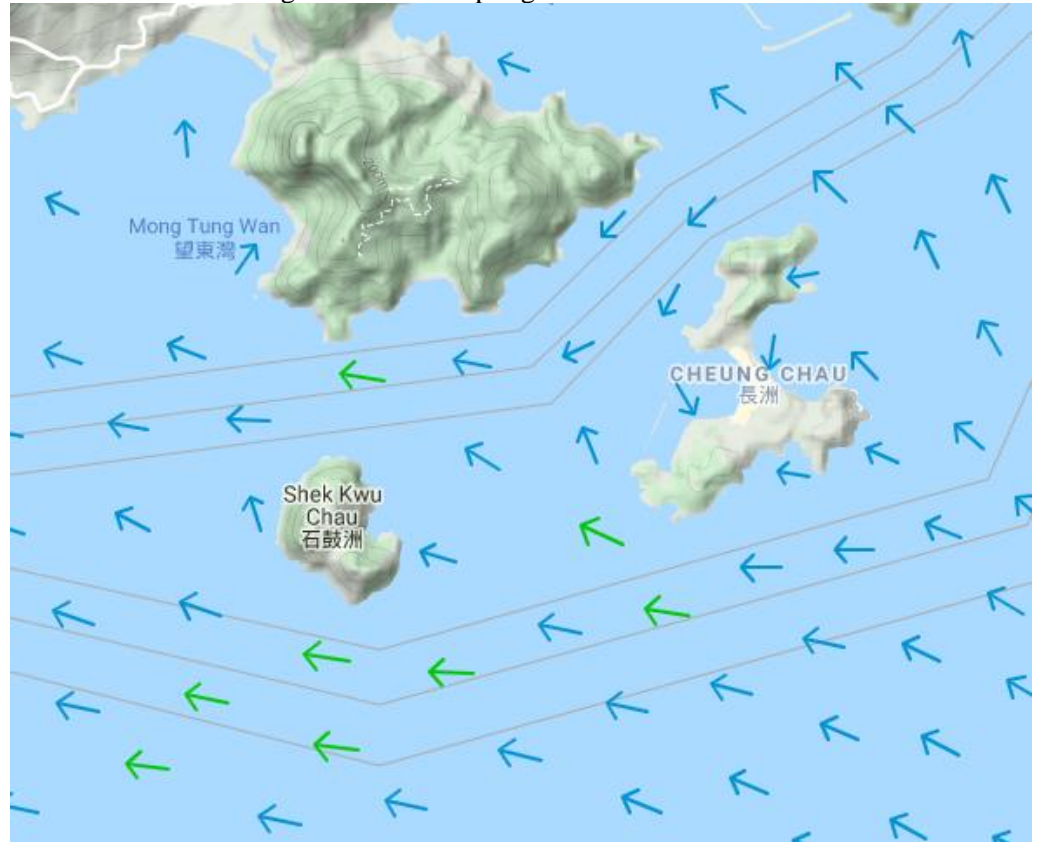


Remarks

Current direction during mid-ebb sampling on 31 Dec 2021:



Current direction during mid-flood sampling on 31 Dec 2021:



	Legend								
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Speed (knot)</th> <th style="text-align: left; padding: 5px;">Speed (knot)</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">0-0.5 →</td> <td style="padding: 5px;">1.5-2.0 →</td> </tr> <tr> <td style="padding: 5px;">0.5-1.0 →</td> <td style="padding: 5px;">2.0-2.5 →</td> </tr> <tr> <td style="padding: 5px;">1.0-1.5 →</td> <td style="padding: 5px;">2.5 and above →</td> </tr> </tbody> </table>	Speed (knot)	Speed (knot)	0-0.5 →	1.5-2.0 →	0.5-1.0 →	2.0-2.5 →	1.0-1.5 →	2.5 and above →
Speed (knot)	Speed (knot)								
0-0.5 →	1.5-2.0 →								
0.5-1.0 →	2.0-2.5 →								
1.0-1.5 →	2.5 and above →								
(Sourced from http://current.hydro.gov.hk/en/map.html)									
Prepared by	Jack Chow								
Date	11 Jan 2022								

Appendix O Complaint Log

Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 Dec 2021- 31 Dec 2021	1	1	<ul style="list-style-type: none"> • Chemical spillage/ leakage • The use of restricted fuel oil

Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Details
1 Dec 2021- 31 Dec 2021	0	0	N/A

Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Details
1 Dec 2021- 31 Dec 2021	0	0	N/A

Reference No.	Date of Complaint Received	Complaint Received From	Complaint Received By	Nature of Complaint	Details of Complaint Received and Investigation	Status
IWMF_EC 01_202112 01	15 Dec 2021	EPD	SO, ET, IEC	Chemical spillage/ leakage and the use of restricted fuel oil	<p>A complaint was received by the Environmental Protection Department on 01 December 2021 and referred to the Environmental Team (ET), Independent Environmental Checker (IEC) and Supervising Officer (SO) on 15 December 2021. The complaint was related to oil spillage / leakage to the sea during fuel oil transfer operation from vessels to relevant plants/fuel containers on the artificial island of the IWMF project and sulfur content of the fuel being used in the IWMF project site.</p> <p>The oil transfer operation was usually conducted between 6:00pm and 8:30pm. Tugboat SPV 1 was used for transferring fuel oil to artificial island through the hose. The operation of oil transfer was undertaken and supervised by the operator on SPV 1.</p> <p>Precautionary measures against chemical/ oil spillage during oil transfer operation include:</p> <ul style="list-style-type: none"> (i) Using fuel hose with gate valve to direct fuel oil from Tugboat to artificial island (ii) Transferring the fuel oil directly from Tugboat to diesel drum and oil tanker with no interim transfer station on ground / sea (iii) Chemical spill kit with chemical absorbent had been deployed near the location for oil transfer operation for immediate handling of chemical / oil spillage (iv) Induction trainings were provided to all new workers, covering mitigation measures towards the environmental aspects including the handling of chemicals (v) Spill Response Plan was issued by contractor in 2018. The plan included precaution measures on 	Investigation report finalized on 31 December 2021

Reference No.	Date of Complaint Received	Complaint Received From	Complaint Received By	Nature of Complaint	Details of Complaint Received and Investigation	Status
					<p>handling chemical and fuel oil during storage, transportation and onsite in-use and formulated response plan for handling emergency chemical spillage</p> <p>(vi) Regular chemical spill drills were carried out on an annual basis to provide sufficient training to all related parties including site workers and Emergency Team members as listed in the Spill Response Plan in handling emergency spillage issue</p> <p>Water quality monitoring had been conducted regularly. Monitoring station CR2 is adjacent to the location for oil filling operation. No observation regarding the chemical spillage or oil stain on sea surface were reported by the water sampling team.</p> <p>ET had conducted two follow-up site visits on 23 December 2021 (Weekly site inspection) and 29 December 2021(Inspection of oil filling operation). On 23 December 2021, no oil spillage or oil stain was observed on sea surface near the oil transfer location. On 29 December 2021, a field inspection for oil filling operation was conducted. Precautionary measures including using fuel hose with gate valve and transferring the fuel oil directly from Tugboat to diesel drum and oil tanker with no interim transfer station were inspected. No fuel oil spillage or leakage was observed during the inspection. Tugboat SPV1 was used for the oil filling operation, hose with gate valve was used for conveying fuel oil from SPV1 to diesel drum with no interim transfer station.</p>	

Reference No.	Date of Complaint Received	Complaint Received From	Complaint Received By	Nature of Complaint	Details of Complaint Received and Investigation	Status
					<p>For the issue of concerning the sulfur content of fuel oil, regular fuel oil samplings and testing for their surplus content were conducted by the contractor on a monthly basis. The laboratory reports had been reviewed ET, no exceedance in surplus content of the sampled fuel oil was recorded in recent months (June 2021 to November 2021).</p> <p>With reference to the information provided by the contractor and observation of our field investigation and inspection, it is considered that no non-compliance was found for the oil filling operation, chemical leakage/spillage and sulfur content of fuel oil.</p> <p>Although the complaint is considered invalid, contractor was suggested to implemented/maintained the following measures to minimise the potential environmental impact:</p> <ul style="list-style-type: none"> (i) Regular and/or random site inspection during the oil transfer process and proper implementation of precautionary measures. (ii) Regular and/or random audit of spill control kits that should be properly stored on site. (iii) Conduct induction/ refresher training and tool-box talks of mitigation measures and Spill Response Plan for new and existing workers. Records of training should be kept by the Contractor for future audit. (iv) Conduct drills for workers (at least once a year), identify any deficiency, and propose and implement rectification and improvement measures. 	

Appendix P Impact Monitoring Schedule of Next Reporting Month

Impact Monitoring Schedule for IWMF

Jan-22

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 11:21 - 15:00 Flood Tide: 04:06 - 11:21</p> <p>Monitoring Time: Mid-ebb: 11:25 - 14:55 *#Mid-flood: 08:00 - 10:59</p> <p>Daytime & Evening Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Night time Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 13:00 - 16:20 Flood Tide: 06:00 - 13:00</p> <p>Monitoring Time: \$Mid-ebb: 12:55 - 16:10 *#Mid-flood: 08:00 - 11:15</p>	<p>Impact</p> <p>Ecology monitoring for WBSE</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 14:26 - 18:00 Flood Tide: 07:11 - 14:26</p> <p>Monitoring Time: Mid-ebb: 14:28 - 17:58 Mid-flood: 09:03 - 12:33</p>	
	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 02:00 - 09:00 Flood Tide: 09:00 - 17:00</p> <p>Monitoring Time: *#Mid-ebb: 08:00 - 08:39 Mid-flood: 11:15 - 14:45</p> <p>Daytime & Evening Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Ecology monitoring for Marine Mammals by Vessel-based Line-Transsect Survey</p> <p>Night time Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 06:00 - 10:02 Flood Tide: 10:02 - 18:20</p> <p>Monitoring Time: *#Mid-ebb: 08:00 - 09:49 Mid-flood: 12:26 - 15:56</p>	<p>Impact</p> <p>Ecology monitoring for WBSE</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 08:00 - 11:00 Flood Tide: 11:00 - 19:00</p> <p>Monitoring Time: *Mid-ebb: 08:00 - 10:51 Mid-flood: 13:15 - 16:45</p>	
	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 10:51 - 13:12 Flood Tide: 13:12 - 20:33</p> <p>Monitoring Time: \$Mid-ebb: 10:16 - 13:04 Mid-flood: 15:07 - 18:37</p> <p>Daytime & Evening Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Night time Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 11:40 - 15:00 Flood Tide: 05:00 - 11:40</p> <p>Monitoring Time: Mid-ebb: 11:35 - 15:05 *Mid-flood: 08:00 - 11:20</p>	<p>Impact</p> <p>Ecology monitoring for WBSE</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 12:24 - 17:00 Flood Tide: 06:01 - 12:24</p> <p>Monitoring Time: Mid-ebb: 12:57 - 16:27 *Mid-flood: 08:00 - 10:57</p>	
	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 14:39 - 19:21 Flood Tide: 07:37 - 14:39</p> <p>Monitoring Time: Mid-ebb: 15:15 - 18:45 Mid-flood: 09:23 - 12:53</p> <p>Daytime & Evening Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Ecology monitoring for Marine Mammals by Vessel-based Line-Transsect Survey</p> <p>Night time Noise monitoring for M1, M2 & M3</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 16:00 - 22:32 Flood Tide: 09:00 - 16:00</p> <p>Monitoring Time: &Mid-ebb: 17:31 - 19:00 Mid-flood: 10:45 - 14:15</p>	<p>Impact</p> <p>Ecology monitoring for WBSE</p>	<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 07:29 - 11:00 Flood Tide: 11:00 - 17:36</p> <p>Monitoring Time: *Mid-ebb: 08:00 - 10:59 Mid-flood: 12:33 - 16:03</p>	
<p>Impact</p> <p>Water Quality monitoring for B1, B2, B3, B4, H1, C1A, C2A, F1A, CR1, CR2, M1</p> <p>Tidal Period: Ebb Tide: 09:48 - 12:44 Flood Tide: 12:44 - 19:19</p> <p>Monitoring Time: \$Mid-ebb: 09:56 - 12:35 Mid-flood: 14:16 - 17:46</p>	<p>Impact</p> <p>Daytime & Evening Noise monitoring for M1, M2 & M3</p>					

Remarks:
1. Daytime Noise Monitoring (07:00-19:00), Evening Time Noise Monitoring (19:00-23:00), Night Time Noise Monitoring (23:00-07:00)
2. Water Quality Monitoring for S1, S2 and S3 will only conduct during DCM works, refer to Detailed DCM Plan

Note:
* - as per Marine Department Notice No 107 of 2018, all vessels employed for the works should stay in the works area outside the hours of works (0700 to 2300). Due to safety concern, Water Quality Monitoring would start at 0800.
- Prioritized routing: Mid-Ebb: C1→S3→CR2→CR1→H1→Remaining stations and Mid-Flood: C2→CR1→S3→CR2→H1→Remaining stations
\$ - Since predicted tide is shorter than 3.5 hours, method of 90% tidal period as monitoring time is approached.
& - Due to safety concern for sampling event in night-time, method of 90% tidal period as monitoring time is approached and end at 1900.