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TEST REPORT

China Harbour Engineering Co Ltd

Contract No.: CV/2023/10
Handling of Surplus Public Fill
(2024-2027)

TUEN MUN AREA 38 FILL BANK

MONTHLY EM&A REPORT NO.03

(OCTOBER 2024)

Prepared by:

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Environmental Officer

Checked by:

LAU, Chi Leung
Environmental Team Leader

Issue Date: 08 November 2024 *Report No.: ENA46310*

UMWELT CONSULTING LIMITED

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By Post

Our Ref : P231104-EMA-TMFB-202410-V
Date : 14th November 2024

ETS-Testconsult Limited

8/F, Block B, Veristrong Industrial Centre,

34-36 Au Pui Wan Street,

Fo Tan, NT

Attn: Mr. LAU Chi Leung

Environmental Permit (EP) No. EP-210/2005/F

Expansion and Extension of Fill Bank at Tuen Mun Area 38

Monthly EM&A Report for October 2024

Dear Sir,

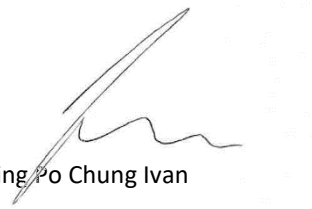
Pursuant to Condition 4.6 of Environmental Permit (EP) No. EP-210/2005/F, please note the report *"Tuen Mun Area 38 Fill Bank Monthly EM&A Report No. 03 (October 2024)"* dated 8 November 2024 submitted under the EP, certified by the Environmental Team Leader on 8 November 2024, had been reviewed and is hereby verified.

Should you have any query, please feel free to contact the undersigned at 3756 9590 or ivanting@umwelt.consulting .

Your faithfully,

For and on behalf of:

Umwelt Consulting Limited



Ting Po Chung Ivan

Independent Environmental Checker

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EXECUTIVE SUMMARY

This monthly Environmental Monitoring and Audit (EM&A) report No.03 was prepared by Environmental Team (ET) of ETS-Testconsult Ltd (ETL) for the "Contract No: CV/2023/10 – Handling of Surplus Public Fill (2024-2027) – Tuen Mun (TM) Area 38 Fill Bank" (The Project).

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at TM Area 38 in October 2024.

Site Activities

As informed by the Contractor, the site activities in this reporting period were as below:

1. Operation of the Public Fill Reception Facilities at Tuen Mun Fill Bank (TMFB);
2. Operation of the Integrated Public Fill Reception Platform (Fixed Rigid Platform) at TMFB;
3. Operation and Maintenance of Wheel Washing Bays and Facilities at TMFB;
4. Operation and Maintenance of Wash House at TMFB;
5. Personnel Position Tracking and Proximity Detection System of Moving Plant at TMFB;
6. Operation and Maintenance a Digital Works Supervision System (DWSS) for TMFB;
7. Operation of a New Soil Platform for Preliminary Sorting of Public Fill at TMFB;
8. Operation of Concrete Slab at Wet Deposition Platform in TMFB
9. Operation and Maintenance of Crushing plant at TMFB;
10. Delivery of public fill to Taishan at TMFB;
11. Operation of AI System for Crushing Plant at TMFB
12. Implementation of C Easy system at TMFB (phase 1)
13. Carry out GCO Probe test and SRT
14. Operation of recycling public fill as blanket layer material of reclamation projects
15. Construction of concrete access road to fixed rigid platform

Environmental Monitoring Progress

The summary of the monitoring activities in this monitoring month is listed below:

- *24-hour TSP Monitoring: 5 Occasions at 2 designated locations*
- *1-hour TSP Monitoring: 18 Occasions at 2 designated locations*
- *Noise, Daytime: 10 Occasions at 2 designated locations*
- *Marine Water Quality Monitoring: 13 Occasions at 4 designated locations*
- *Weekly-site inspection: 5 Occasions*

Air Monitoring

No exceedance of Action and Limit level was recorded for 1-hr and 24-hr TSP monitoring in the reporting period.

Noise Monitoring

No exceedance of Action and Limit level for noise monitoring was recorded in the reporting period.

Marine Water Quality Monitoring

No exceedance of action and limit level was recorded in the reporting period.

Weekly Site Inspection

In general, performance on environmental mitigation measures implemented was found to be satisfactory in this reporting period. The major findings observed during site inspections are presented in the Section 7.0.

Environmental Complaints, Notification of summons and successful prosecutions

Two complaints were received on 02 October 2024 and 21 October 2024 regarding the dust nuisance.

No notification of summon and prosecution with respect to environmental issues was received in this reporting period.

Future Key Issues

Based on the site inspections and forecast of engineering works in the coming month, key issues to be considered are as follows:

- *Dust generation from activities on site, such as vehicular movements along unpaved area and rock crushing activities;*
- *Noise impact from operating equipment and machinery on site;*
- *Wastewater and surface runoff from the site discharged into nearby water body; and*
- *Storage and usage of chemicals / fuel and chemical waste / waste oil.*

1.0 INTRODUCTION

China Harbour Engineering Co Ltd (CHEC) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for the "Contract No: CV/2023/10 –Handling of Surplus Public Fill (2024-2027) – Tuen Mun (TM) Area 38 Fill Bank" (The Project)".

In accordance with the Condition 4 of Part C of Environmental Permit (No.: EP-210/2005/F) (the EP), an EM&A programme as set out in the Project Profile should be implemented.

The EM&A programme requires environmental monitoring for air quality, water quality and environmental site inspections for air quality, water quality, landscape and visual, and waste management. The EM&A requirements for each parameter described in the following sections include:

- All monitoring parameters;
- Monitoring schedules for the reporting month and the coming months;
- Action and Limit levels for all environmental parameters;
- Event/Action Plans;
- Environmental mitigation measures, as recommended in the Project Profile; and
- Environmental requirements in contract documents.

Baseline monitoring was completed in May 2003 by Stanger Asia Ltd. Action and Limit Levels were established for air and water quality parameters based on the baseline monitoring results.

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tuen Mun Area 38 in October 2024.

2.0 PROJECT INFORMATION

2.1 Construction Programme

Details of construction programme are shown in Appendix G.

2.2 Project Organization and Management Structure

The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in Appendix A.

2.3 Contact Details of Key Personnel

The key personnel contact names and telephone numbers are shown in Table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	*Name of Key Staff*	*Project Role*	*Tel. No.*	*Fax No.*
CEDD	*Mr. C W Au Yeung, Andrew Cheung*	*Engineer's Representative*	*2623 9267 / 2762 5588*	*2714 0113*
IEC (Umwelt)	*Mr. Ivan Ting*	*IEC*	*3756 9590*	*3582 3310*
Contractor (CHZH-JV)	*Zhou Chang Ying*	*Senior Project Manager*	*96266299*	*22474108*
ET (ETL)	*C. L. Lau*	*ET Leader*	*2946 7791*	*2695 3944*

3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

As informed by the Contractor, the activities in the reporting month include:

1. Operation of the Public Fill Reception Facilities at Tuen Mun Fill Bank (TMFB);
2. Operation of the Integrated Public Fill Reception Platform (Fixed Rigid Platform) at TMFB;
3. Operation and Maintenance of Wheel Washing Bays and Facilities at TMFB;
4. Operation and Maintenance of Wash House at TMFB;
5. Personnel Position Tracking and Proximity Detection System of Moving Plant at TMFB;
6. Operation and Maintenance a Digital Works Supervision System (DWSS) for TMFB;
7. Operation of a New Soil Platform for Preliminary Sorting of Public Fill at TMFB;
8. Operation of Concrete Slab at Wet Deposition Platform in TMFB
9. Operation and Maintenance of Crushing plant at TMFB;
10. Delivery of public fill to Taishan at TMFB;
11. Operation of AI System for Crushing Plant at TMFB
12. Implementation of C Easy system at TMFB (phase 1)
13. Carry out GCO Probe test and SRT
14. Operation of recycling public fill as blanket layer material of reclamation projects
15. Construction of concrete access road to fixed rigid platform

4.0 AIR QUALITY MONITORING

4.1 Monitoring Requirement

1-hr and 24-hr TSP levels were monitored in the reporting month. Table 4.3 shows the Action and Limit Levels for the environmental monitoring works.

4.2 Monitoring Equipment

Both 1-hour and 24-hour TSP air quality monitoring was performed using a High Volume Air Sampler (HVS) located at each of the designated monitoring station. Table 4.1 summarizes the equipment used in the air quality monitoring programme. Copies of the calibration certificates for the HVS and calibrator are attached in Appendix B1.

Table 4.1 Air Quality Monitoring Equipment

Equipment	*Model and Make*
HVS	*Graseby GMW 2484 & 1180*
Calibrator	*Tisch TE-5025A 4128*

4.3 Monitoring Parameters, Frequency and Duration

Table 4.2 summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring.

Table 4.2 Monitoring parameters, duration, frequency of air quality monitoring

Parameter	*Duration*	*Frequency*
24-hr TSP	*24 hr*	*Once per six days*
1-hr TSP	*1 hr*	*Three times per six days*

4.4 Monitoring Locations and Schedule

In accordance with the Project Profile, two air-quality monitoring stations, namely TM-A1 and TM-A2, were selected for the 1-hr TSP and 24-hr TSP sampling.

Since the area for existing air monitoring station TM-A2 near Tipping Hall No.1 was handed over to EcoPark, air monitoring station TM-A2 was cancelled and the air monitoring was carried out at an alternative air monitoring station TM-RA2 (refer to Figure 1 attached) from 28 October 2008.

The locations of monitoring stations are shown in Figure 1.

During the reporting month, 1-hr and 24-hr TSP monitoring were carried out as the schedule. The details for 24-hr and 1-hr TSP monitoring carried out in this reporting month are summarized in Appendix B2.

4.5 Monitoring Methodology

Both 1-hr and 24-hr air quality monitoring (High Volume Sampler)

Instrumentation
High volume sampler (HVS) complete with appropriate sampling inlets were employed for both 1-hour and 24-hour TSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Installation
The installation of HVS refers to the requirement stated in Appendix D2 "General Technical Requirements of Environmental Monitoring" in the Environmental Monitoring and Audit Guidelines for Development Projects in Hong Kong published by EPD.

Operation/Analytical Procedures
Operating/analytical procedures for the operation of HVS are as below:

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m^3/min and 1.7m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate is indicated on the flow rate chart.
- For TSP sampling, fiberglass filters (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 1 hour / 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were conditioned in a desiccator for 24 hour with the temperature of 25^oC $\pm$ 3^oC and the relative humidity (RH) <50% $\pm$5%.

Maintenance & Calibration

- The HVS and their accessories should be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVS should be calibrated at bi-monthly intervals.

Wind Data Monitoring

Wind data included wind speed and wind direction were directly extracted from Tuen Mun Station of Hong Kong Observatory during this reporting month. The wind data are presented in Appendix E.

4.6 Action and Limit Levels

Table 4.3 shows the Action and Limit levels for 24-hr TSP and 1-hr TSP monitoring.

Table 4.3 Action and Limit Levels for 24-hr TSP and 1-hr TSP

Monitoring Location	*24-hr TSP (μg/m³)*		*1-hr TSP (μg/m³)*	
	Action Level	*Limit Level*	*Action Level*	*Limit Level*
TM-A1	*192*	*260*	*344*	*500*
*TM-RA2 **	*192*	*260*	*344*	*500*

Remark (*): Since the area for existing air monitoring station TM-A2 near Tipping Hall No.1 was handed over to EcoPark, air monitoring station TM-A2 was cancelled and the air monitoring was carried out at an alternative air monitoring station TM-RA2 from 28 October 2008. Since dust monitoring stations TM-A2 and TM-RA2 are located close to the major dust emission sources and no significant difference between them on the prevailing meteorological conditions, the baseline data from TM-A2 can also be valid in the case of TM-RA2.

4.7 Event-Action Plans

Please refer to Appendix F for details.

4.8 Results and Observations

All monitoring data of both 1-hr and 24-hr TSP monitoring is provided in Appendix B2. Graphical presentation of 1-hr and 24-hr TSP monitoring results for the reporting period is shown in Appendix B3. Wind data, including wind speed and wind direction, are annexed in Appendix E.

No exceedance of Action and Limit level was recorded for 1-hr and 24-hr TSP monitoring in the reporting month.

Generally, the Contractor implemented sufficient dust mitigation measures, including operation of wheel washing facilities and road dampening by water bowsers on the main haul roads and unpaved areas.

The monitoring results for 1-hr TSP and 24-hr TSP are summarized in Table 4.4 and 4.5 respectively.

Table 4.4 Summary of 1-hr TSP monitoring results

Monitoring Location	*Average (μg/m3)*	*Range (μg/m3)*	*Action Level (μg/m3)*	*Limit Level (μg/m3)*
TM-A1	*244*	*232-270*	*344*	*500*
TM-RA2	*248*	*236-273*		

Table 4.5 Summary of 24-hr TSP monitoring results

Monitoring Location	*Average (μg/m3)*	*Range (μg/m3)*	*Action Level (μg/m3)*	*Limit Level (μg/m3)*
TM-A1	*141*	*134-153*	*192*	*260*
TM-RA2	*143*	*136-156*		

5.0 MARINE WATER QUALITY MONITORING

5.1 Monitoring Requirements

In accordance with the Project Profile, impact marine water quality monitoring was conducted three days per week. Measurements were taken at both mid-flood and mid-ebb tides at three depths (i.e. 1m below surface, mid depth and 1m from seabed) at two control monitoring stations (TM-FC1 and TM-FC2) and two impact monitoring stations (TM-FM1and TM-FM2).

5.2 Monitoring Locations

As stipulated in the EM&A requirement, there were four monitoring stations undertaken during the impact monitoring. Figure 2 shows the locations of the marine water quality monitoring stations.

5.3 Monitoring Parameters and Frequency

Monitoring of the marine water quality parameters and frequency are listed in Table 5.1.

Table 5.1 Monitoring Parameters and Frequency of the marine water

Monitoring Station	*Parameter*	*Frequency*	*No. of Depths*
Control Stations: TM-FC1 (Mid-ebb) and TM-FC2 (Mid-flood) *Impact Stations: TM-FM1 and TM-FM2*	*Depth (m)*	*3 days/week, 2 tides/day*	*3 (Surface, mid-depth & bottom)*
	Temperature (℃)		
	Dissolved Oxygen (mg/L and % saturation)		
	Turbidity (NTU)		
	Salinity (ppt)		
	Suspended solids (mg/L)		

5.4 Monitoring Methodology and Equipment Used

For Location of the monitoring stations

Global Positing System (GPS)
A hand-held digital GPS was used to identify the designated monitoring stations prior to water sampling.

For Water Depth measurement

Echo Sounder
A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station.

For In-situ Water Quality Measurement

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals or sometimes longer throughout all stages of the water quality monitoring.

Dissolved Oxygen, Salinity, Turbidity and Temperature Measuring Equipment

A portable, weatherproof multiparameter water quality meter (YSI Pro DSS) which complete with cable, sensor and DC power source were used for measuring DO, turbidity, salinity, pH and temperature:

- a dissolved oxygen level in the range of 0 to 50 mg/L and 0-500 % saturation;
- a turbidity in range 0-4000 NTU;
- a salinity in range 0-70 ppt;
- a temperature of -5-70 degree Celsius

A membrane electrode with automatic temperature compensation complete with a cable was installed.

For Water Sampling and Sample Analysis

In-situ monitoring was carried out at three depths: 1 meter below water surface, at mid-depth and 1 meter above the seabed. At each sampling depth, duplicate readings of dissolved oxygen content and turbidity were taken. The probes were drop into water, two consecutive measurements of

dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. The difference between the two readings of each set was more than 25% of the value of the first reading while a third measurement would be conducted to ensure data precision.

Water Sampler
A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 liters, was lowered into the water body at the predetermined depth. The both opening ends of the sampler were then closed accordingly by dead weight and water samples were collected.

Water Container
The sample container, made by high-density polythene, was rinsed with a portion of the water sample. The water sample was then transferred to the container, labeled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4^{o}C. The water samples were then delivered to a local HOKLAS-accredited laboratory (Environmental Laboratory, ETS-Testconsult Ltd, HOKLAS Registration No. 022) on the same day for analysis.

The summary of testing method of testing parameter as recommended by EIA or required by EPD, with the QA/QC results in accordance with the requirement of HOKLAS or international accredited scheme is shown in Table 5.2. For the QA/QC procedures, one QC sample, one duplicate sample and one sample spike of every batch of 20 samples were analysis. The QA/QC results are summarized in Appendix N.

Table 5.2 Summary of testing procedure

Laboratory Analysis	*Testing Procedure*	*Detection Limit*
Total suspended solids	*In house method based on APHA 19th ed 2540D*	*1.0 mg/L*

In-situ measurement

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use. Responses of sensors and electrodes were checked with certified standard solutions before each use. The DO sensor was calibrated by wet bulb method and a zero check in distilled water was performed with the turbidity and salinity sensor before the strat of measurement.

At each measurement/sampling depth, two consecutive measurements of dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. For DO, DOS ,Turbidity and Salinity, measurements were conducted three days per week at both mid-ebb and mid-flood tides at three depths (i.e. 1m below surface, mid depth and 1m from seabed). The duplicate measurements were averaged if the difference was not greater than 25%. If the difference is greater than 25%, repeat measurement will be required to be carried out.

Table 5.3 shows the equipment used for in-situ monitoring of water quality. The calibration certificates are attached in Appendix C1.

Table 5.3 Details of Marine Water Quality Monitoring Equipment (In-site measurement)

Parameter	*Model*	*Date of Calibration*	*Due Date*	*Equipment No.*
Coordinate of Monitoring stations	*Garmin eTrex 10*	-----	-----	*ET/EW/005/09*
Dissolved Oxygen (Saturation), Temperature, Salinity, Turbidity	*YSI Pro DSS Multiparameter Water Quality Meter*	*27/8/24 & 25/10/24*	*26/10/24 & 24/01/25*	*ET/EW/008/010**
Water Depth	*Speedtech SM-5*	-----	-----	*ET/EW/002/08*

Remark: Indicates the instrument should be calibrated on site.

5.5 Action and Limit Levels

The water quality criteria, namely Action and Limit (A/L) levels are presented in the table below.

Table 5.4Water Quality Action and Limit Levels

Parameter	*Action Level*	*Limit Level*
DO (mg/L)	*Surface & Middle* *<4.78 mg/L (5%-ile of baseline data)* *Bottom* *<4.16 mg/L (5%-ile of baseline data)*	*Surface & Middle* *<4.00 mg/L (1%-ile of baseline data)* *Bottom* *<2.00 mg/L*
SS (mg/L) (Depth-averaged)	*>120% of the upstream control station's SS at the same tide on the same day*	*>130% of the upstream control station's SS at the same tide on the same day*
Turbidity (NTU) (Depth-averaged)	*>120% of the upstream control station's turbidity at the same tide on the same day*	*>130% of the upstream control station's turbidity at the same tide on the same day*

5.6 Event and Action Plan

Please refer to the Appendix F for details.

5.7 Monitoring Duration and Period in this reporting period

Table 5.5 is the time schedule for the marine water quality monitoring events that were conducted in this reporting period. Duration of marine water quality monitoring is detailed in Appendix C2.

Table 5.5 Time Schedule of Marine Water Quality Monitoring

October-2024						
Sunday	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
		1 ▼	*2*	*3* ▼	*4*	*5* ▼
6	*7* ▼	*8*	*9*	*10* ▼	*11*	*12* ▼
13	*14*	*15* ▼	*16*	*17* ▼	*18*	*19* ▼
20	*21* ▼	*22*	*23*	*24* ▼	*25*	*26* ▼
27 ▼	*28*	*29* ▼	*30*	*31* ▼		

Remark: (▼) = Marine water quality monitoring carried out by ET
**Water quality monitoring (Mid-Flood &Ebb) on 05/09/2024 was cancelled due to the adverse weather condition (The Tropical Cyclone Signal No.3).*

Marine Water Quality Monitoring Results

The impact water quality measurement results are detailed in Appendix C2. Appendix C3 presents the water quality monitoring data and graphical presentations of monitoring results respectively. The summary of marine water quality exceedances is shown in Table 5.6.

Table 5.6 Summary of Marine Water Quality Exceedances in this reporting period

Tide	*Station*	*Exceedance Level*	*DO*		*Turbidity*	*SS*	*Total*
			Surface & Middle	*Bottom*			
Mid-Ebb	*TM-FM1*	*Action*	*0*	*0*	*0*	*0*	*0*
		Limit	*0*	*0*	*0*	*0*	*0*
	TM-FM2	*Action*	*0*	*0*	*0*	*0*	*0*
		Limit	*0*	*0*	*0*	*0*	*0*
Mid-	*TM-FM1*	*Action*	*0*	*0*	*0*	*0*	*0*

Flood		*Limit*	*0*	*0*	*0*	*0*	*0*
	TM-FM2	*Action*	*0*	*0*	*0*	*0*	*0*
		Limit	*0*	*0*	*0*	*0*	*0*
Total		*Action*	*0*	*0*	*0*	*0*	*0*
		Limit	*0*	*0*	*0*	*0*	*0*

According to the summary of marine water monitoring results, no exceedance of action and limit level was recorded in this reporting month.

6.0 Noise Monitoring

6.1 Monitoring Requirements

Noise monitoring was conducted at 2 designated monitoring stations as specified in the Sections 25.10A of the Particular Specification for good site practice.

The equipment, parameter, frequency, duration, methodology, calibration details, results and observations of the noise monitoring for the reporting month are presented in this section.

6.2 Monitoring Equipment

An Integrating Sound Level Meter was used for noise monitoring. It was a Type 1 sound level meter capable of giving a continuous readout of the noise level reading including equivalent continuous sound pressure level (L_{eq}) and percentile sound pressure level (Lx). It complies with International Electro Technical Commission Publications IEC 61672 Type 1 specification, and speed in m/s was used to monitor the wind speed.

Table 6.1 summarizes noise monitoring equipment model being used. A copy of the calibration certificate for noise meter and calibrator are attached in Appendix D1.

Table 6.1 Noise Monitoring Equipment

Equipment	*Model*
Sound Level Meter	*Rion NL-52 / Rion NL-31*
Calibrator	*Rion NC-73*

6.3 Monitoring Parameters, Duration and Frequency

Duration, frequencies and parameters of noise measurement are presented in Table 6.2.

Table 6.2 Duration, Frequencies and Parameters of Noise Monitoring

Time period	*Duration/min*	*Parameters*	*Frequency*
Day-time: 0700-1900 hrs on normal weekday	*30*	*L_{eq}, L_{10}, L_{90}*	*Twice per week*

6.4 Monitoring Locations and Period

Since Lands Dept did not approve to carry out noise monitoring at their own area where the noise monitoring stations TM-N1 and TM-N2 located due to the security, noise monitoring carried out at two noise monitoring stations TM-RN1 and TM-RN2 (refer to the figure 3 attached) from 18 December 2007.

The noise monitoring locations, TM-RN1 and TM-RN2 are shown in Figure 3. The noise measurement at TM-RN1 and TM-RN2 are façade measurement.

The noise-monitoring period of monitoring stations is summarized in Appendix D2.

6.5 Monitoring Procedures and Calibration Details

Operation/Analysis Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2m above the ground.

- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  - *Frequency weighting: A*
  - *Time weighting : Fast*
  - *Time measurement : 30 min*
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1dB, the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with a portable wind meter.
- During the monitoring period, the Leq, L10 and L90 were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Free Field correction to the measurements should be made. Correction factor of +3dB(A) should be made to the free Field measurements. Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

Maintenance and Calibration

- The microphone head of the sound level meter and calibrator are cleaned with soft cloth in quarterly intervals.
- The meter is sent to the supplier or HOKLAS laboratory to check and calibrated in yearly intervals.

6.6 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 6.3.

Table 6.3 Action and Limit Levels for noise monitoring

Time Period	*Action*	*Limit*
0700-1900 hrs on normal weekdays	*When one documented complaint is received*	*65 dB(A)*

6.7 Event-Action Plans

Please refer to the Appendix F for details.

6.8 Results and Observation

The detail of the noise monitoring is provided in Appendix D2. Graphical presentation of the monitoring result for the reporting period is shown in Appendix D3.

Since no documented complaint on noise issue was received in this reporting period, no Action Level exceedance was recorded. Besides, no exceedance in Limit Level was recorded according to the result from Day-time noise monitoring.

The major sources of noise pollution observed in this reporting month were noise from the traveling dump trucks and from the operation of site machines.

7.0 ENVIRONMENTAL AUDIT

7.1 Weekly ET Site Inspections and EPD's Site Inspection

7.1.1 Weekly ET Site Inspections

Weekly site inspections were carried out by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, five weekly site inspections were conducted on 03, 10, 17, 25 and 30 October 2024. Summaries of key findings of weekly ET site inspections in this month are described in Table 7.1.

Table 7.1 Key Findings of Weekly ET Site Inspections in this reporting month

Date	*Key Findings*	*Action(s) Taken recommended by ET*	*Action(s) Taken by the Contractor during the site audit*	*Rectification Status by ET*
03 October 2024	*No defective work or observation was recorded during the weekly ET site inspection*			
10 October 2024	*No defective work or observation was recorded during the weekly ET site inspection*			
17 October 2024	*No defective work or observation was recorded during the weekly ET site inspection*			
25 October 2024	*Dusty environment was observed at the bituminous material zone.*	*To provide water spraying properly*	*Regular watering on dusty materials was provided on 30 Oct 2024*	*Closed*
30 October 2024	*No defective work or observation was recorded during the weekly ET site inspection*			

7.1.2 The State of Air Quality Control of 3RS area in TMFB

As there was the concern about the dust emission in the 3RS collection area of TMFB, EPD arranged a joint site inspection on 06 October 2022 and the contractor carried out mitigation measures, including increasing the frequency of water spraying by water lorries, setting up water spraying machine in the 3RS area and providing cleaning at the site haul road, to minimize the dust emission. The location of 3RS and discharge point would be inspected in every weekly environmental audit.

7.1.3 EPD's Site Inspection

EPD's site inspection was carried out on 07 October 2024 in this reporting period.

7.2 Review of Environmental Monitoring Procedures

The monitoring works conducted by the ET were inspected internally on a regular basis. The following observations have been recorded for the monitoring works:

Air Quality Monitoring

- The monitoring team recorded the observations around the monitoring stations within and outside of the construction site.
- The monitoring team recorded the temperature, air pressure and general weather condition on the monitoring day.

Water Quality Monitoring

- The monitoring team recorded the observations around the monitoring stations, which might affect the results; and

- Major water pollution sources were identified and recorded.

Noise Monitoring

- The monitoring team recorded the observations around the monitoring station, which might affect the results.
- Major noise sources were identified and recorded.

7.3 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting month are summarized in Table 7.2.

Table 7.2 Summary of environmental licensing and permit status

Description	*Permit No.*	*Valid Period*		*Section*
		From	*To*	
Environmental Permit	*EP-210/2005/F*	*01/01/24*	*--*	*Issued*
Chemical Waste Registration	*5296-421-C4992-01*	*20/04/17*	*---*	*Spent battery containing heavy metals and spent lubricating oil*
Effluent Discharge License	*WT00042755-2022*	*21/02/23*	*29/02/28*	*Effluent arising from vehicle washing and dust suppression activities and contaminated surface runoff treated by screening facilities and sedimentation tanks (sedimentation and chemical precipitation).*
Marine Dumping Permit	*EP/MD/25-005*	*01/07/24*	*30/09/24*	*Approval for dumping 499,999 tons (approximately equal to 277,777 cu.m. bulked quantity) of Public Fill (Reclamation Materials) from Tseung Kwan O Area 137 Fill Bank and Tuen Mun Area 38 Fill Bank to designated dumping area at Guanghaiwan of Taishan*
Billing Account for Waste Disposal	*7051970*	*22/05/17*	*---*	*---*
Notification Pursuant to Section 3(1) of the Air Pollution Control (Construction Dust)	*10008005*	*12/04/17*	*---*	*---*

7.4 Implementation Status

7.4.1 Implementation Status of Environmental Mitigation Measures

An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I. Most of the necessary mitigation measures were implemented properly.

7.4.2 Implementation Status of Event and Action Plan

No exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in the reporting month. Apart from this, there was no exceedance on noise recorded in this month.

According to the marine water monitoring results, no action-level and limit-level exceedance was recorded in this reporting period.

Hence, no further action was required to be implemented.

7.4.3 Implementation Status of Environmental Complaint, Notification of Summon and Successful Prosecution Handling

Two complaints were received on 02 October 2024 and 21 October 2024. A complaint referred by 1823 was received on 02 October 2024, from public against dust nuisance "投訴屯門 38 泥尾,泥塵大,要求增加水車灑水" and A complaint was received by CEDD on 21 October 2024, from public against dust nuisance "屯門 38 泥尾泥塵大，要求加密水車淋水". The Contractor has implemented control measures to reduce dust emission to the environment and no defective observation related to dust emission was recorded during the site investigation for the two complaints. No exceedance was found on recent air quality monitoring results. Therefore, there is no direct evidence showing that the complaint is likely related to the TM38 fill bank project. Although this complaint was invalid, considering the complaint was targeted to TM 38 Fill Bank, the Contractor will take more effort on the dust suppression to avoid pollutants to the nearby environment.

No notification of summon and prosecution with respect to environmental issues was received in this reporting period.

A summary of environmental complaints, notifications of summons and successful prosecutions was given in Table 7.3.

Table 7.3 Summary of Environmental Complaints and Prosecutions

Complaints logged		*Summons served*		*Successful Prosecution*	
October 2024	*Cumulative*	*October 2024*	*Cumulative*	*October 2024*	*Cumulative*
2	*11*	*0*	*0*	*0*	*0*

8.0 LANDSCAPE AND VISUAL

Landscape and visual site audit were carried out on a weekly basis to monitor environmental issues in order to ensure that all mitigation measures were implemented timely and properly. The findings in this reporting period were:

- The maximum stockpiling height at the Fill Bank was limited to a maximum of +65.2 mPD;
- The Contractor hydroseeded the outer slopes of the Fill Bank as far as practicable;
- The Contractor removed the stockpile of public fill in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable; and
- Lighting was set to minimize night-time glare.

9.0 WASTE MANAGEMENT

9.1 Summary of Waste disposed of in this period

The actual amounts of different types of waste disposed of by the activities of the Project in the period are shown in Table 9.1 and the Monthly Summary Waste Flow Table is shown in Appendix K.

Table 9.1 Actual amounts of Waste generated in this reporting month

Waste Type	*Actual Amount*	*Disposal Locations*
Public Fill ('000m^3)	*0*	*Tuen Mun 38 Fill Bank*
C&D Waste (Others – e.g. general refuse) ('000kg)	*36.64*	*WENT Landfill*
Chemical Waste (kg)/(L)	*0(L)*	*Collected by licensed collector*

9.2 Advice on the Solid and Liquid Waste Management Status

The Contractor should provide sufficient preventive measures during equipment maintenance works so as to avoid oil leakage on the ground. In the event of any oil leakage, the Contractor should clean up the polluted soil and handle all the materials used for this cleaning works as chemical waste.

The drain outlet of all the bunded areas should be plugged properly. Besides, pre-cast drip trays were provided for oil drums at several areas, such as workshop and chemical storage area. The

Contractor should collect and dispose of any stagnant water accumulated in the concrete bunding and drip trays and handle them as chemical waste.

The Contractor should use suitable containers with proper labels to store chemical wastes in accordance with Code of Practice on the Packaging, Labeling and Storage of Chemical Waste.
The Contractor should also advise their workers of the proper procedures in handling the chemical waste. All the trip tickets for chemical waste disposal should be properly kept in the site office.

The Contractor was reminded to increase the frequency of inspection and cleaning of the site drainage system, including permanent desilting chambers, desilting facilities, oil interceptor bypass tank and all the trapezoidal channels. Moreover, the Contractor should apply approved pesticides in the stagnant water ponds.

All the runoff from the parking area should be pumped to the desilting facilities and oil interceptors to remove suspended solids and oil & grease prior to discharge.

All the discharge measures were managed under Effluent Discharge License. No discharge is allowed before the approval of discharge permit.

10.0 ENVIRONMENTAL NON-CONFORMANCE

10.1 Summary of air quality, noise and marine water quality

No exceedance of Action and Limit level was recorded for 1-hr and 24-hr TSP monitoring in the reporting period.
According to the marine water monitoring results, no action-level and limit-level exceedance was recorded in the reporting period.

The noise level measured at the monitoring station complied with the Limit Level of 65dB(A). No complaint was received regarding noise issue in this reporting period.

10.2 Summary of Environmental Complaints

Two complaints were received on 02 October 2024 and 21 October 2024.

10.3 Summary of Notification of Summons and Prosecution

There was no notification of summon and prosecution respect to environmental issues registered in this reporting period.

11.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Impact monitoring of air quality, noise and water quality were carried out at designated locations in this reporting period.

According to the summary of air monitoring results, no exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in the reporting period.

According to the marine water monitoring results, no action-level and limit-level exceedance was recorded in the reporting period.

The noise level measured at the monitoring station complied with the Limit Level of 65dB(A). No complaint was received regarding noise issue in this reporting period.

According to the weekly site inspections carried out in this reporting period, the Contractor generally implemented sufficient dust mitigation measures, including operation of the mist spraying systems and automatic wheel washing facilities, dampening of haul roads and stockpiling areas.

Two complaints were received on 02 October 2024 and 21 October 2024. No prosecution or notification of summons was received in this reporting period.

Recommendations

According to the environmental site inspections performed in the reporting period, the following recommendations were provided:

Air Quality
- Ensure the frequency of water spraying on haul roads, unloading areas and stockpiles to be sufficient to suppress the dust sources;
- Provide proper maintenance for the powered mechanical equipment and barges to avoid emission of dark smoke;
- Provide water spraying onto the truckloads during inspection of fill material;
- Conduct road sweeping on all paved haul roads and public roads especially outside and near the site egress by the road sweeper. Undertake water spraying on stockpiling area by water bowser;
- Erect adequate speed limit signs to advise the truck drivers of the speed limit;
- Operate mist spraying systems and automatic water sprinklers in the Fill Bank;
- Implement the dust mitigation measures for the construction activities;
- Designate proper haul roads to ensure effective water spraying; and
- Ensure all vehicles to be washed before leaving the site egress by provision, operation and maintenance of automatic wheel washing facilities.

Noise
- Conduct noisy activities at a farther location from the NSRs.
- Proper schedule of noisy operation and use of quiet machineries on site.

Water Quality
- Maintain the drainage system, including the trapezoidal channels and permanent desilting chambers regularly; and
- Remove the stagnant water or provide approved pesticides for the stagnant water in the permanent desilting chambers, if any.

Chemical and Waste Management
- Remove waste materials from the site to avoid accumulation regularly;
- Handle and store chemical wastes properly;
- Remove unwanted material in the existing stockpiles and avoid further dumping of such material;
- Provide and maintain sufficient drip trays for diesel drums, chemical containers, chemical waste storage drums and diesel operated generator set;
- Maintain good housekeeping at the workshop area;
- Ensure sufficient tarpaulin sheets are provided to cover drip trays; and
- Avoid soil being polluted during oil filling and equipment maintenance; hence, properly remove and store the contaminated soil, if any.

Landscape and Visual
- Provide hydroseeding on the exposed slopes, on which the final profile has been formed;
- Erect all the site hoarding/chaining fences in accordance with agreed design at proper location;
- Maintain the hydroseeded slopes properly.

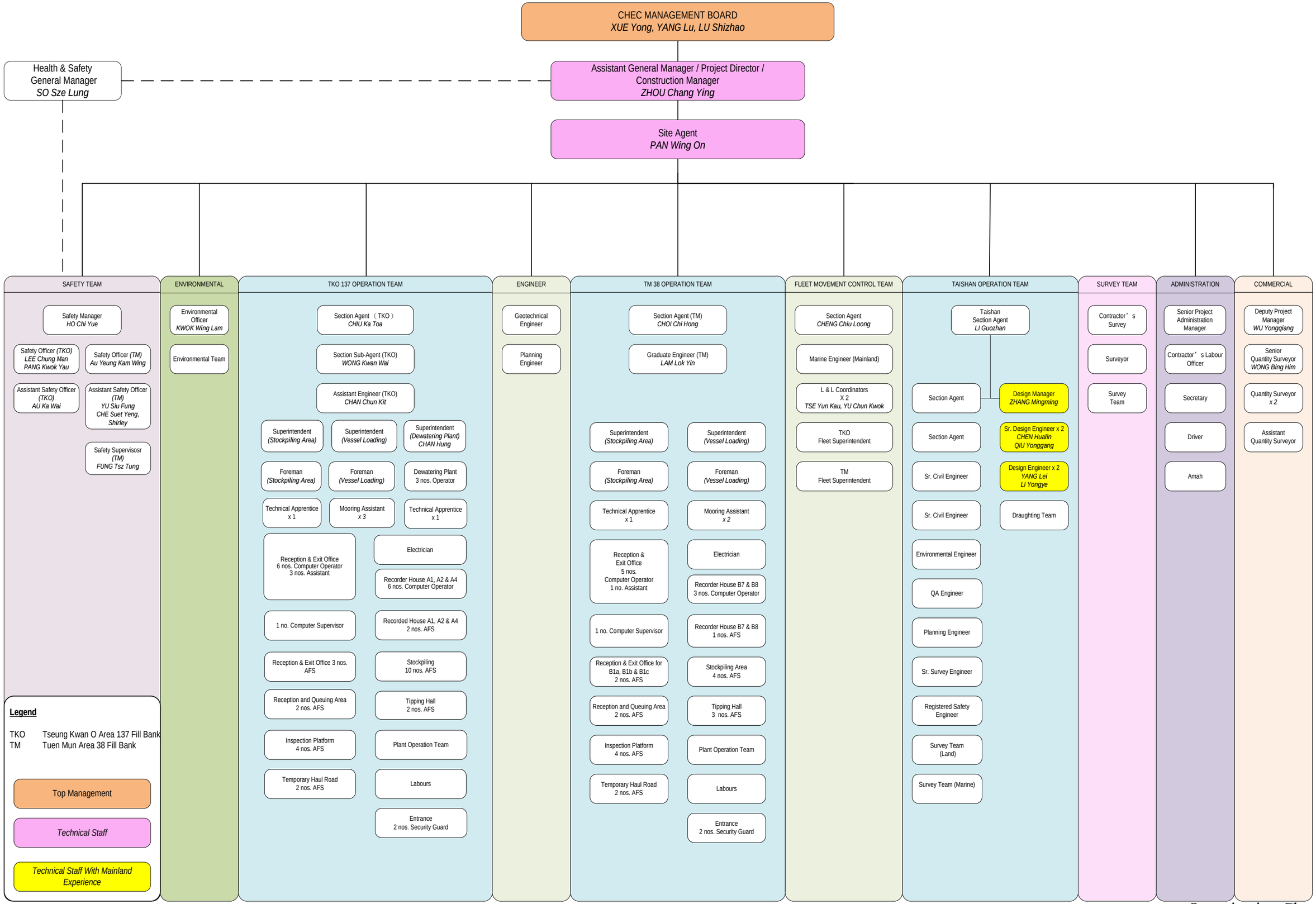
12.0 FUTURE KEY ISSUES

Based on the site inspections and forecast of engineering works in the coming month, key issues to be considered are as follows:
- Dust generation from activities on site, such as vehicular movements along unpaved area and rock crushing activities;
- Noise impact from operating equipment and machinery on site;
- Wastewater and surface runoff from the site discharged into nearby water body;
- Regular checking of the drainage system;
- Flood prevention; and
- Noise from operation of the crushing plant.

- END OF REPORT -

Appendix A

Project Organization Chart


CHEC MANAGEMENT BOARD
XUE Yong, YANG Lu, LU Shizhao
Health & Safety General Manager
SO Sze Lung
Assistant General Manager / Project Director / Construction Manager
ZHOU Chang Ying
Site Agent
PAN Wing On
SAFETY TEAM
Safety Manager
HO Chi Yue
Safety Officer (TKO)
LEE Chung Man
PANG Kwok Yau
Safety Officer (TM)
Au Yeung Kam Wing
Assistant Safety Officer (TKO)
AU Ka Wai
Assistant Safety Officer (TM)
YU Siu Fung
CHE Suet Yeng, Shirley
Safety Supervisosr (TM)
FUNG Tsz Tung
ENVIRONMENTAL
Environmental Officer
KWOK Wing Lam
Environmental Team
TKO 137 OPERATION TEAM
Section Agent （TKO）
CHIU Ka Toa
Section Sub-Agent (TKO)
WONG Kwan Wai
Assistant Engineer (TKO)
CHAN Chun Kit
Superintendent (Stockpiling Area)
Superintendent (Vessel Loading)
Superintendent (Dewatering Plant)
CHAN Hung
Foreman (Stockpiling Area)
Foreman (Vessel Loading)
Dewatering Plant 3 nos. Operator
Technical Apprentice x 1
Mooring Assistant x 3
Technical Apprentice x 1
Reception & Exit Office 6 nos. Computer Operator 3 nos. Assistant
Electrician
Recorder House A1, A2 & A4 6 nos. Computer Operator
1 no. Computer Supervisor
Recorded House A1, A2 & A4 2 nos. AFS
Reception & Exit Office 3 nos. AFS
Stockpiling 10 nos. AFS
Reception and Queuing Area 2 nos. AFS
Tipping Hall 2 nos. AFS
Inspection Platform 4 nos. AFS
Plant Operation Team
Temporary Haul Road 2 nos. AFS
Labours
Entrance 2 nos. Security Guard
ENGINEER
Geotechnical Engineer
Planning Engineer
TM 38 OPERATION TEAM
Section Agent (TM)
CHOI Chi Hong
Graduate Engineer (TM)
LAM Lok Yin
Superintendent (Stockpiling Area)
Superintendent (Vessel Loading)
Foreman (Stockpiling Area)
Foreman (Vessel Loading)
Technical Apprentice x 1
Mooring Assistant x 2
Reception & Exit Office 5 nos. Computer Operator 1 no. Assistant
Electrician
Recorder House B7 & B8 3 nos. Computer Operator
1 no. Computer Supervisor
Recorder House B7 & B8 1 nos. AFS
Reception & Exit Office for B1a, B1b & B1c 2 nos. AFS
Stockpiling Area 4 nos. AFS
Reception and Queuing Area 2 nos. AFS
Tipping Hall 3 nos. AFS
Inspection Platform 4 nos. AFS
Plant Operation Team
Temporary Haul Road 2 nos. AFS
Labours
Entrance 2 nos. Security Guard
FLEET MOVEMENT CONTROL TEAM
Section Agent
CHENG Chiu Loong
Marine Engineer (Mainland)
L & L Coordinators X 2
TSE Yun Kau, YU Chun Kwok
TKO Fleet Superintendent
TM Fleet Superintendent
TAISHAN OPERATION TEAM
Taishan Section Agent
LI Guozhan
Section Agent
Design Manager
ZHANG Mingming
Section Agent
Sr. Design Engineer x 2
CHEN Hualin
QIU Yonggang
Sr. Civil Engineer
Design Engineer x 2
YANG Lei
LI Yongye
Sr. Civil Engineer
Draughting Team
Environmental Engineer
QA Engineer
Planning Engineer
Sr. Survey Engineer
Registered Safety Engineer
Survey Team (Land)
Survey Team (Marine)
SURVEY TEAM
Contractor’s Survey
Surveyor
Survey Team
ADMINISTRATION
Senior Project Administration Manager
Contractor’s Labour Officer
Secretary
Driver
Amah
COMMERCIAL
Deputy Project Manager
WU Yongqiang
Senior Quantity Surveyor
WONG Bing Him
Quantity Surveyor x 2
Assistant Quantity Surveyor
Legend
TKO Tseung Kwan O Area 137 Fill Bank
TM Tuen Mun Area 38 Fill Bank
Top Management
Technical Staff
Technical Staff With Mainland Experience

Appendix B1

Calibration Certificates for Impact Air Quality Monitoring Equipments

TISCH Environmental

RECALIBRATION DUE DATE:
January 15, 2025

Certificate of Calibration

Calibration Certification Information					
Cal. Date:	January 15, 2024	**Rootsmeter S/N:** 438320	**Ta:** 295	°K	
Operator:	Jim Tisch		**Pa:** 756.4	mm Hg	
Calibration Model #:	TE-5025A	**Calibrator S/N:** **4228**			

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4400	3.3	2.00
2	3	4	1	1.0250	6.4	4.00
3	5	6	1	0.9240	8.0	5.00
4	7	8	1	0.8780	8.9	5.50
5	9	10	1	0.7230	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0010	0.6951	1.4180	0.9956	0.6914	0.8832
0.9969	0.9726	2.0054	0.9915	0.9674	1.2490
0.9948	1.0766	2.2421	0.9894	1.0708	1.3964
0.9936	1.1316	2.3515	0.9882	1.1256	1.4646
0.9884	1.3671	2.8361	0.9831	1.3597	1.7664
QSTD	**m=**	**2.11633**	**QA**	**m=**	**1.32521**
	b=	**-0.04857**		**b=**	**-0.03025**
	r=	**0.99987**		**r=**	**0.99987**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter In the Atmosphere, 9.2.17, page 30

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 13 August 2024

Serial No. : 2484 (ET / EA / 003 / 27)

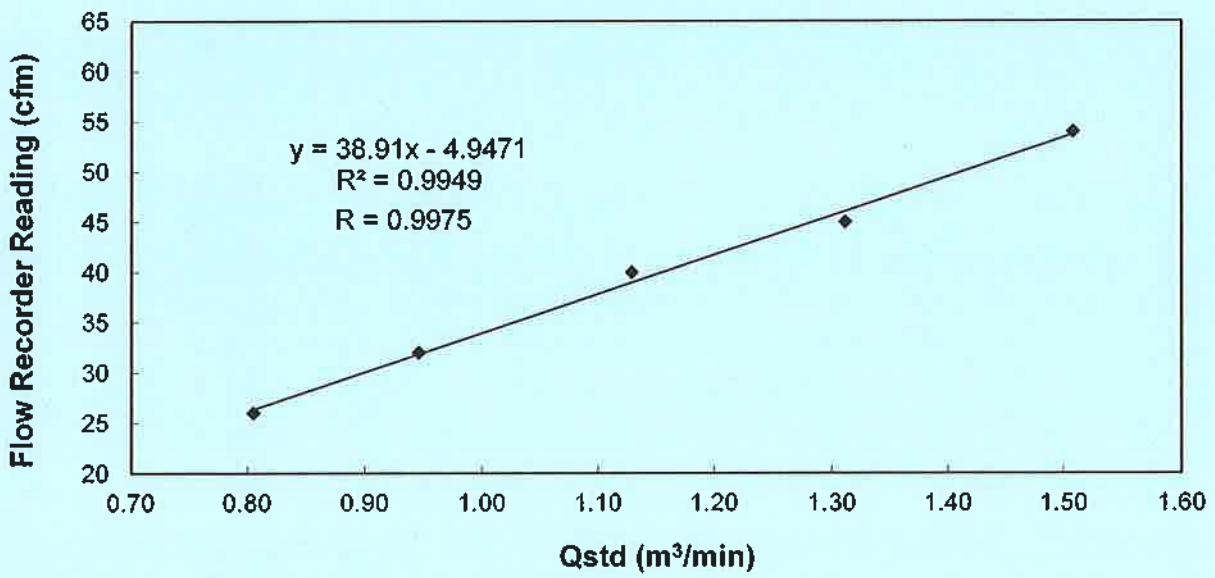
Calibration Due Date : 12 October 2024

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	54	45	40	32	26
Qstd (Actual flow rate, m^3/min)	1.51	1.31	1.13	0.95	0.80
Pressure : 754.56 mm Hg		Temp. : 303 K			

Sampler 2484 Calibration Curve
Site: Tuen Mun 38 (TM-A1)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable*/ ~~unacceptable~~* for use.

Calibrated by : Mak Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 11 October 2024

Serial No. : 2484 (ET / EA / 003 / 27)

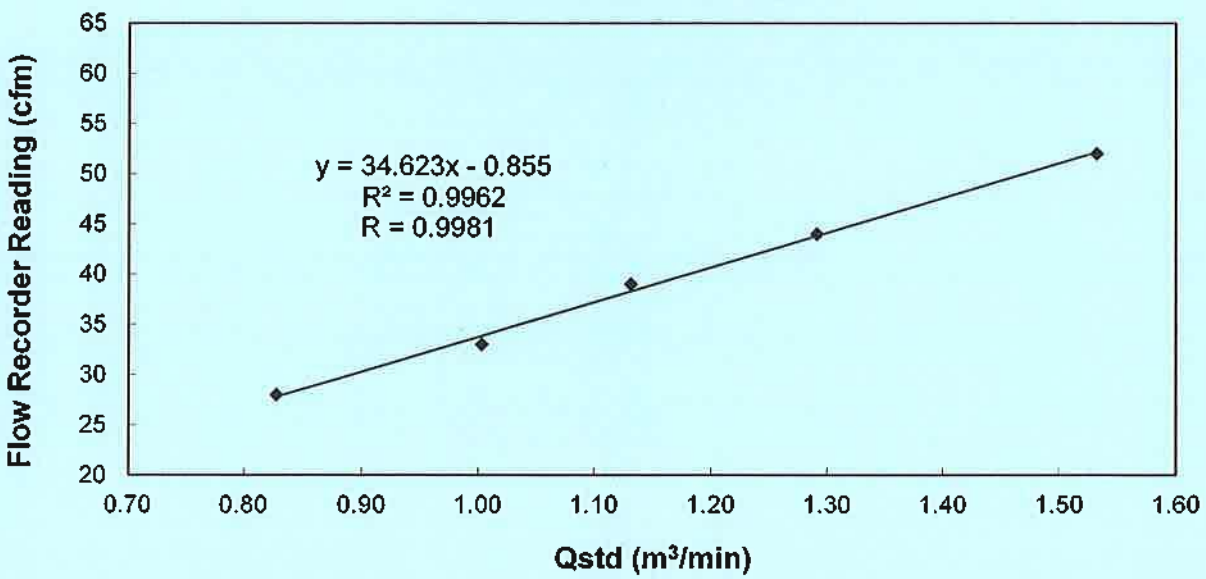
Calibration Due Date : 10 December 2024

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)		52	44	39	33	28
Qstd (Actual flow rate, m^3/min)		1.53	1.29	1.13	1.00	0.83
Pressure :	760.34 mm Hg		Temp. :	298 K		

Sampler 2484 Calibration Curve
Site: Tuen Mun 38 (TM-A1)



Acceptance Criteria : Correlation coefficient (*r*) of the calibration curve greater than 0.990 after a 5-point calibration

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Calibrated by : Mak Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by :
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(Environmental Team Leader)

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 13 August 2024

Serial No. : 1180 (ET / EA / 003 / 04)

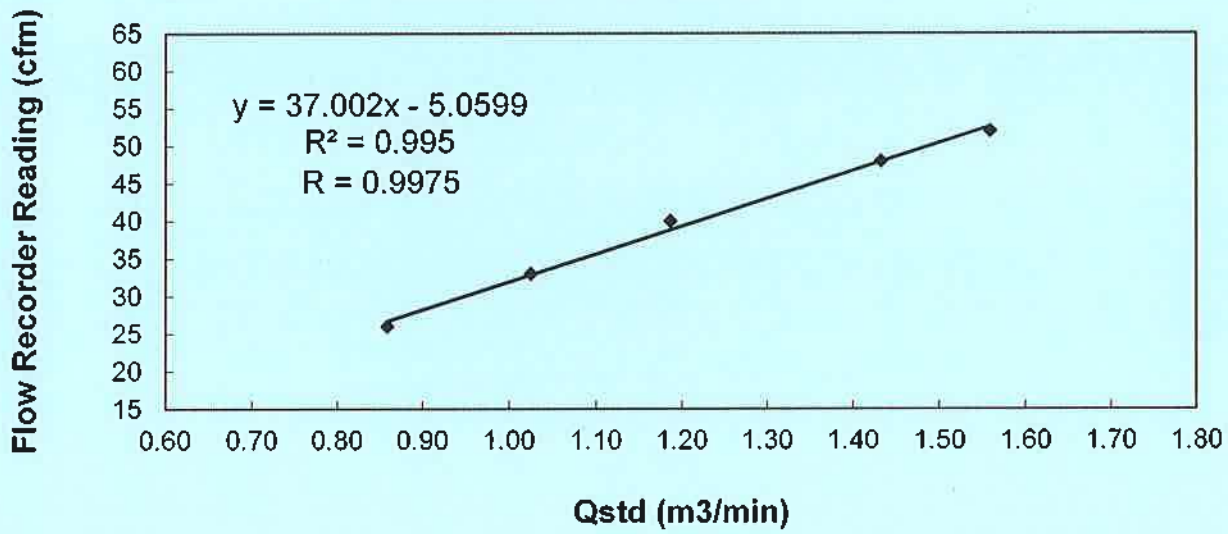
Calibration Due Date : 12 October 2024

Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results :

Flow recorder reading (cfm)	52	48	40	33	26
Qstd (Actual flow rate, m^3/min)	1.56	1.43	1.19	1.03	0.86
Pressure : 754.56 mm Hg		Temp. : 303 K			

Sampler 1180 Calibration Curve
Site: Tuen Mun (TM-RA2)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable* / ~~unacceptable~~ * for use.

Calibrated by : Mak Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 11 October 2024

Serial No. : 1180 (ET / EA / 003 / 04)

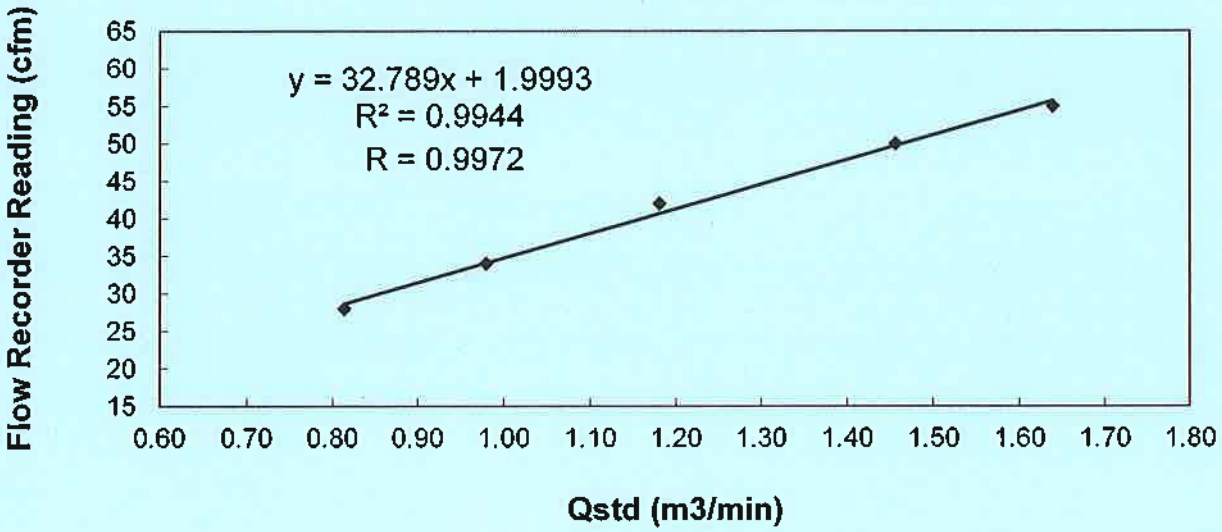
Calibration Due Date : 10 December 2024

Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results :

Flow recorder reading (cfm)		55	50	42	34	28
Qstd (Actual flow rate, m^3/min)		1.64	1.46	1.18	0.98	0.81
Pressure :	760.34 mm Hg		Temp. :	298 K		

Sampler 1180 Calibration Curve
Site: Tuen Mun (TM-RA2)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable* / ~~unacceptable~~ * for use.

Calibrated by : Mak Kei Wai
MAK, Kei Wai
(Assistant Supervisor)

Checked by :
LAU, Chi Leung
(Environmental Team Leader)

- END OF REPORT -

Appendix B2

Impact Air Quality Monitoring Results

東業德勤測試顧問有限公司
ETS-TESTCONSULT LTD.

Summary of 24-hr TSP Monitoring Results

Monitoring Station : TM-A1

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. (µg/m^3)
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final	
04/10/24	08:30	05/10/24	08:30	18565.31	18589.31	24.00	0.9752	0.9752	0.9752	2.9894	3.2043	153
10/10/24	09:30	11/10/24	09:30	18592.31	18616.31	24.00	0.9752	0.9752	0.9752	2.7098	2.9022	137
16/10/24	08:30	17/10/24	08:30	18619.31	18643.31	24.00	1.0067	1.0067	1.0067	2.6723	2.8666	134
22/10/24	09:31	23/10/24	09:31	18646.31	18670.31	24.00	1.0067	1.0067	1.0067	2.6432	2.8447	139
28/10/24	08:30	29/10/24	08:30	18673.31	18697.31	24.00	0.9778	0.9778	0.9778	2.8675	3.0674	142

Monitoring Station : TM-RA2

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. (µg/m^3)
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final	
04/10/24	08:30	05/10/24	08:30	33852.53	33876.53	24.00	1.0016	1.0016	1.0016	2.9658	3.1908	156
10/10/24	09:30	11/10/24	09:30	33879.53	33903.53	24.00	1.0016	1.0016	1.0016	2.7719	2.9738	140
16/10/24	08:30	17/10/24	08:30	33906.53	33930.53	24.00	0.9455	0.9455	0.9455	2.6221	2.8073	136
22/10/24	09:42	23/10/24	09:42	33933.53	33957.53	24.00	0.9455	0.9455	0.9455	2.7769	2.9689	141
28/10/24	08:30	29/10/24	08:30	33960.53	33984.53	24.00	0.9150	0.9150	0.9150	2.8109	3.0006	144

東業德勤測試顧問有限公司
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Summary of 1-hr TSP Monitoring Results

Monitoring Station : TM-A1

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. (µg/m^3)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
01/10/24	09:30	10:30	18562.31	18563.31	1.00	0.9752	0.9752	0.9752	2.8547	2.8704	268
01/10/24	10:40	11:40	18563.31	18564.31	1.00	0.9752	0.9752	0.9752	2.8303	2.8461	270
01/10/24	13:15	14:15	18564.31	18565.31	1.00	0.9752	0.9752	0.9752	2.7336	2.7492	267
07/10/24	13:45	14:45	18589.31	18590.31	1.00	0.9752	0.9752	0.9752	2.7494	2.7631	234
07/10/24	14:50	15:50	18590.31	18591.31	1.00	0.9752	0.9752	0.9752	2.6547	2.6685	236
08/10/24	10:00	11:00	18591.31	18592.31	1.00	0.9752	0.9752	0.9752	2.7115	2.7265	256
11/10/24	09:35	10:35	18616.31	18617.31	1.00	0.9778	0.9778	0.9778	2.6121	2.6257	232
11/10/24	10:40	11:40	18617.31	18618.31	1.00	0.9778	0.9778	0.9778	2.6180	2.6318	235
15/10/24	09:15	10:15	18618.31	18619.31	1.00	1.0067	1.0067	1.0067	2.6412	2.6556	238
17/10/24	09:25	10:25	18643.31	18644.31	1.00	1.0067	1.0067	1.0067	2.6306	2.6449	237
17/10/24	13:10	14:10	18644.31	18645.31	1.00	1.0067	1.0067	1.0067	2.6718	2.6862	238
19/10/24	10:50	11:50	18645.31	18646.31	1.00	1.0067	1.0067	1.0067	2.6390	2.6535	240
24/10/24	09:26	10:26	18670.31	18671.31	1.00	1.0067	1.0067	1.0067	2.6319	2.6465	242
24/10/24	11:45	12:45	18671.31	18672.31	1.00	1.0067	1.0067	1.0067	2.6631	2.6779	245
26/10/24	10:08	11:08	18672.31	18673.31	1.00	1.0067	1.0067	1.0067	2.6406	2.6546	232
29/10/24	13:20	14:20	18697.31	18698.31	1.00	0.9778	0.9778	0.9778	2.7314	2.7454	239
29/10/24	14:35	15:35	18698.31	18699.31	1.00	0.9778	0.9778	0.9778	2.7371	2.7512	240
31/10/24	14:25	15:25	18699.31	18700.31	1.00	0.9778	0.9778	0.9778	2.7143	2.7287	245

東業德勤測試顧問有限公司
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Summary of 1-hr TSP Monitoring Results

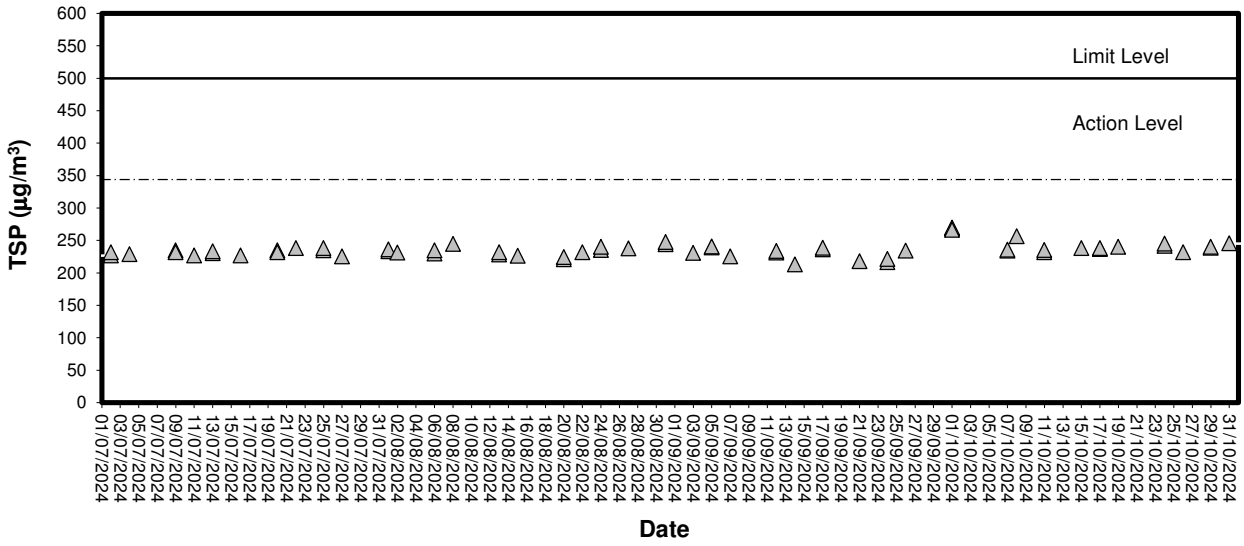
Monitoring Station : TM-RA2

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m^3/min.)		Average (m^3/min.)	Filter Weight (g)		Conc. (µg/m^3)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
01/10/24	09:35	10:35	33849.53	33850.53	1.00	1.0016	1.0016	1.0016	2.7812	2.7976	273
01/10/24	10:45	11:45	33850.53	33851.53	1.00	1.0016	1.0016	1.0016	2.8018	2.8182	273
01/10/24	13:20	14:20	33851.53	33852.53	1.00	1.0016	1.0016	1.0016	2.7208	2.7371	271
07/10/24	13:30	14:30	33876.53	33877.53	1.00	1.0016	1.0016	1.0016	2.8472	2.8615	238
07/10/24	14:55	15:55	33877.53	33878.53	1.00	1.0016	1.0016	1.0016	2.6451	2.6594	238
08/10/24	10:10	11:10	33878.53	33879.53	1.00	1.0016	1.0016	1.0016	2.7836	2.7992	260
11/10/24	09:40	10:40	33903.53	33904.53	1.00	0.9150	0.9150	0.9150	2.6409	2.6539	237
11/10/24	10:45	11:45	33904.53	33905.53	1.00	0.9150	0.9150	0.9150	2.6273	2.6405	240
15/10/24	09:20	10:20	33905.53	33906.53	1.00	0.9455	0.9455	0.9455	2.7523	2.7661	243
17/10/24	09:30	10:30	33930.53	33931.53	1.00	0.9455	0.9455	0.9455	2.6225	2.6362	241
17/10/24	13:15	14:15	33931.53	33932.53	1.00	0.9455	0.9455	0.9455	2.7060	2.7198	243
19/10/24	11:00	12:00	33932.53	33933.53	1.00	0.9455	0.9455	0.9455	2.6228	2.6367	245
24/10/24	09:00	10:00	33957.53	33958.53	1.00	0.9455	0.9455	0.9455	2.6284	2.6423	245
24/10/24	11:31	12:31	33958.53	33959.53	1.00	0.9455	0.9455	0.9455	2.7467	2.7607	247
26/10/24	10:02	11:02	33959.53	33960.53	1.00	0.9455	0.9455	0.9455	2.6338	2.6472	236
29/10/24	13:25	14:25	33984.53	33985.53	1.00	0.9150	0.9150	0.9150	2.8391	2.8524	242
29/10/24	14:40	15:40	33985.53	33986.53	1.00	0.9150	0.9150	0.9150	2.8041	2.8175	244
31/10/24	14:30	15:30	33986.53	33987.53	1.00	0.9150	0.9150	0.9150	2.7503	2.7640	250

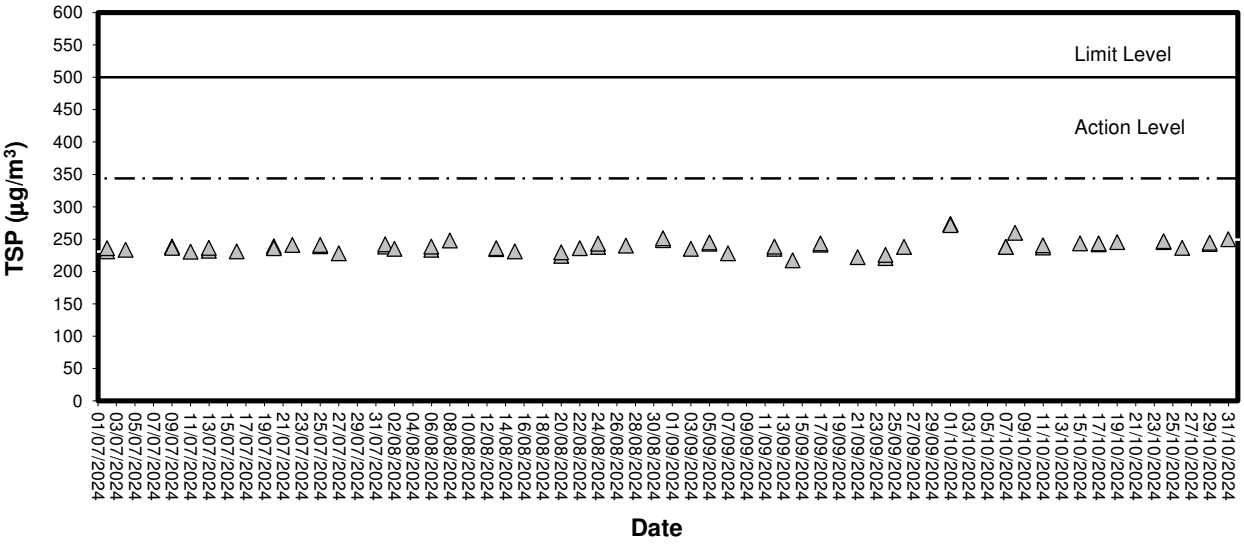
Appendix B3

Graphical Plots of Impact Air Quality Monitoring Data

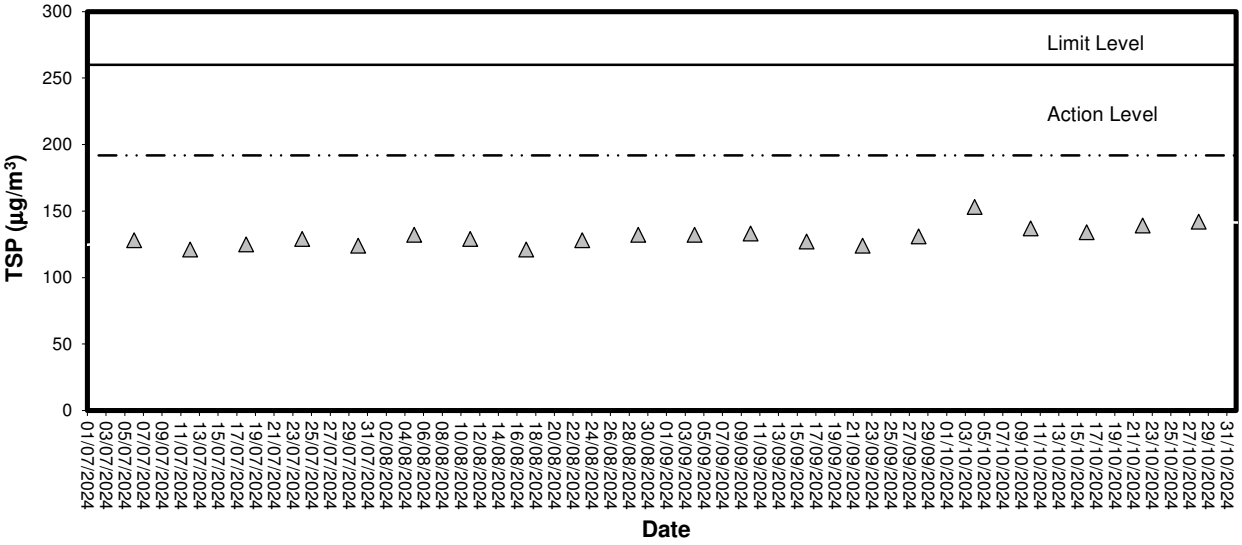
1-hour TSP level at TM-A1



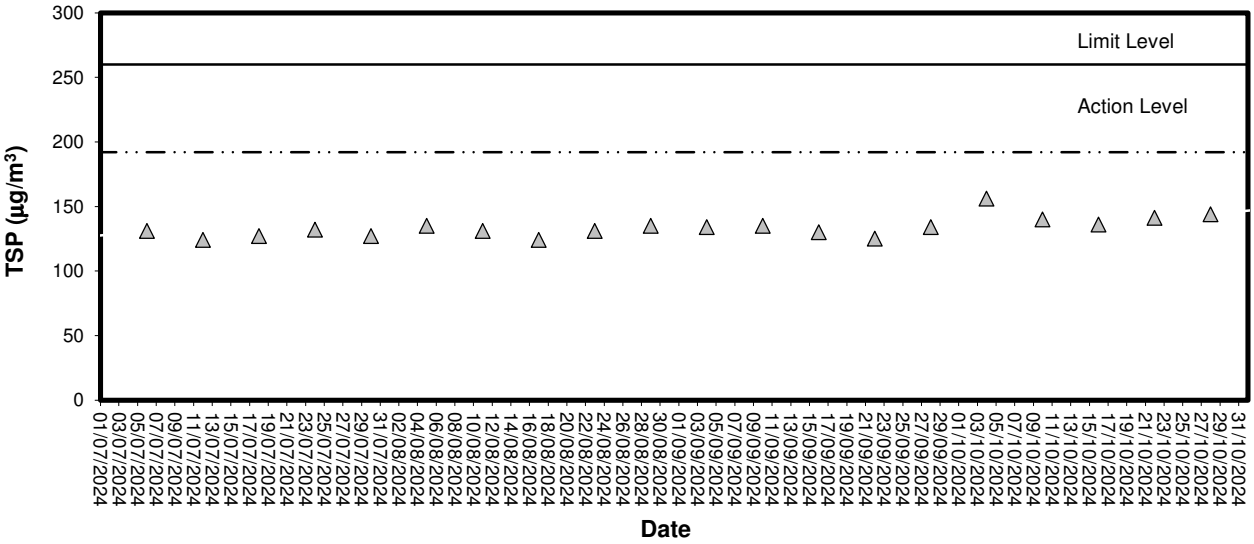
1-hour TSP level at TM-RA2



24-hour TSP level at TM-A1



24-hour TSP level at TM-RA2



Appendix C1

Calibration Certificates for Impact Marine Water Quality Monitoring Equipments

Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No.	:	ET/EW/008/010	Manufacturer	:	YSI
Model No.	:	Pro DSS	Serial No.	:	18E105421
Date of Calibration	:	27/8/2024	Calibration Due Date	:	26/10/2024

Results

1. Temperature

(Method Reference: Section 6 of internation Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure)

Reading of Reference Thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
15.6	15.8	+0.2
25.1	24.9	-0.2
29.3	29.4	+0.1

Tolerance Limit (°C): ± 2.0

2. pH

(Method Reference: APHA 19ed 4500-H^+ B)

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.00		
6.86		
9.18		

Tolerance Limit (pH unit): ± 0.10

3. Conductivity

(Method Reference: APHA 19ed 2510 B)

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
145.2	145.8	+0.4
1414	1407	-0.5
12892	12661	-1.8
56761	57134	+0.7

Tolerance Limit (µS/cm): ± 10.0%

4. Salinity

(Method Reference: APHA 19ed 2520 B)

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
10.0	9.80	-2.0
20.0	20.30	+1.5
30.0	30.50	+1.7

Tolerance Limit (g/L): ± 10.0%

Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No.	:	ET/EW/008/010	Manufacturer	:	YSI
Model No.	:	Pro DSS	Serial No.	:	18E105421
Date of Calibration	:	27/8/2024	Calibration Due Date	:	26/10/2024

5. Dissolved Oxygen
(Method Reference: APHA 19ed 4500-O G)

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.73	1.67	+0.06
4.62	4.54	-0.08
5.91	6.05	+0.14

Tolerance Limit (mg/L): ± 0.20

6. Turbidity
(Method Reference: APHA 19ed 2130 B)

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
10	10.3	+3.00
40	40.8	+2.00
100	96.0	+4.00
400	411.0	+2.75

Tolerance Limit (NTU): ± 10.0%

The equipment complies # / ~~does not comply~~ # with the specified requirements and is deemed acceptable # / ~~unacceptable~~ # for use.

Delete as appropriate

Calibrated by : Toby
Cheng, Hei Mah
(Technician)

Approved by :
Guy, Kong Ping Ki
(Laboratory Manager)

Date: 27/08/2024

Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No.	:	ET/EW/008/010	Manufacturer	:	YSI
Model No.	:	Pro DSS	Serial No.	:	18E105421
Date of Calibration	:	25/10/2024	Calibration Due Date	:	24/1/2025

Results

1. Temperature

(Method Reference: Section 6 of internation Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure)

Reading of Reference Thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
15.6	15.2	-0.4
25.1	25.6	+0.5
29.3	29.0	-0.3

Tolerance Limit (°C): ± 2.0

2. pH

(Method Reference: APHA 19ed 4500-H^+ B)

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.00		
6.86		
9.18		

Tolerance Limit (pH unit): ± 0.10

3. Conductivity

(Method Reference: APHA 19ed 2510 B)

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
145.2	144.7	-0.3
1414	1422	+0.6
12892	12758	-1.0
56761	57026	+0.5

Tolerance Limit (µS/cm): ± 10.0%

4. Salinity

(Method Reference: APHA 19ed 2520 B)

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
10.0	10.10	+1.0
20.0	20.40	+2.0
30.0	30.20	+0.7

Tolerance Limit (g/L): ± 10.0%

Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No. :	ET/EW/008/010	Manufacturer :	YSI
Model No. :	Pro DSS	Serial No. :	18E105421
Date of Calibration :	25/10/2024	Calibration Due Date :	24/1/2025

5. Dissolved Oxygen
(Method Reference: APHA 19ed 4500-O G)

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.73	1.82	+0.09
4.62	4.59	-0.03
5.91	5.87	-0.04

Tolerance Limit (mg/L): ± 0.20

6. Turbidity
(Method Reference: APHA 19ed 2130 B)

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
10	10.2	+2.00
40	40.6	+1.50
100	98.0	-2.00
400	403.0	+0.75

Tolerance Limit (NTU): ± 10.0%

The equipment complies # / ~~does not comply~~ # with the specified requirements and is deemed acceptable # / ~~unacceptable~~ # for use.

Delete as appropriate

Calibrated by : _____
Cheng, Hei Man
(Technician)

Approved by : _____
Gu, Kong Ping Ki
(Laboratory Manager)

Date: 06/11/2024

Appendix C2

Impact Marine Water Quality Monitoring Results

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FC1

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	7:43:15	26 / Fine	Surface	1.0	25.2	31.1	31.1	6.72	6.77	6.62	97.4	98.0	1.79	1.80	3.12	5.9	6.4	5.4
						31.0		6.81			98.6		1.81			6.8		
			Middle	11.5	25.1	31.9	31.9	6.46	6.47		93.9	94.0	2.80	2.79		4.0	5.5	
						31.9		6.47			94.0		2.77			6.9		
			Bottom	21.9	24.7	31.9	31.9	6.46	6.46		93.3	93.2	4.76	4.77		4.8	4.3	
						31.9		6.45			93.1		4.78			3.7		
05/10/24	9:27:09	28 / Fine	Surface	1.0	24.8	31.6	31.6	6.86	6.83	6.59	99.0	98.6	2.41	2.42	2.36	5.4	5.2	4.5
						31.6		6.80			98.1		2.43			5.0		
			Middle	11.1	24.7	31.8	31.8	6.35	6.34		91.6	91.6	2.39	2.39		5.0	5.0	
						31.9		6.33			91.5		2.39			4.9		
			Bottom	21.2	24.7	32.1	32.1	6.14	6.13	6.13	88.7	88.5	2.27	2.26		2.3	3.3	
						32.1		6.11			88.3		2.25			4.2		
07/10/24	9:00:49	29 / Fine	Surface	1.0	24.8	30.5	30.5	6.34	6.34	6.18	90.9	90.9	3.03	3.03	3.75	2.7	3.7	3.4
						30.5		6.33			90.8		3.02			4.7		
			Middle	11.0	24.7	31.1	31.1	6.04	6.03		86.8	86.7	3.69	3.68		2.8	2.9	
						31.1		6.02			86.6		3.66			3.0		
			Bottom	20.9	24.7	31.7	31.7	5.81	5.79	5.79	83.7	83.5	4.54	4.56		4.0	3.5	
						31.7		5.77			83.2		4.58			2.9		
10/10/24	14:13:57	27 / Fine	Surface	1.0	24.3	30.8	30.8	6.20	6.21	6.15	88.4	88.5	2.35	2.32	2.75	3.3	4.3	3.3
						30.8		6.21			88.5		2.29			5.3		
			Middle	11.4	24.3	31.0	30.9	6.07	6.10		86.5	86.9	2.76	2.87		2.4	2.8	
						30.9		6.12			87.2		2.98			3.1		
			Bottom	21.9	24.3	31.2	31.2	5.99	6.00	6.00	85.5	85.7	3.05	3.05		3.4	3.0	
						31.2		6.01			85.8		3.04			2.5		
12/10/24	15:18:17	27 / Fine	Surface	1.0	24.5	31.3	31.3	6.21	6.22	6.17	89.0	89.0	1.58	1.58	2.38	3.7	2.8	2.7
						31.3		6.22			89.0		1.57			1.9		
			Middle	11.0	24.2	31.3	31.3	6.14	6.13		87.6	87.5	2.27	2.29		1.6	2.2	
						31.3		6.12			87.3		2.30			2.7		
			Bottom	21.0	24.2	31.6	31.6	5.86	5.83	5.83	83.7	83.2	3.25	3.27		2.3	3.3	
						31.6		5.79			82.7		3.28			4.2		
15/10/24	16:18:06	28 / Fine	Surface	1.0	24.5	31.4	31.4	6.48	6.48	6.18	93.0	93.0	1.36	1.38	2.19	4.8	4.5	4.5
						31.4		6.48			93.0		1.40			4.2		
			Middle	11.4	24.4	31.8	31.8	5.88	5.88		84.4	84.4	2.25	2.29		5.2	5.0	
						31.9		5.87			84.3		2.33			4.8		
			Bottom	21.8	24.4	32.1	32.1	5.63	5.63	5.63	80.9	80.9	2.90	2.89		4.2	4.1	
						32.1		5.63			80.9		2.88			4.0		
17/10/24	18:13:48	28 / Cloudy	Surface	1.0	24.7	31.3	31.3	6.53	6.53	6.31	93.9	93.9	2.81	2.84	3.39	7.3	6.9	5.8
						31.3		6.53			93.9		2.87			6.5		
			Middle	11.1	24.5	31.8	31.8	6.09	6.08		87.5	87.4	3.46	3.49		6.3	5.8	
						31.8		6.07			87.3		3.51			5.3		
			Bottom	21.3	24.5	31.8	31.8	5.95	5.95	5.95	85.5	85.5	3.84	3.85		4.4	4.7	
						31.9		5.94			85.4		3.86			4.9		
19/10/24	9:44:06	29 / Fine	Surface	1.0	24.7	30.7	30.7	6.69	6.66	6.45	95.9	95.5	2.75	2.76	3.32	3.7	3.2	3.4
						30.7		6.63			95.1		2.77			2.7		
			Middle	12.0	24.6	30.9	30.9	6.25	6.24		89.5	89.3	3.58	3.57		3.5	3.6	
						30.9		6.22			89.1		3.56			3.6		
			Bottom	22.8	24.6	31.0	31.0	6.15	6.15	6.15	88.2	88.2	3.62	3.63		2.7	3.4	
						31.0		6.14			88.1		3.64			4.0		
21/10/24	10:10:10	28 / Fine	Surface	1.0	24.6	30.0	29.9	6.47	6.49	6.47	92.2	92.4	2.66	2.66	3.01	3.1	3.7	4.3
						29.9		6.50			92.6		2.66			4.2		
			Middle	11.8	24.6	30.0	30.1	6.48	6.46		92.4	92.1	3.09	3.10		4.6	4.5	
						30.1		6.44			91.8		3.10			4.3		
			Bottom	22.6	24.6	30.2	30.2	6.37	6.36	6.36	90.9	90.8	3.25	3.26		4.8	4.9	
						30.2		6.35			90.6		3.27			4.9		
24/10/24	13:18:02	25 / Fine	Surface	1.0	23.9	31.2	31.2	6.51	6.52	6.44	92.3	92.3	1.20	1.20	1.47	3.2	4.3	4.2
						31.2		6.52			92.3		1.19			5.4		
			Middle	11.2	24.1	31.6	31.6	6.36	6.36		90.7	90.7	1.35	1.36		2.6	3.9	
						31.6		6.35			90.7		1.36			5.2		
			Bottom	21.2	24.2	32.3	32.3	6.17	6.19	6.19	88.6	88.9	1.89	1.86		3.3	4.5	
						32.3		6.21			89.1		1.83			5.6		
27/10/24	15:30:26	27 / Cloudy	Surface	1.0	24.1	31.5	31.5	6.33	6.33	6.28	90.2	90.2	1.60	1.59	1.74	3.9	4.7	4.7
						31.5		6.32			90.1		1.58			5.5		
			Middle	11.1	24.0	31.5	31.5	6.24	6.23		88.8	88.7	1.66	1.68		4.1	3.9	
						31.5		6.22			88.5		1.69			3.6		
			Bottom	21.3	23.8	31.6	31.6	6.16	6.14	6.14	87.4	87.1	1.96	1.96		5.3	5.6	
						31.6		6.12			86.8		1.95			5.9		
29/10/24	16:00:41	25 / Fine	Surface	1.0	23.6	32.7	32.7	6.37	6.37	6.36	90.6	90.6	2.21	2.22	2.45	5.4	5.8	5.4
						32.7		6.37			90.6		2.22			6.2		
			Middle	11.3	23.5	32.8	32.8	6.34	6.34		90.1	90.1	2.35	2.37		4.9	5.2	
						32.8		6.34			90.1		2.38			5.5		
			Bottom	21.6	23.4	32.8	32.8	6.32	6.32	6.32	89.7	89.7	2.76	2.77		4.2	5.2	
						32.8		6.32			89.7		2.78			6.2		
31/10/24	16:43:05	27 / Fine	Surface	1.0	23.2	32.8	32.8	6.13	6.13	6.16	86.6	86.6	2.77	2.79	3.41	5.7	6.0	4.8
						32.8		6.13			86.6		2.81			6.2		
			Middle	11.5	23.1	32.8	32.8	6.17	6.19		87.1	87.4	3.58	3.63		2.8	3.8	
						32.8		6.20			87.6		3.67			4.8		
			Bottom	21.7	23.1	32.8	32.8	6.23	6.23	6.23	87.9	87.9	3.85	3.82		3.7	4.6	
						32.8		6.23			87.9		3.78			5.5		

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM1

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	8:13:05	26 / Fine	Surface	1.0	25.1	31.0	31.0	6.92	6.93	6.86	100.0	100.1	1.81	1.81	2.85	6.7	6.4	5.8
						31.0		6.93			100.2		1.80			6.1		
			Middle	8.5	24.8	31.4	31.4	6.82	6.79		98.3	98.0	2.16	2.16		5.5	4.6	
						31.5		6.76			97.7		2.15			3.6		
			Bottom	15.6	24.7	31.9	31.9	6.48	6.48	6.48	93.5	93.5	4.57	4.58		6.6	6.6	
						31.9		6.47			93.4		4.58			6.5		
05/10/24	9:06:16	28 / Fine	Surface	1.0	24.7	31.7	31.7	6.27	6.27	6.22	90.4	90.4	2.52	2.54	2.42	4.2	3.2	3.9
						31.7		6.26			90.3		2.55			2.1		
			Middle	8.2	24.6	31.8	31.8	6.19	6.17		89.1	88.9	2.41	2.40		3.5	4.1	
						31.8		6.15			88.6		2.39			4.6		
			Bottom	15.4	24.5	32.0	32.0	6.05	6.05	6.05	87.1	87.1	2.33	2.34		5.2	4.5	
						32.0		6.04			87.0		2.34			3.7		
07/10/24	9:18:33	29 / Fine	Surface	1.0	24.7	30.8	30.8	6.12	6.14	6.05	87.8	88.0	3.18	3.16	3.50	4.6	3.7	4.3
						30.8		6.15			88.2		3.13			2.8		
			Middle	8.6	24.7	31.2	31.1	5.96	5.97		85.6	85.7	3.64	3.65		3.3	4.3	
						31.1		5.97			85.8		3.65			5.2		
			Bottom	16.2	24.6	31.4	31.4	5.80	5.83	5.83	83.3	83.7	3.67	3.71		5.8	4.8	
						31.3		5.85			84.0		3.75			3.8		
10/10/24	13:58:08	27 / Fine	Surface	1.0	24.4	30.9	30.8	6.22	6.22	6.22	88.8	88.8	2.03	2.03	2.48	3.5	3.5	3.8
						30.8		6.22			88.8		2.02			3.4		
			Middle	8.8	24.3	30.9	30.9	6.21	6.21		88.6	88.6	2.41	2.44		5.8	5.1	
						30.9		6.21			88.5		2.46			4.4		
			Bottom	16.4	24.3	30.9	30.9	6.19	6.19	6.19	88.2	88.1	2.88	2.99		2.8	3.0	
						30.9		6.18			88.0		3.10			3.1		
12/10/24	15:38:14	27 / Fine	Surface	1.0	24.4	31.3	31.3	6.14	6.16	6.05	87.9	88.1	1.69	1.65	2.39	1.7	1.6	3.2
						31.3		6.17			88.3		1.61			1.4		
			Middle	8.7	24.3	31.4	31.4	5.92	5.94		84.6	84.9	2.32	2.30		3.6	3.4	
						31.4		5.96			85.2		2.28			3.2		
			Bottom	16.5	24.3	31.6	31.6	5.68	5.70	5.70	81.3	81.5	3.22	3.23		3.4	4.5	
						31.6		5.71			81.7		3.24			5.6		
15/10/24	16:38:14	28 / Fine	Surface	1.0	24.5	31.5	31.5	6.22	6.25	6.16	89.3	89.7	1.41	1.40	2.10	4.7	4.2	4.7
						31.5		6.28			90.1		1.39			3.7		
			Middle	8.8	24.4	31.7	31.7	6.06	6.07		86.9	87.0	2.12	2.10		5.1	5.1	
						31.6		6.07			87.0		2.08			5.1		
			Bottom	16.5	24.4	32.1	32.1	5.63	5.63	5.63	80.9	80.9	2.84	2.80		4.7	4.8	
						32.1		5.63			80.9		2.75			4.9		
17/10/24	17:55:58	28 / Cloudy	Surface	1.0	24.7	31.3	31.3	6.59	6.58	6.40	94.8	94.6	2.83	2.84	3.38	5.5	6.2	6.1
						31.4		6.56			94.4		2.84			6.9		
			Middle	9.3	24.5	31.8	31.8	6.23	6.23		89.6	89.5	3.40	3.41		4.5	5.5	
						31.8		6.22			89.4		3.42			6.4		
			Bottom	17.5	24.5	31.9	31.9	6.01	6.00	6.00	86.4	86.3	3.87	3.89		6.2	6.7	
						31.9		5.99			86.2		3.91			7.1		
19/10/24	9:26:16	29 / Fine	Surface	1.0	24.6	30.9	30.9	6.65	6.62	6.45	95.2	94.8	2.77	2.78	3.12	4.3	4.1	3.1
						30.9		6.59			94.4		2.79			3.9		
			Middle	8.9	24.6	30.9	30.9	6.30	6.28		90.2	90.0	3.10	3.11		1.5	1.9	
						30.9		6.26			89.7		3.12			2.2		
			Bottom	16.5	24.6	30.9	30.9	6.18	6.18	6.18	88.5	88.5	3.47	3.48		2.7	3.4	
						30.9		6.17			88.4		3.49			4.1		
21/10/24	9:49:03	28 / Fine	Surface	1.0	24.7	30.0	29.9	6.42	6.44	6.40	91.6	91.8	2.97	2.94	3.43	3.8	3.9	5.4
						29.9		6.45			92.0		2.91			3.9		
			Middle	8.5	24.6	30.1	30.1	6.36	6.37		90.7	90.8	3.43	3.42		5.9	5.0	
						30.1		6.37			90.8		3.41			4.1		
			Bottom	15.9	24.6	30.2	30.2	6.33	6.34	6.34	90.3	90.4	3.94	3.93		7.4	7.3	
						30.2		6.34			90.4		3.91			7.2		
24/10/24	13:36:09	25 / Fine	Surface	1.0	23.9	31.3	31.2	6.39	6.42	6.31	90.6	91.0	1.18	1.19	1.49	5.2	4.1	3.7
						31.2		6.45			91.4		1.20			2.9		
			Middle	8.7	24.1	31.8	31.7	6.17	6.19		88.1	88.3	1.47	1.42		2.6	2.8	
						31.5		6.21			88.5		1.37			2.9		
			Bottom	16.5	24.2	32.2	32.2	6.21	6.20	6.20	89.0	88.8	1.86	1.85		4.2	4.2	
						32.1		6.18			88.5		1.84			4.1		
27/10/24	15:50:40	27 / Cloudy	Surface	1.0	24.0	31.6	31.6	6.49	6.48	6.41	92.4	92.2	1.64	1.65	1.80	4.0	4.1	4.5
						31.6		6.46			91.9		1.65			4.2		
			Middle	8.6	24.0	31.7	31.7	6.35	6.34		90.4	90.2	1.74	1.74		3.4	4.5	
						31.7		6.32			90.0		1.73			5.6		
			Bottom	16.1	23.9	31.8	31.8	6.28	6.28	6.28	89.3	89.3	2.01	2.03		4.6	4.8	
						31.8		6.27			89.2		2.04			5.0		
29/10/24	16:21:20	25 / Fine	Surface	1.0	23.6	32.5	32.5	6.44	6.44	6.42	91.5	91.5	2.26	2.28	2.52	7.2	6.1	5.8
						32.5		6.43			91.4		2.29			5.0		
			Middle	9.0	23.5	32.6	32.6	6.40	6.40		90.8	90.8	2.38	2.40		5.8	5.1	
						32.6		6.40			90.8		2.41			4.3		
			Bottom	16.9	23.5	32.7	32.7	6.38	6.38	6.38	90.6	90.5	2.87	2.88		7.1	6.3	
						32.7		6.38			90.4		2.88			5.5		
31/10/24	17:15:11	27 / Fine	Surface	1.0	23.1	32.8	32.8	6.23	6.24	6.23	88.0	88.2	3.18	3.14	3.47	5.5	6.5	6.3
						32.8		6.25			88.3		3.10			7.4		
			Middle	8.4	23.2	32.8	32.8	6.22	6.21		87.9	87.8	3.79	3.75		5.3	5.8	
						32.8		6.20			87.6		3.70			6.3		
			Bottom	16.6	23.1	32.8	32.8	6.25	6.25	6.25	88.2	88.2	3.50	3.51		6.1	6.6	
						32.8		6.25			88.2		3.52			7.0		

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM2

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	8:34:11	26 / Fine	Surface	1.0	25.1	31.1	31.0	6.82	6.84	6.72	98.6	98.9	1.82	1.81	2.98	6.7	6.4	6.0
						31.0		6.86			99.2		1.80			6.1		
			Middle	8.9	25.0	31.7	31.7	6.60	6.60		95.6	95.6	2.53	2.54		5.6	6.1	
						31.7		6.59			95.5		2.55			6.6		
			Bottom	16.7	24.7	31.9	31.9	6.44	6.44	6.44	93.0	93.0	4.58	4.59		5.0	5.5	
						31.9		6.44			93.0		4.60			6.0		
05/10/24	8:50:00	28 / Fine	Surface	1.0	24.7	31.7	31.7	6.61	6.57	6.42	95.3	94.7	2.45	2.45	2.39	5.4	4.9	4.4
						31.7		6.53			94.1		2.44			4.3		
			Middle	9.2	24.6	31.8	31.8	6.31	6.28		90.8	90.4	2.42	2.41		4.5	4.2	
						31.8		6.24			89.9		2.40			3.9		
			Bottom	17.4	24.5	32.0	32.0	6.07	6.07	6.07	87.4	87.3	2.31	2.31		5.0	4.3	
						32.0		6.06			87.2		2.31			3.5		
07/10/24	9:34:41	29 / Fine	Surface	1.0	24.7	30.8	30.8	6.17	6.17	6.15	88.5	88.5	3.29	3.25	3.57	3.0	4.1	4.1
						30.8		6.17			88.5		3.21			5.1		
			Middle	8.7	24.6	30.9	31.0	6.14	6.13		88.0	87.9	3.40	3.46		4.8	4.7	
						31.0		6.12			87.7		3.51			4.5		
			Bottom	16.2	24.6	31.2	31.3	6.00	5.99	5.99	86.1	85.9	3.99	4.01		3.2	3.5	
						31.3		5.97			85.7		4.03			3.8		
10/10/24	13:37:04	27 / Fine	Surface	1.0	24.3	30.9	30.8	6.21	6.22	6.20	88.6	88.7	2.33	2.24	2.88	5.0	3.7	3.6
						30.8		6.22			88.7		2.14			2.3		
			Middle	9.4	24.3	30.9	30.9	6.18	6.19		88.0	88.1	2.88	2.89		2.9	2.7	
						30.9		6.19			88.2		2.90			2.5		
			Bottom	17.7	24.2	31.0	31.0	6.17	6.17	6.17	87.8	87.8	3.48	3.52		4.3	4.5	
						31.0		6.16			87.8		3.56			4.6		
12/10/24	15:52:03	27 / Fine	Surface	1.0	24.3	31.3	31.3	6.23	6.23	6.19	89.0	89.0	1.51	1.51	2.08	4.1	3.6	2.8
						31.3		6.23			89.0		1.51			3.0		
			Middle	8.3	24.3	31.3	31.3	6.16	6.14		88.0	87.8	1.89	1.92		3.1	2.3	
						31.4		6.12			87.5		1.94			1.4		
			Bottom	15.2	24.3	31.5	31.5	5.93	5.91	5.91	84.8	84.6	2.74	2.83		3.0	2.6	
						31.5		5.89			84.3		2.91			2.1		
15/10/24	16:56:03	28 / Fine	Surface	1.0	24.5	31.4	31.4	6.47	6.47	6.26	92.8	92.8	1.11	1.12	1.95	3.5	3.6	4.1
						31.5		6.47			92.8		1.13			3.7		
			Middle	8.9	24.4	31.8	31.7	6.06	6.05		86.9	86.8	2.25	2.25		3.9	4.7	
						31.7		6.04			86.7		2.24			5.5		
			Bottom	16.8	24.4	32.1	32.1	5.66	5.66	5.66	81.3	81.3	2.54	2.48		3.3	3.9	
						32.1		5.65			81.2		2.41			4.4		
17/10/24	17:34:40	28 / Cloudy	Surface	1.0	24.7	31.3	31.3	6.66	6.66	6.40	95.8	95.8	2.79	2.81	3.35	6.0	6.1	6.1
						31.3		6.66			95.8		2.83			6.1		
			Middle	8.9	24.5	31.8	31.8	6.15	6.14		88.4	88.3	3.42	3.44		6.3	6.3	
						31.8		6.13			88.1		3.45			6.3		
			Bottom	16.9	24.5	32.0	32.0	5.98	5.98	5.98	86.0	86.0	3.81	3.81		5.0	6.0	
						32.0		5.97			85.9		3.81			7.0		
19/10/24	9:06:01	29 / Fine	Surface	1.0	24.6	30.8	30.8	6.65	6.63	6.50	95.3	94.9	3.00	3.00	3.14	5.1	5.2	4.5
						30.8		6.60			94.5		3.00			5.3		
			Middle	8.9	24.6	30.8	30.9	6.40	6.38		91.6	91.3	3.14	3.13		2.9	3.9	
						30.9		6.35			90.9		3.12			4.8		
			Bottom	16.8	24.6	30.9	30.9	6.20	6.20	6.20	88.9	88.8	3.27	3.28		5.6	4.6	
						30.9		6.19			88.7		3.28			3.5		
21/10/24	9:26:14	28 / Fine	Surface	1.0	24.7	29.9	29.9	6.51	6.51	6.48	92.9	92.9	3.10	3.09	3.61	4.0	4.5	5.4
						29.9		6.51			92.9		3.07			5.0		
			Middle	8.9	24.6	30.0	30.1	6.46	6.44		92.1	91.9	3.79	3.78		6.2	5.2	
						30.1		6.42			91.6		3.77			4.2		
			Bottom	16.7	24.6	30.1	30.1	6.36	6.36	6.36	90.7	90.7	3.98	3.95		5.4	6.4	
						30.1		6.35			90.6		3.92			7.3		
24/10/24	13:55:01	25 / Fine	Surface	1.0	23.9	31.2	31.2	6.52	6.52	6.45	92.4	92.4	1.14	1.15	1.36	5.8	5.5	5.0
						31.2		6.51			92.4		1.16			5.2		
			Middle	8.8	24.0	31.4	31.4	6.39	6.38		90.8	90.7	1.21	1.19		5.3	4.8	
						31.4		6.37			90.6		1.17			4.3		
			Bottom	16.4	24.2	32.0	32.0	6.16	6.15	6.15	88.2	88.0	1.76	1.75		4.3	4.6	
						32.0		6.13			87.8		1.73			4.9		
27/10/24	16:06:23	27 / Cloudy	Surface	1.0	24.1	31.4	31.4	6.24	6.23	6.20	88.9	88.8	1.58	1.59	1.69	5.1	4.9	5.0
						31.5		6.22			88.6		1.59			4.7		
			Middle	8.7	24.0	31.5	31.5	6.18	6.17		87.9	87.8	1.62	1.63		5.2	4.8	
						31.5		6.16			87.7		1.64			4.4		
			Bottom	16.3	24.0	31.6	31.7	6.12	6.11	6.11	87.1	86.9	1.85	1.86		4.5	5.4	
						31.7		6.09			86.6		1.87			6.3		
29/10/24	16:36:06	25 / Fine	Surface	1.0	23.5	32.6	32.6	6.35	6.34	6.32	90.1	90.0	2.31	2.31	2.51	5.0	6.2	5.8
						32.6		6.33			89.9		2.30			7.3		
			Middle	8.7	23.5	32.7	32.7	6.31	6.31		89.6	89.6	2.37	2.38		7.4	7.4	
						32.7		6.30			89.5		2.38			7.4		
			Bottom	16.4	23.5	32.8	32.8	6.27	6.27	6.27	89.1	89.1	2.83	2.84		3.5	4.0	
						32.8		6.27			89.1		2.85			4.4		
31/10/24	17:39:12	27 / Fine	Surface	1.0	23.1	32.8	32.8	6.30	6.30	6.29	88.9	89.0	3.59	3.58	3.73	5.0	5.7	6.9
						32.8		6.30			89.0		3.57			6.4		
			Middle	8.7	23.1	32.8	32.8	6.29	6.29		88.8	88.8	3.82	3.80		7.9	7.4	
						32.8		6.28			88.7		3.78			6.9		
			Bottom	16.9	23.1	32.8	32.8	6.27	6.28	6.28	88.5	88.6	3.82	3.80		7.8	7.5	
						32.8		6.28			88.6		3.77			7.1		

Remark: The SS value below 1.0 mg/L is reported as "1.0" mg/L and highlighted in yellow in the table.

Mid-Flood Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FC2

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	8:50:07	26 / Fine	Surface	1.0	25.1	31.0	31.0	6.90	6.90	6.86	99.8	99.8	1.84	1.84	2.94	6.6	5.7	6.5
						31.1		6.90			99.8		1.84			4.7		
			Middle	7.5	24.8	31.3	31.4	6.85	6.82		98.7	98.3	2.42	2.41		7.5	6.7	
						31.4		6.78			97.8		2.40			5.9		
			Bottom	13.8	24.7	31.8	31.9	6.56	6.53	6.53	94.7	94.3	4.55	4.56		7.5	7.1	
						31.9		6.50			93.8		4.57			6.6		
05/10/24	8:30:59	28 / Fine	Surface	1.0	24.7	31.6	31.6	6.63	6.59	6.43	95.5	94.9	2.36	2.36	2.33	3.9	4.1	3.9
						31.7		6.54			94.3		2.36			4.3		
			Middle	8.0	24.5	31.7	31.8	6.29	6.27		90.4	90.1	2.35	2.35		3.0	2.9	
						31.8		6.24			89.8		2.34			2.8		
			Bottom	15.9	24.5	32.0	32.0	6.10	6.09	6.09	87.8	87.7	2.28	2.27		6.1	4.7	
						32.0		6.08			87.5		2.26			3.3		
07/10/24	9:57:07	29 / Fine	Surface	1.0	24.7	30.6	30.6	6.22	6.23	6.11	89.1	89.2	3.15	3.17	3.72	2.9	4.3	5.0
						30.6		6.23			89.3		3.19			5.7		
			Middle	7.2	24.6	31.1	31.1	5.98	5.99		85.8	86.0	3.66	3.63		5.3	4.5	
						31.1		6.00			86.1		3.60			3.7		
			Bottom	13.5	24.6	31.3	31.3	5.93	5.93	5.93	85.1	85.1	4.31	4.36		6.4	6.1	
						31.3		5.93			85.1		4.41			5.8		
10/10/24	13:11:00	27 / Fine	Surface	1.0	24.4	30.7	30.7	6.25	6.25	6.24	89.2	89.2	2.27	2.22	2.50	5.2	4.4	4.6
						30.7		6.25			89.2		2.17			3.5		
			Middle	8.3	24.4	30.8	30.9	6.23	6.23		88.9	88.8	2.26	2.28		4.8	4.3	
						30.9		6.22			88.7		2.29			3.8		
			Bottom	15.6	24.3	30.9	30.9	6.19	6.19	6.19	88.3	88.2	2.89	3.01		5.3	5.0	
						31.0		6.18			88.0		3.12			4.7		
12/10/24	16:14:13	27 / Fine	Surface	1.0	24.3	31.3	31.3	6.04	6.06	5.97	86.3	86.6	1.82	1.77	2.29	2.3	2.7	4.0
						31.3		6.08			86.9		1.71			3.0		
			Middle	7.2	24.3	31.5	31.4	5.85	5.87		83.6	83.9	2.44	2.38		6.4	5.4	
						31.4		5.89			84.2		2.32			4.4		
			Bottom	13.5	24.3	31.5	31.5	5.83	5.83	5.83	83.4	83.4	2.72	2.71		4.1	3.8	
						31.5		5.82			83.3		2.70			3.5		
15/10/24	17:18:12	28 / Fine	Surface	1.0	24.5	31.7	31.6	6.22	6.28	6.03	89.3	90.2	1.63	1.61	2.09	4.5	4.1	4.0
						31.5		6.34			91.0		1.59			3.6		
			Middle	8.4	24.4	31.9	31.9	5.76	5.78		82.7	83.0	2.22	2.22		3.5	3.7	
						31.8		5.80			83.3		2.22			3.8		
			Bottom	15.7	24.4	32.1	32.1	5.65	5.65	5.65	81.2	81.2	2.42	2.44		5.2	4.3	
						32.1		5.65			81.2		2.45			3.4		
17/10/24	17:16:02	28 / Cloudy	Surface	1.0	24.7	31.3	31.3	6.48	6.48	6.26	93.2	93.2	2.64	2.66	3.24	5.7	5.8	6.1
						31.3		6.47			93.1		2.68			5.8		
			Middle	8.3	24.5	31.7	31.7	6.04	6.04		86.8	86.8	3.32	3.33		6.0	5.8	
						31.8		6.04			86.8		3.34			5.6		
			Bottom	15.7	24.5	31.9	31.9	5.87	5.86	5.86	84.4	84.3	3.71	3.73		6.1	6.6	
						31.9		5.85			84.1		3.75			7.1		
19/10/24	8:50:01	29 / Fine	Surface	1.0	24.6	30.7	30.7	6.76	6.72	6.55	96.8	96.2	3.05	3.07	3.33	4.3	4.3	5.2
						30.7		6.68			95.6		3.08			4.2		
			Middle	8.1	24.6	30.9	30.9	6.40	6.37		91.7	91.3	3.35	3.35		5.1	5.3	
						30.9		6.34			90.8		3.34			5.5		
			Bottom	15.1	24.6	30.9	30.9	6.22	6.21	6.21	89.1	89.0	3.59	3.57		5.5	6.0	
						30.9		6.20			88.9		3.54			6.5		
21/10/24	9:12:23	28 / Fine	Surface	1.0	24.6	30.0	30.0	6.39	6.40	6.38	91.2	91.3	3.21	3.22	3.51	4.8	5.3	5.2
						30.0		6.41			91.4		3.23			5.7		
			Middle	7.4	24.6	30.1	30.1	6.35	6.36		90.6	90.7	3.32	3.33		5.7	5.1	
						30.1		6.36			90.7		3.34			4.4		
			Bottom	13.7	24.6	30.1	30.1	6.34	6.34	6.34	90.4	90.4	3.96	3.98		4.8	5.3	
						30.2		6.33			90.3		3.99			5.7		
24/10/24	14:16:07	25 / Fine	Surface	1.0	23.9	31.3	31.3	6.37	6.39	6.30	90.3	90.5	1.22	1.21	1.40	5.4	5.5	4.5
						31.3		6.40			90.7		1.20			5.5		
			Middle	7.7	24.1	31.6	31.5	6.18	6.21		88.1	88.5	1.42	1.36		2.9	2.7	
						31.5		6.24			88.8		1.30			2.5		
			Bottom	15.2	24.2	32.0	32.0	6.09	6.09	6.09	87.2	87.2	1.65	1.64		4.1	5.2	
						32.0		6.09			87.2		1.62			6.3		
27/10/24	16:24:57	27 / Cloudy	Surface	1.0	24.0	31.5	31.6	6.19	6.19	6.15	88.1	88.1	1.62	1.61	1.77	6.9	6.3	4.5
						31.6		6.18			88.0		1.60			5.6		
			Middle	8.1	24.0	31.6	31.6	6.13	6.12		87.3	87.2	1.73	1.74		3.8	4.1	
						31.6		6.11			87.0		1.74			4.4		
			Bottom	15.1	23.9	31.7	31.7	6.05	6.04	6.04	86.0	85.9	1.96	1.97		3.4	3.0	
						31.7		6.03			85.7		1.98			2.6		
29/10/24	16:54:36	25 / Fine	Surface	1.0	23.5	32.5	32.5	6.32	6.32	6.30	89.6	89.6	2.25	2.26	2.47	5.6	6.0	6.2
						32.5		6.32			89.6		2.26			6.4		
			Middle	7.9	23.5	32.5	32.5	6.29	6.28		89.2	89.0	2.34	2.36		6.5	6.7	
						32.5		6.26			88.8		2.37			6.9		
			Bottom	14.9	23.4	32.6	32.6	6.18	6.18	6.18	87.5	87.5	2.79	2.81		6.2	5.8	
						32.6		6.17			87.4		2.82			5.3		
31/10/24	17:51:06	27 / Fine	Surface	1.0	23.1	32.8	32.8	6.36	6.36	6.32	89.7	89.8	3.68	3.70	3.65	7.9	7.9	6.9
						32.8		6.36			89.8		3.72			7.9		
			Middle	8.3	23.1	32.8	32.8	6.27	6.29		88.6	88.8	3.76	3.72		7.5	6.9	
						32.8		6.30			88.9		3.68			6.3		
			Bottom	15.6	23.1	32.8	32.8	6.29	6.30	6.30	88.7	88.9	3.56	3.52		5.9	5.9	
						32.8		6.31			89.1		3.47			5.8		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FC1

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	14:26:15	26 / Fine	Surface	1.0	25.1	31.3	31.2	6.72	6.77	6.61	97.3	98.0	1.75	1.76	3.45	6.7	5.7	5.7
						31.2		6.81			98.6		1.77			4.7		
			Middle	11.3	25.1	31.9	31.9	6.44	6.45		93.6	93.7	3.96	3.95		6.4	6.1	
						31.9		6.46			93.7		3.94			5.7		
			Bottom	21.8	24.7	32.0	32.0	6.42	6.42	6.42	92.7	92.7	4.62	4.64		4.6	5.3	
						32.0		6.41			92.6		4.65			5.9		
05/10/24	13:31:15	28 / Fine	Surface	1.0	24.7	31.8	31.8	6.38	6.37	6.26	92.0	91.8	2.43	2.45	2.39	5.1	4.7	4.8
						31.8		6.35			91.6		2.46			4.2		
			Middle	11.1	24.7	31.9	31.9	6.16	6.15		88.9	88.7	2.39	2.39		5.9	5.3	
						31.9		6.13			88.5		2.38			4.6		
			Bottom	21.2	24.5	32.1	32.1	6.06	6.05	6.05	87.3	87.2	2.34	2.35		3.9	4.4	
						32.1		6.04			87.0		2.36			4.8		
07/10/24	15:24:32	29 / Fine	Surface	1.0	24.7	30.7	30.7	6.18	6.19	6.07	88.6	88.8	3.19	3.16	3.76	6.1	5.9	5.9
						30.7		6.20			88.9		3.13			5.6		
			Middle	11.7	24.6	31.2	31.2	5.93	5.95		85.1	85.4	3.85	3.82		7.2	7.4	
						31.1		5.96			85.6		3.79			7.6		
			Bottom	22.4	24.5	31.5	31.5	5.84	5.84	5.84	83.8	83.8	4.26	4.31		5.5	4.6	
						31.5		5.83			83.7		4.35			3.6		
10/10/24	7:11:16	27 / Fine	Surface	1.0	24.4	30.8	30.8	6.30	6.30	6.25	89.9	89.8	2.22	2.24	3.10	5.1	5.0	4.9
						30.8		6.29			89.7		2.25			4.8		
			Middle	11.9	24.3	30.9	30.9	6.21	6.21		88.6	88.6	2.80	2.84		3.8	4.2	
						30.9		6.21			88.5		2.88			4.5		
			Bottom	22.4	24.2	31.0	31.0	6.16	6.16	6.16	87.7	87.7	4.11	4.21		5.7	5.7	
						31.1		6.16			87.6		4.31			5.7		
12/10/24	10:14:18	27 / Fine	Surface	1.0	24.4	31.3	31.3	6.13	6.14	6.00	87.7	87.9	1.92	1.91	2.65	5.4	5.0	4.4
						31.3		6.15			88.0		1.89			4.6		
			Middle	11.3	24.3	31.4	31.4	5.83	5.86		83.4	83.7	2.86	2.85		6.7	5.4	
						31.4		5.88			84.0		2.83			4.1		
			Bottom	21.7	24.3	31.5	31.5	5.89	5.88	5.88	84.2	84.0	3.18	3.19		2.4	2.7	
						31.5		5.86			83.8		3.19			2.9		
15/10/24	11:19:20	28 / Fine	Surface	1.0	24.5	31.6	31.6	6.19	6.21	5.95	88.9	89.2	1.84	1.80	2.33	2.0	3.4	3.8
						31.5		6.23			89.4		1.75			4.8		
			Middle	11.6	24.5	32.0	32.0	5.67	5.68		81.6	81.8	2.44	2.39		5.5	4.1	
						32.0		5.69			81.9		2.33			2.7		
			Bottom	22.3	24.4	32.0	32.0	5.63	5.63	5.63	80.9	80.9	2.80	2.82		4.1	3.9	
						32.0		5.63			80.9		2.84			3.7		
17/10/24	13:10:18	28 / Cloudy	Surface	1.0	24.7	31.3	31.3	6.42	6.43	6.17	92.3	92.5	3.02	2.96	3.96	6.9	7.4	6.7
						31.3		6.44			92.7		2.90			7.9		
			Middle	11.6	24.5	31.8	31.8	5.90	5.91		84.7	84.9	3.81	3.81		6.6	6.7	
						31.8		5.92			85.0		3.81			6.8		
			Bottom	22.4	24.5	31.9	31.9	5.86	5.86	5.86	84.3	84.3	5.10	5.11		6.6	6.1	
						31.9		5.85			84.2		5.12			5.6		
19/10/24	13:30:59	29 / Fine	Surface	1.0	24.6	31.1	31.0	6.71	6.67	6.51	96.2	95.6	3.08	3.07	3.65	4.4	4.3	5.2
						31.0		6.62			94.9		3.06			4.1		
			Middle	10.8	24.6	30.8	30.9	6.37	6.35		91.3	90.9	3.72	3.73		5.7	5.3	
						30.9		6.32			90.5		3.74			4.9		
			Bottom	20.6	24.6	30.9	30.9	6.19	6.18	6.18	88.7	88.6	4.14	4.14		6.0	6.2	
						31.0		6.17			88.5		4.13			6.3		
21/10/24	14:41:11	28 / Fine	Surface	1.0	24.6	30.0	30.0	6.39	6.41	6.36	91.1	91.3	3.31	3.32	3.55	3.9	3.8	4.5
						30.0		6.42			91.5		3.33			3.7		
			Middle	11.4	24.6	30.2	30.1	6.31	6.32		90.0	90.1	3.54	3.55		5.6	6.0	
						30.1		6.32			90.2		3.56			6.4		
			Bottom	21.8	24.6	30.2	30.2	6.30	6.30	6.30	89.9	89.9	3.77	3.78		4.0	3.8	
						30.2		6.29			89.8		3.79			3.6		
24/10/24	8:42:15	25 / Fine	Surface	1.0	23.9	31.2	31.2	6.37	6.41	6.27	90.4	90.8	1.21	1.18	1.56	5.9	4.9	4.9
						31.2		6.44			91.2		1.15			3.9		
			Middle	11.7	24.2	31.9	31.8	6.13	6.14		87.7	87.8	1.59	1.54		6.1	5.2	
						31.8		6.15			87.9		1.48			4.2		
			Bottom	22.9	24.2	32.2	32.2	6.14	6.16	6.16	88.1	88.3	1.97	1.95		4.0	4.6	
						32.2		6.17			88.5		1.93			5.1		
27/10/24	10:24:30	27 / Cloudy	Surface	1.0	24.0	31.5	31.5	6.38	6.37	6.35	90.8	90.6	1.52	1.54	1.71	5.2	5.6	4.1
						31.5		6.35			90.4		1.55			6.0		
			Middle	11.5	23.9	31.6	31.6	6.33	6.33		90.0	89.9	1.61	1.62		2.8	3.8	
						31.6		6.32			89.8		1.63			4.7		
			Bottom	22.2	23.7	31.7	31.7	6.26	6.25	6.25	88.7	88.5	1.95	1.97		3.5	3.0	
						31.7		6.23			88.3		1.98			2.5		
29/10/24	11:00:46	25 / Fine	Surface	1.0	23.5	32.7	32.7	6.35	6.35	6.34	90.2	90.2	2.32	2.33	2.51	4.8	4.3	5.4
						32.7		6.35			90.2		2.33			3.7		
			Middle	11.1	23.4	32.8	32.8	6.34	6.34		89.9	89.9	2.41	2.43		7.9	6.8	
						32.8		6.33			89.8		2.45			5.7		
			Bottom	21.3	23.4	32.8	32.8	6.30	6.30	6.30	89.4	89.4	2.76	2.77		4.3	5.1	
						32.8		6.30			89.4		2.78			5.9		
31/10/24	12:43:14	27 / Fine	Surface	1.0	23.2	32.8	32.8	6.12	6.12	6.11	86.5	86.6	3.10	3.10	3.44	5.8	5.6	6.6
						32.8		6.12			86.6		3.09			5.4		
			Middle	11.6	23.2	32.8	32.8	6.10	6.11		86.3	86.3	3.61	3.63		6.9	7.2	
						32.8		6.11			86.3		3.64			7.5		
			Bottom	22.5	23.2	32.8	32.8	6.09	6.09	6.09	86.1	86.1	3.57	3.60		5.8	7.1	
						32.8		6.09			86.1		3.63			8.4		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM1

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	14:10:02	26 / Fine	Surface	1.0	25.1	31.3	31.3	6.86	6.86	6.84	99.4	99.4	1.92	1.92	3.33	3.6	4.2	5.3
						31.3		6.86			99.4		1.92			4.7		
			Middle	9.8	24.8	31.4	31.4	6.84	6.83		98.6	98.4	3.00	3.05		5.8	6.0	
						31.5		6.81			98.2		3.10			6.1		
			Bottom	18.3	24.7	32.0	32.0	6.47	6.46	6.46	93.4	93.3	5.00	5.02		5.5	5.9	
						32.0		6.45			93.1		5.03			6.2		
05/10/24	13:51:04	28 / Fine	Surface	1.0	24.7	31.8	31.8	6.54	6.51	6.35	94.4	93.9	2.69	2.68	2.44	4.8	5.0	5.2
						31.7		6.48			93.4		2.66			5.1		
			Middle	7.7	24.6	31.8	31.8	6.21	6.19		89.4	89.2	2.41	2.40		4.1	4.7	
						31.8		6.17			88.9		2.39			5.3		
			Bottom	14.2	24.3	32.0	32.0	6.06	6.06	6.06	86.9	87.0	2.24	2.25		6.6	6.1	
						32.1		6.05			87.1		2.26			5.5		
07/10/24	15:06:49	29 / Fine	Surface	1.0	24.7	30.7	30.7	6.23	6.24	6.16	89.3	89.4	3.20	3.21	3.47	5.8	5.9	5.2
						30.7		6.24			89.4		3.22			6.0		
			Middle	8.7	24.6	31.0	31.0	6.10	6.08		87.5	87.2	3.44	3.44		5.5	5.4	
						31.1		6.06			86.9		3.43			5.2		
			Bottom	16.5	24.6	31.4	31.4	5.93	5.92	5.92	85.2	85.1	3.75	3.77		3.5	4.2	
						31.4		5.91			84.9		3.79			4.9		
10/10/24	7:39:05	27 / Fine	Surface	1.0	24.4	30.9	30.9	6.21	6.21	6.20	88.5	88.6	2.26	2.20	2.83	5.8	5.1	4.0
						30.9		6.21			88.6		2.13			4.3		
			Middle	8.7	24.3	30.9	30.9	6.18	6.19		88.0	88.1	2.93	2.90		5.4	5.1	
						30.9		6.19			88.2		2.87			4.7		
			Bottom	16.3	24.3	31.0	31.0	6.16	6.16	6.16	87.8	87.8	3.38	3.39		1.7	2.0	
						31.0		6.16			87.8		3.40			2.3		
12/10/24	9:42:29	27 / Fine	Surface	1.0	24.3	31.2	31.2	6.26	6.26	6.23	89.4	89.4	1.56	1.56	2.05	4.1	4.1	3.5
						31.2		6.26			89.4		1.55			4.0		
			Middle	8.7	24.3	31.2	31.2	6.20	6.20		88.5	88.5	2.09	2.09		4.5	3.7	
						31.2		6.19			88.4		2.09			2.8		
			Bottom	16.5	24.3	31.3	31.3	6.13	6.11	6.11	87.6	87.3	2.41	2.50		2.7	2.9	
						31.4		6.08			86.9		2.59			3.1		
15/10/24	10:49:03	28 / Fine	Surface	1.0	24.5	31.6	31.6	6.27	6.27	6.13	90.0	90.0	1.76	1.75	2.20	2.7	4.0	4.2
						31.6		6.27			90.0		1.74			5.2		
			Middle	9.0	24.5	31.7	31.8	6.12	5.98		88.0	86.0	2.21	2.28		3.5	4.2	
						31.9		5.84			83.9		2.34			4.8		
			Bottom	16.8	24.4	32.0	32.0	5.65	5.65	5.65	81.2	81.2	2.62	2.58		4.5	4.5	
						32.0		5.65			81.2		2.54			4.5		
17/10/24	12:49:05	28 / Cloudy	Surface	1.0	24.7	31.3	31.3	6.48	6.48	6.27	93.1	93.2	2.95	2.92	3.75	6.4	6.8	6.7
						31.3		6.48			93.2		2.89			7.1		
			Middle	9.4	24.5	31.7	31.8	6.07	6.06		87.2	87.1	3.47	3.52		5.3	5.7	
						31.8		6.05			86.9		3.56			6.0		
			Bottom	18.4	24.5	31.8	31.8	5.94	5.93	5.93	85.5	85.3	4.77	4.81		7.7	7.6	
						31.8		5.91			85.0		4.84			7.5		
19/10/24	13:51:03	29 / Fine	Surface	1.0	24.6	30.9	30.8	6.61	6.60	6.43	94.6	94.4	2.55	2.56	3.32	5.2	5.6	6.0
						30.8		6.58			94.2		2.57			6.0		
			Middle	9.0	24.6	30.9	30.9	6.29	6.27		90.1	89.9	3.28	3.29		7.1	6.6	
						30.9		6.25			89.6		3.29			6.1		
			Bottom	16.9	24.6	30.9	30.9	6.17	6.17	6.17	88.4	88.4	4.10	4.11		5.9	5.8	
						30.9		6.16			88.3		4.12			5.7		
21/10/24	15:00:04	28 / Fine	Surface	1.0	24.6	30.0	30.0	6.48	6.48	6.45	92.3	92.3	2.59	2.60	3.23	5.7	4.3	4.9
						30.0		6.47			92.2		2.61			2.9		
			Middle	9.1	24.6	30.0	30.1	6.43	6.42		91.7	91.6	3.37	3.38		5.5	6.7	
						30.1		6.41			91.4		3.38			7.9		
			Bottom	17.3	24.6	30.1	30.1	6.36	6.36	6.36	90.7	90.7	3.73	3.73		3.9	3.8	
						30.2		6.35			90.6		3.72			3.7		
24/10/24	8:18:02	25 / Fine	Surface	1.0	23.9	31.2	31.2	6.51	6.51	6.43	92.3	92.3	1.15	1.18	1.42	5.0	4.9	4.4
						31.2		6.51			92.3		1.20			4.8		
			Middle	9.1	24.0	31.4	31.4	6.36	6.36		90.5	90.5	1.21	1.22		5.5	4.6	
						31.4		6.35			90.4		1.22			3.7		
			Bottom	17.7	24.2	32.0	32.1	6.19	6.17	6.17	88.6	88.4	1.87	1.88		4.0	3.6	
						32.1		6.15			88.1		1.88			3.2		
27/10/24	10:03:34	27 / Cloudy	Surface	1.0	23.9	31.7	31.7	6.31	6.31	6.27	89.7	89.7	1.48	1.50	1.66	3.2	3.4	3.8
						31.7		6.30			89.6		1.51			3.5		
			Middle	9.5	24.0	31.8	31.8	6.24	6.24		88.9	88.9	1.59	1.60		4.6	4.1	
						31.8		6.23			88.8		1.60			3.6		
			Bottom	17.8	23.9	31.8	31.9	6.20	6.19	6.19	88.2	88.0	1.87	1.88		4.5	3.9	
						31.9		6.17			87.8		1.89			3.3		
29/10/24	10:42:21	25 / Fine	Surface	1.0	23.5	32.6	32.6	6.45	6.45	6.42	91.5	91.5	2.23	2.22	2.45	6.4	6.4	5.6
						32.6		6.44			91.4		2.21			6.3		
			Middle	9.4	23.4	32.6	32.6	6.39	6.39		90.6	90.6	2.34	2.35		4.3	5.5	
						32.7		6.39			90.6		2.36			6.6		
			Bottom	17.7	23.4	32.7	32.7	6.37	6.37	6.37	90.3	90.3	2.77	2.79		6.8	5.0	
						32.7		6.37			90.3		2.80			3.2		
31/10/24	12:18:05	27 / Fine	Surface	1.0	23.2	32.9	32.8	6.12	6.12	6.11	86.5	86.5	3.39	3.40	3.40	7.3	6.5	7.1
						32.8		6.11			86.4		3.40			5.7		
			Middle	9.6	23.2	32.8	32.8	6.11	6.11		86.4	86.4	3.41	3.42		5.8	7.3	
						32.8		6.11			86.4		3.42			8.8		
			Bottom	18.3	23.2	32.8	32.8	6.10	6.10	6.10	86.3	86.3	3.41	3.39		6.9	7.5	
						32.8		6.10			86.2		3.36			8.1		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM2

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	13:42:10	26 / Fine	Surface	1.0	25.1	31.4	31.3	6.80	6.81	6.75	98.5	98.7	1.87	1.87	2.72	6.2	6.1	6.5
						31.3		6.82			98.8		1.87			5.9		
			Middle	9.8	24.8	31.5	31.5	6.67	6.69		96.2	96.5	1.85	1.87		7.3	7.2	
						31.5		6.71			96.8		1.88			7.0		
			Bottom	18.7	24.8	31.9	31.9	6.44	6.44	6.44	93.1	93.0	4.44	4.43		5.9	6.3	
						31.9		6.43			92.8		4.42			6.7		
05/10/24	14:06:00	28 / Fine	Surface	1.0	24.7	31.7	31.7	6.59	6.56	6.39	95.0	94.5	2.48	2.47	2.37	6.0	5.8	5.4
						31.7		6.52			94.0		2.45			5.5		
			Middle	8.7	24.6	31.8	31.8	6.25	6.23		90.0	89.7	2.40	2.41		5.4	5.4	
						31.8		6.20			89.3		2.42			5.3		
			Bottom	16.3	24.5	32.0	32.0	6.07	6.07	6.07	87.4	87.3	2.23	2.23		5.3	5.1	
						32.0		6.06			87.2		2.22			4.9		
07/10/24	14:48:23	29 / Fine	Surface	1.0	24.7	30.7	30.7	6.15	6.16	6.08	88.2	88.3	3.25	3.27	3.73	4.0	4.1	4.8
						30.7		6.16			88.3		3.28			4.2		
			Middle	9.9	24.6	31.1	31.1	5.99	6.00		86.0	86.1	3.47	3.44		4.8	4.1	
						31.1		6.00			86.1		3.40			3.4		
			Bottom	18.8	24.6	31.4	31.4	5.91	5.90	5.90	84.9	84.8	4.51	4.50		5.5	6.3	
						31.4		5.89			84.6		4.48			7.0		
10/10/24	7:55:01	27 / Fine	Surface	1.0	24.4	30.8	30.8	6.23	6.24	6.22	88.8	88.9	1.99	1.96	2.69	2.8	4.2	4.2
						30.8		6.24			89.0		1.92			5.6		
			Middle	9.1	24.3	30.9	30.9	6.21	6.21		88.5	88.5	2.57	2.65		3.5	4.0	
						30.9		6.21			88.5		2.72			4.5		
			Bottom	17.2	24.3	31.0	31.0	6.17	6.16	6.16	87.9	87.8	3.42	3.48		4.5	4.4	
						31.0		6.15			87.7		3.53			4.2		
12/10/24	9:27:22	27 / Fine	Surface	1.0	24.4	31.2	31.2	6.21	6.22	6.14	88.8	88.9	1.75	1.77	2.27	2.4	3.6	4.3
						31.2		6.22			88.9		1.78			4.8		
			Middle	9.8	24.3	31.2	31.2	6.04	6.06		86.3	86.5	2.42	2.41		3.7	4.2	
						31.2		6.07			86.7		2.39			4.7		
			Bottom	18.8	24.3	31.3	31.3	6.01	6.01	6.01	85.9	85.8	2.64	2.64		5.4	5.1	
						31.3		6.00			85.7		2.64			4.8		
15/10/24	10:30:09	28 / Fine	Surface	1.0	24.5	31.6	31.6	6.24	6.24	5.98	89.6	89.6	1.93	1.90	2.39	3.8	4.7	4.4
						31.5		6.24			89.6		1.86			5.5		
			Middle	9.2	24.5	31.9	31.9	5.71	5.73		82.1	82.4	2.55	2.53		4.6	5.3	
						31.9		5.74			82.6		2.50			6.0		
			Bottom	17.5	24.4	32.0	32.0	5.66	5.66	5.66	81.3	81.3	2.78	2.74		3.2	3.3	
						32.0		5.66			81.3		2.70			3.4		
17/10/24	12:29:08	28 / Cloudy	Surface	1.0	24.7	31.4	31.3	6.41	6.42	6.18	92.1	92.2	3.01	2.98	3.81	6.3	7.1	6.8
						31.3		6.42			92.3		2.94			7.9		
			Middle	9.6	24.5	31.8	31.8	5.92	5.94		85.1	85.3	3.77	3.73		6.0	6.1	
						31.8		5.95			85.5		3.69			6.1		
			Bottom	18.7	24.5	31.8	31.8	5.89	5.89	5.89	84.7	84.7	4.64	4.71		7.3	7.4	
						31.8		5.88			84.6		4.78			7.4		
19/10/24	14:06:01	29 / Fine	Surface	1.0	24.6	31.0	30.9	6.72	6.68	6.50	96.3	95.7	2.85	2.86	3.60	6.4	5.8	5.8
						30.9		6.63			95.0		2.87			5.2		
			Middle	8.9	24.6	30.9	30.9	6.34	6.32		90.8	90.5	3.69	3.70		6.9	6.6	
						30.9		6.30			90.2		3.71			6.3		
			Bottom	17.1	24.6	30.9	30.9	6.18	6.17	6.17	88.5	88.4	4.22	4.23		4.9	5.1	
						31.0		6.16			88.3		4.23			5.2		
21/10/24	15:26:19	28 / Fine	Surface	1.0	24.6	30.0	30.0	6.39	6.41	6.37	91.1	91.3	2.51	2.52	3.39	3.7	3.4	4.2
						30.0		6.42			91.5		2.53			3.1		
			Middle	9.4	24.6	30.1	30.1	6.33	6.34		90.3	90.9	3.71	3.73		5.3	4.4	
						30.1		6.34			91.4		3.74			3.5		
			Bottom	17.9	24.6	30.1	30.1	6.32	6.32	6.32	90.2	90.2	3.91	3.91		3.5	4.8	
						30.1		6.32			90.2		3.91			6.0		
24/10/24	7:55:22	25 / Fine	Surface	1.0	23.9	31.2	31.2	6.44	6.47	6.33	91.4	91.7	1.12	1.12	1.60	3.6	4.4	4.8
						31.2		6.49			92.0		1.11			5.2		
			Middle	9.5	24.1	31.6	31.5	6.16	6.20		87.9	88.4	1.53	1.42		3.5	4.5	
						31.4		6.24			88.9		1.30			5.5		
			Bottom	18.1	24.3	32.0	32.0	6.06	6.06	6.06	86.9	86.9	2.26	2.27		5.9	5.5	
						32.0		6.06			86.8		2.27			5.0		
27/10/24	9:48:30	27 / Cloudy	Surface	1.0	23.9	31.5	31.6	6.26	6.26	6.21	88.9	88.9	1.50	1.51	1.70	2.6	3.3	4.1
						31.6		6.25			88.8		1.52			3.9		
			Middle	9.4	23.9	31.6	31.6	6.17	6.16		87.7	87.6	1.64	1.65		6.4	5.3	
						31.7		6.15			87.4		1.66			4.2		
			Bottom	17.7	23.7	31.7	31.7	6.11	6.10	6.10	86.6	86.4	1.93	1.94		2.7	3.7	
						31.7		6.08			86.2		1.95			4.6		
29/10/24	10:24:42	25 / Fine	Surface	1.0	23.4	32.8	32.8	6.35	6.35	6.34	90.0	90.0	2.31	2.32	2.51	5.3	5.2	5.5
						32.8		6.35			90.0		2.33			5.1		
			Middle	9.3	23.4	32.8	32.8	6.33	6.33		89.8	89.8	2.41	2.38		5.0	4.8	
						32.8		6.33			89.8		2.35			4.6		
			Bottom	17.8	23.4	32.7	32.7	6.31	6.31	6.31	89.5	89.5	2.89	2.84		7.0	6.6	
						32.7		6.31			89.5		2.78			6.1		
31/10/24	12:00:08	27 / Fine	Surface	1.0	23.2	32.9	32.9	6.12	6.12	6.13	86.5	86.5	3.46	3.52	3.72	7.8	6.7	6.0
						32.9		6.12			86.5		3.58			5.6		
			Middle	9.6	23.2	32.9	32.9	6.13	6.13		86.6	86.6	3.53	3.54		7.8	7.3	
						32.9		6.13			86.6		3.54			6.7		
			Bottom	18.7	23.1	32.9	32.9	6.13	6.13	6.13	86.5	86.5	4.11	4.11		3.5	4.2	
						32.9		6.12			86.5		4.11			4.8		

Mid-Ebb Tide

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

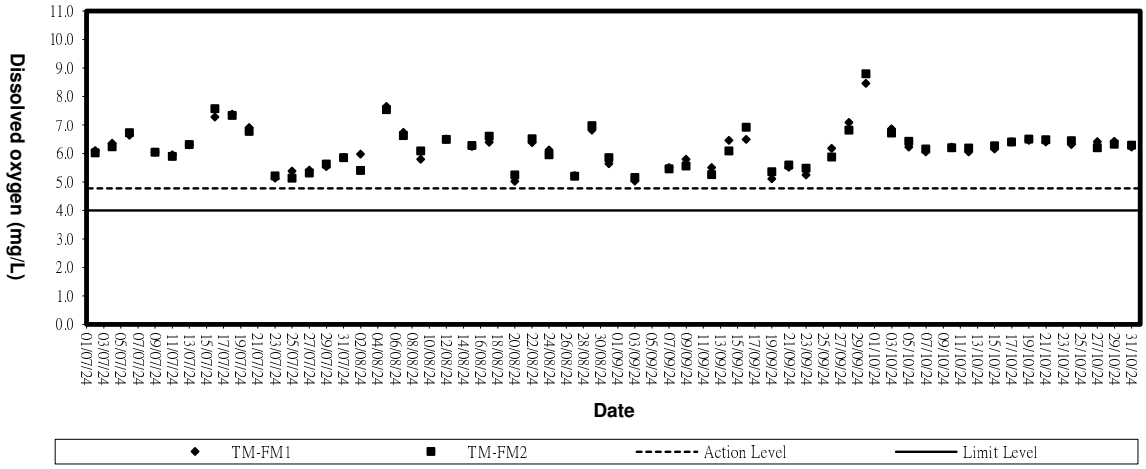
Monitoring Station : TM-FC2

Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
03/10/24	13:13:08	26 / Fine	Surface	1.0	25.2	30.6	30.6	7.29	7.26	7.01	105.3	104.9	2.03	2.32	2.92	6.1	6.2	6.7
						30.6		7.23			104.5		2.60			6.2		
			Middle	8.1	25.1	31.3	31.3	6.67	6.76		96.6	97.8	2.18	2.19		6.4	7.0	
						31.3		6.84			98.9		2.19			7.5		
			Bottom	15.1	25.0	31.9	31.9	6.47	6.47	6.47	93.9	93.7	4.25	4.25		7.1	6.9	
						31.9		6.46			93.4		4.24			6.7		
05/10/24	14:23:58	28 / Fine	Surface	1.0	24.7	31.8	31.7	6.34	6.33	6.25	91.4	91.3	2.49	2.51	2.42	6.1	5.8	5.0
						31.7		6.32			91.1		2.52			5.5		
			Middle	8.0	24.6	31.8	31.8	6.18	6.17		89.0	88.8	2.40	2.42		5.0	4.5	
						31.8		6.15			88.6		2.43			4.0		
			Bottom	14.9	24.4	31.9	32.0	6.07	6.07	6.07	87.2	87.2	2.32	2.33		4.0	4.7	
						32.0		6.06			87.1		2.34			5.4		
07/10/24	14:30:34	29 / Fine	Surface	1.0	24.7	30.6	30.6	6.25	6.25	6.21	89.6	89.6	3.12	3.13	3.63	5.8	5.1	4.6
						30.6		6.25			89.6		3.13			4.4		
			Middle	8.2	24.6	30.9	30.9	6.18	6.17		88.6	88.4	3.45	3.47		3.2	3.6	
						31.0		6.15			88.1		3.49			4.0		
			Bottom	15.3	24.6	31.2	31.3	5.99	5.98	5.98	86.0	85.9	4.28	4.30		3.9	5.2	
						31.3		5.97			85.7		4.32			6.4		
10/10/24	8:14:58	27 / Fine	Surface	1.0	24.3	30.8	30.8	6.21	6.22	6.20	88.5	88.6	2.43	2.37	2.87	6.3	5.7	4.9
						30.8		6.22			88.7		2.31			5.1		
			Middle	8.3	24.3	30.9	30.9	6.19	6.19		88.2	88.3	2.86	2.79		5.7	4.4	
						30.9		6.19			88.3		2.72			3.1		
			Bottom	15.6	24.2	31.0	31.0	6.15	6.15	6.15	87.6	87.6	3.46	3.46		4.1	4.6	
						31.0		6.15			87.6		3.45			5.0		
12/10/24	9:14:12	27 / Fine	Surface	1.0	24.6	30.9	30.9	7.02	6.84	6.63	100.6	98.0	2.14	2.16	2.37	6.4	5.0	4.9
						30.9		6.66			95.3		2.17			3.5		
			Middle	8.4	24.4	31.0	31.0	6.42	6.41		91.7	91.6	2.39	2.40		3.8	4.8	
						31.0		6.40			91.4		2.41			5.7		
			Bottom	15.6	24.4	31.2	31.2	6.21	6.20	6.20	88.8	88.6	2.55	2.54		3.2	5.0	
						31.2		6.18			88.4		2.53			6.7		
15/10/24	10:17:44	28 / Fine	Surface	1.0	24.5	31.4	31.4	6.49	6.49	6.21	93.1	93.1	1.62	1.62	2.17	4.5	4.2	3.9
						31.4		6.48			93.0		1.61			3.9		
			Middle	8.7	24.5	31.9	31.9	5.96	5.94		85.7	85.4	2.36	2.36		4.6	4.4	
						31.9		5.92			85.1		2.35			4.2		
			Bottom	16.4	24.4	32.0	32.0	5.76	5.75	5.75	82.8	82.6	2.48	2.53		2.7	3.0	
						32.0		5.73			82.3		2.57			3.3		
17/10/24	12:18:34	28 / Cloudy	Surface	1.0	24.7	31.2	31.2	6.51	6.51	6.31	93.6	93.7	3.03	3.01	3.73	7.5	7.7	6.4
						31.3		6.51			93.7		2.98			7.8		
			Middle	8.5	24.6	31.6	31.7	6.11	6.10		87.8	87.7	3.15	3.18		6.9	5.9	
						31.7		6.09			87.6		3.20			4.8		
			Bottom	16.3	24.5	31.8	31.8	5.91	5.91	5.91	85.0	85.0	5.06	5.01		5.5	5.6	
						31.8		5.90			84.9		4.95			5.6		
19/10/24	14:24:12	29 / Fine	Surface	1.0	24.6	31.0	30.9	6.77	6.73	6.48	97.2	96.6	2.64	2.65	3.15	4.6	4.8	5.7
						30.9		6.68			95.9		2.66			5.0		
			Middle	7.3	24.6	30.9	30.9	6.25	6.24		89.5	89.4	3.14	3.15		6.1	6.2	
						31.0		6.23			89.3		3.16			6.3		
			Bottom	13.7	24.6	31.0	31.0	6.17	6.17	6.17	88.4	88.3	3.66	3.65		6.8	6.0	
						31.0		6.16			88.2		3.63			5.2		
21/10/24	15:43:07	28 / Fine	Surface	1.0	24.6	30.0	30.0	6.45	6.46	6.44	92.0	92.1	2.98	2.99	3.40	3.2	3.4	3.3
						30.0		6.46			92.1		3.00			3.5		
			Middle	8.1	24.6	30.0	30.0	6.43	6.43		91.7	91.6	3.39	3.38		3.4	2.8	
						30.0		6.42			91.5		3.36			2.2		
			Bottom	15.1	24.6	30.1	30.1	6.36	6.35	6.35	90.7	90.6	3.84	3.84		2.6	3.7	
						30.1		6.34			90.4		3.83			4.7		
24/10/24	7:48:15	25 / Fine	Surface	1.0	24.3	30.8	30.9	6.63	6.62	6.51	94.4	94.2	1.11	1.12	1.41	2.6	4.0	4.4
						30.9		6.61			94.0		1.13			5.4		
			Middle	8.3	24.1	31.2	31.2	6.41	6.41		91.3	91.2	1.28	1.28		2.5	4.2	
						31.3		6.40			91.1		1.28			5.9		
			Bottom	15.7	24.3	31.8	31.8	6.23	6.19	6.19	89.2	88.7	1.76	1.82		5.8	5.1	
						31.9		6.15			88.2		1.87			4.4		
27/10/24	9:30:46	27 / Cloudy	Surface	1.0	24.0	31.6	31.6	6.42	6.41	6.38	91.4	91.3	1.56	1.57	1.73	4.2	4.4	4.6
						31.7		6.40			91.1		1.58			4.5		
			Middle	8.6	23.9	31.7	31.8	6.35	6.34		90.3	90.2	1.67	1.68		4.9	4.4	
						31.8		6.33			90.0		1.68			3.8		
			Bottom	16.0	23.8	31.8	31.8	6.29	6.29	6.29	89.3	89.3	1.94	1.96		5.2	5.2	
						31.9		6.28			89.2		1.97			5.2		
29/10/24	10:06:27	25 / Fine	Surface	1.0	23.5	32.6	32.6	6.54	6.48	6.41	92.9	91.9	2.27	2.27	2.44	6.4	6.4	5.9
						32.6		6.41			90.9		2.27			6.4		
			Middle	8.6	23.5	32.7	32.7	6.35	6.35		90.1	90.1	2.37	2.34		6.4	5.8	
						32.7		6.34			90.0		2.30			5.2		
			Bottom	16.7	23.4	32.7	32.7	6.31	6.31	6.31	89.5	89.5	2.68	2.71		5.5	5.5	
						32.7		6.31			89.5		2.74			5.5		
31/10/24	11:39:35	27 / Fine	Surface	1.0	23.3	32.7	32.7	6.37	6.36	6.27	90.1	89.9	2.08	2.08	2.64	4.5	4.6	5.6
						32.7		6.35			89.7		2.08			4.6		
			Middle	8.2	23.2	32.8	32.8	6.19	6.19		87.5	87.5	2.41	2.42		5.9	6.4	
						32.8		6.18			87.4		2.43			6.9		
			Bottom	15.4	23.2	32.9	32.9	6.14	6.14	6.14	86.8	86.8	3.37	3.43		5.0	6.0	
						32.9		6.14			86.7		3.49			6.9		

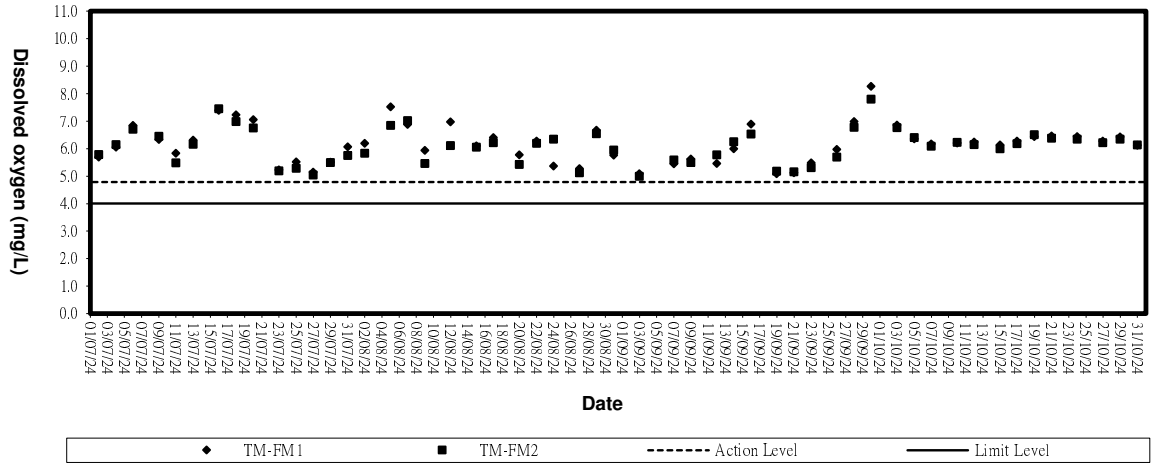
Appendix C3

Graphical Plots of Impact Marine Water Quality Monitoring Data

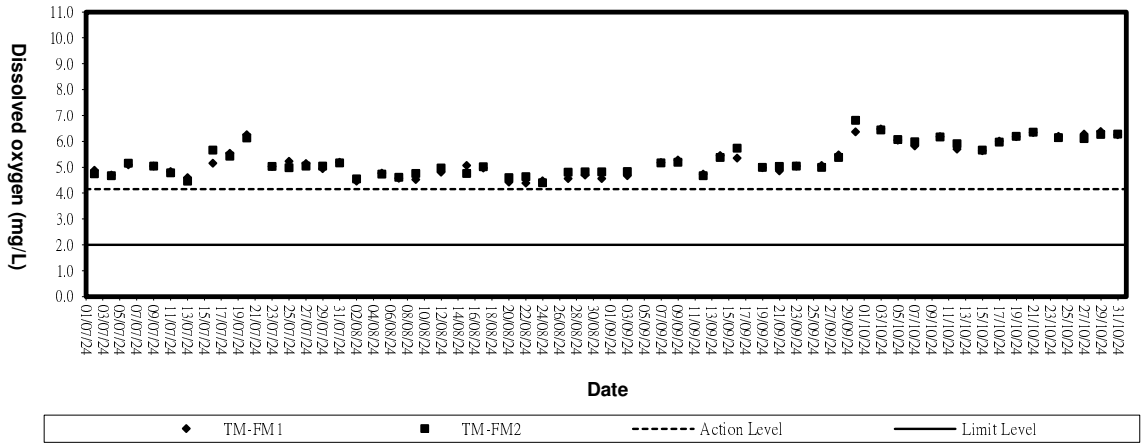
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



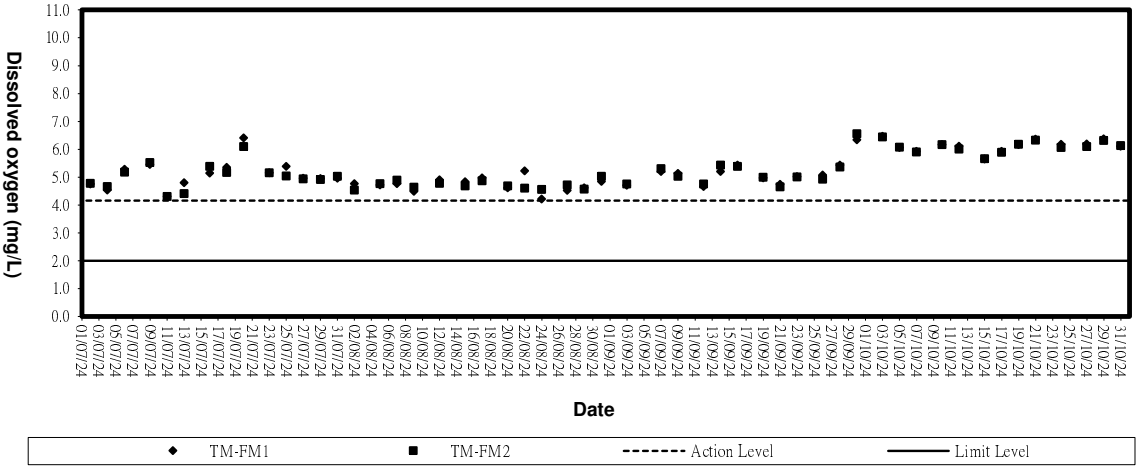
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



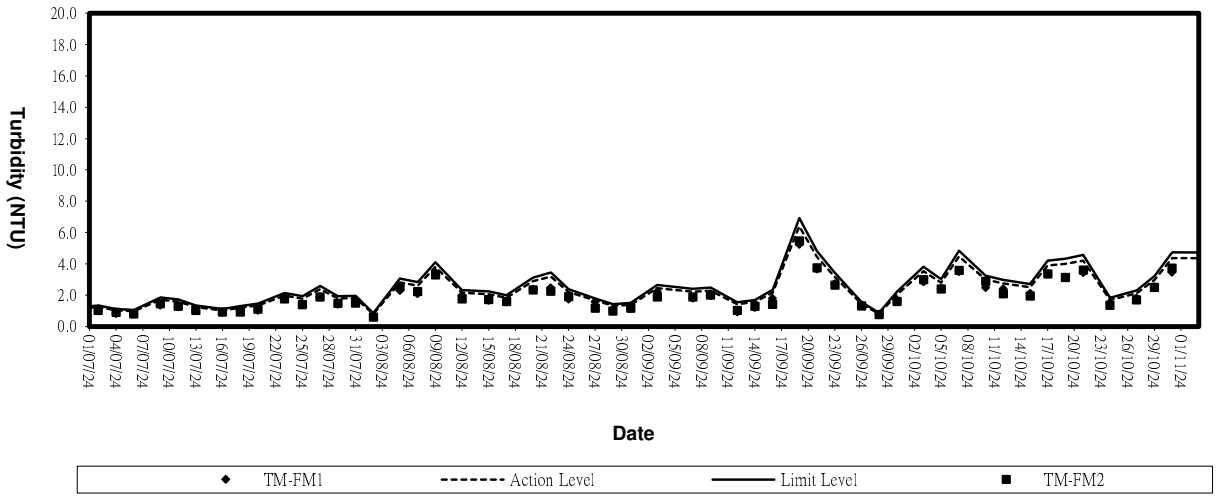
Dissolved Oxygen (Bottom) at Mid-Flood Tide



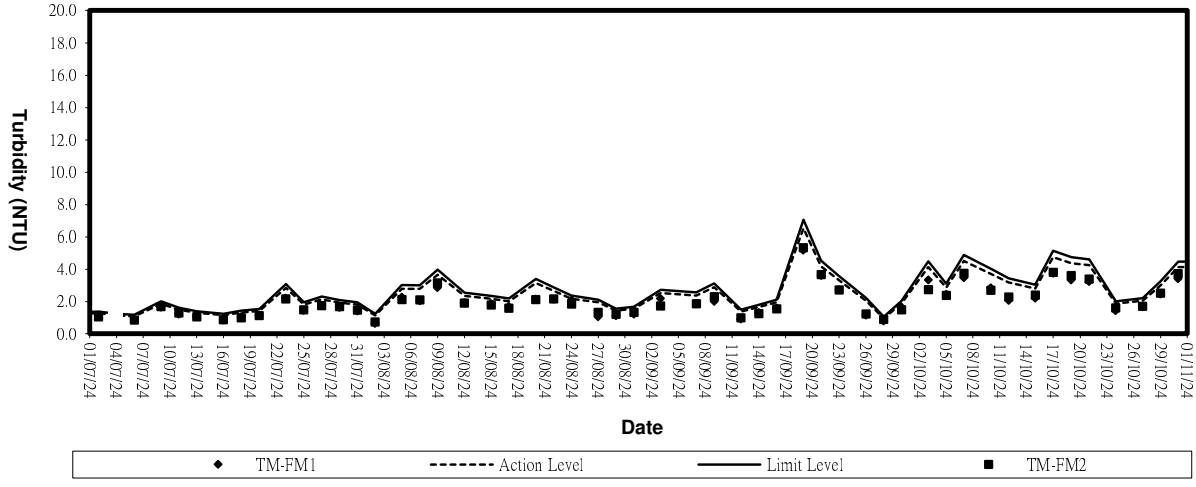
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



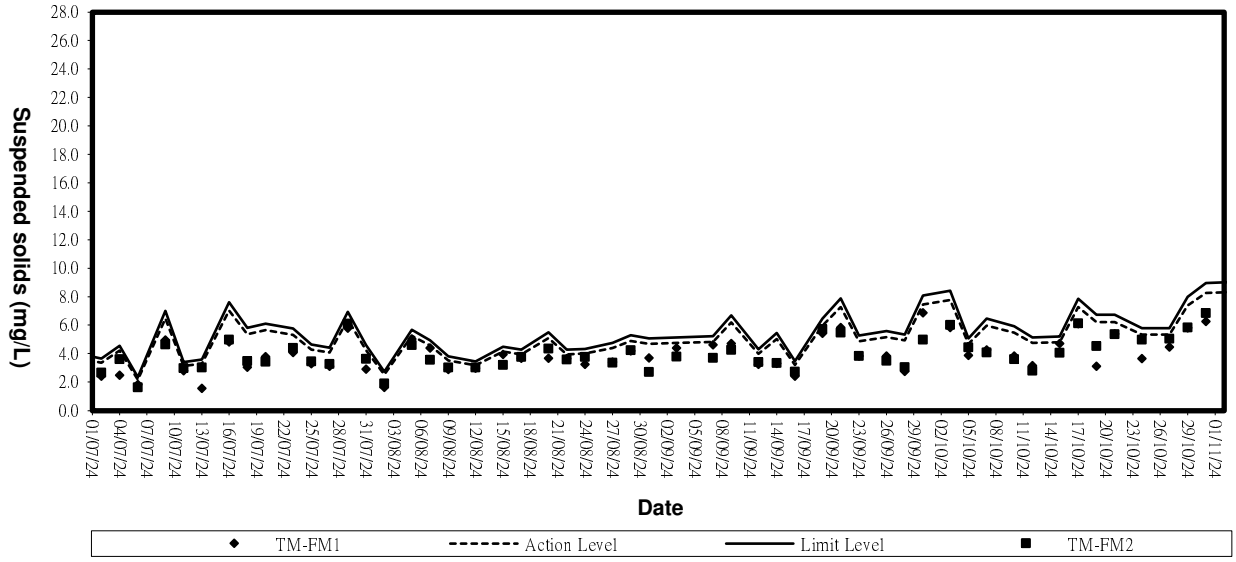
Turbidity (Depth-average) at Mid-Flood Tide



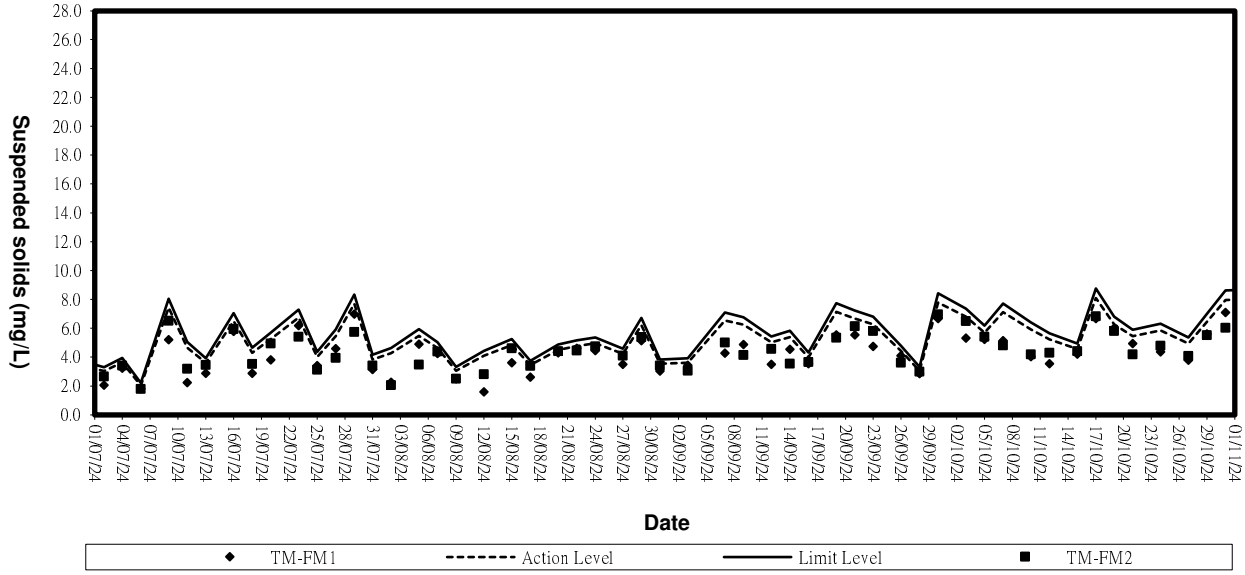
Turbidity (Depth-average) at Mid-Ebb Tide



Suspended solids (Depth-average) at Mid-Flood Tide



Suspended Solids (Depth-average) at Mid-Ebb Tide



Appendix D1

Calibration Certificates for Impact Noise Monitoring Equipments

東業德勤測試顧問有限公司
ETS-TESTCONSULT LTD.™

8/F Block B,
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Calibration Certificate

Certificate No. : **CSA38446**

Page : 1 of 2

Information Provided by Customer

Customer : ETS - Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34 - 36 Au Pui Wan Street, Fotan, Shatin, Hong Kong

Information of Unit-under-test (UUT)

Description	: Sound Level Calibrator		
Manufacturer	: RION	Equipment I.D.	: ET/EN/002/01
Type	: NC-73	Serial No.	: 10196943

Laboratory Information

Lab. Ref. No.	: Q/CAL/23/9463/I	Procedure	: CQS/002/A
Date of Calibration	: 23-Nov-2023	Date of Receipt	: 15-Nov-2023
Date of Issue	: 24-Nov-2023	Calibration Location	: Calibration Laboratory

Calibration Condition

Ambient Temperature	: (20 ± 3) °C	Relative Humidity	: (50±20) %
Stabilizing Time	: 30 minutes	Sampling	: As received
Ambient Pressure	: (1000 ± 50) hPa		

Reference equipment

- Multi-function sound calibrator, ET/2801/01
- Measuring Amplifier, ET/2702/01/01
- Signal generator, ET/2503/01
- Reference Oscilloscope, ET/2502/01

Calibration specification

- To perform the calibration of sound level calibrator.

Calibration result

- The results are detailed on the subsequent pages.

Remarks

- The calibration results apply to the particular unit-under-test only.
- The values given in this calibration certificate only to the values measureed at the time of test & any uncertainties quoted will not include allowance for the equipment long term drift, varifications with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement

Calibrated By : Tony MA
(Technician)

Approved By: CHAN Chi Wai

東業德勤測試顧問有限公司
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Calibration Certificate

Certificate No. : CSA38446

Calibration Result:

1. Measured Sound Pressure Level:

Nominal Frequency (Hz)	Nominal Output Sound Pressure (dB)	Measured Output (dB)	Expanded Uncertatiny (dB)	Coverage Factor
1000	94.0	93.9	0.13	2.0

2. Actual Output Frequency:

Nominal Frequency (Hz)	Nominal Output Sound Pressure (dB)	Measured Output (Hz)	Expanded Uncertatiny (Hz)	Coverage Factor
1000	94.0	960.763	0.057	2.0

Remark:

- The uncertainty quoted is based on 95 % confidence level.
- Measured output are mean of three measurements.

End of certificate

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Calibration Certificate

Certificate No. : **CSA44621**

Page : 1 of 3

Information Provided by Customer

Customer : ETS - Testconsult Limited

Address : 8/F., Block B, Veristrong Industrial Centre, 34 - 36 Au Pui Wan Street, Fotan, Shatin, Hong Kong

Information of Unit-under-test (UUT)

	Sound Level Meter	Microphone	Pre-amplifier	Sound Calibrator
Manufacturer	RION	RION	RION	N/A
Type	NL-52	UC-59	NH-25	-
Equipment I.D. no.	ET/EN/003/17	-	-	-
Serial No.	00264519	03558	64644	-
Adaptors used	-	-	-	-
Resolution	0.1 dB	-	-	-

Laboratory Information

Lab. Ref. No. : Q/CAL/24/5138/I

Date of Calibration : 16-Jul-2024

Date of Issue : 18-Jul-2024

Procedure : CQS/001/A

Date of Receipt : 25-Jun-2024

Calibration Location : Calibration Laboratory

Calibration Condition

Ambient Temperature : (20 ± 3) °C

Stabilizing Time : 30 minutes

Ambient Pressure : (1000 ± 50) hPa

Relative Humidity : (50 ± 20) %

Sampling : As received

Reference equipment

- Multi-function sound calibrator, ET/2801/01
- Signal generator, ET/2503/01

Calibration specification

- To perform the calibration of linearity and frequency response by multi-function sound calibrator.

Calibration result

- The results are detailed on the subsequent pages.

Remarks

- The calibration results apply to the particular unit-under-test only.
- The values given in this calibration certificate only to the values measureed at the time of test & any uncertainties quoted will not include allowance for the equipment long term drift, varifications with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement

Calibrated By : Tommy TAM (Technician)

Approved By: CHAN Chi Wai

東業德勤測試顧問有限公司
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Calibration Certificate

Certificate No. : CSA44621

Calibration Result:

1 Reference Sound Pressure Level : (Unit in: dB)

Range / Mode			Reference Level	REF Frequency (kHz)	UUT Reading	Deviation	Expanded Uncertatiny	Coverage Factor
A-Weighting	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.13	2.0
	Mode	Fast	114.0		113.9	-0.1	0.13	2.0
	Self-cal	-	94.0	1	93.8	-0.2	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.13	2.0
	Mode	Slow	114.0		113.9	-0.1	0.13	2.0
C-Weighting	Self-cal	-	94.0	1	93.8	-0.2	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.15	2.0
	Mode	Fast	114.0		113.8	-0.2	0.13	2.0
	Self-cal	-	94.0	1	93.8	-0.2	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.15	2.0
	Mode	Slow	114.0		113.9	-0.1	0.13	2.0
Z-Weighting	Self-cal	-	94.0	1	93.8	-0.2	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.13	2.0
	Mode	Fast	114.0		113.9	-0.1	0.13	2.0
	Self-cal	-	94.0	1	93.8	-0.2	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.13	2.0
	Mode	Slow	114.0		113.9	-0.1	0.13	2.0

Remark:

- The uncertainty quoted is based on 95 % confidence level.
- UUT reading are mean of three measurements.
- Deviation = UUT Reading - Reference Level

***

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Form QAS/C/01 Issue 1(3/7) [09/21]

Calibration Certificate

Certificate No. : CSA44621

Calibration Result:

Acoustic Sensitivity and Frequency Response:

2 Frequency Response A-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainty	Coverage Factor
30 to 130	Fast	94	31.5	54.6	32.2	-22.4	0.15	2.0
			63	67.8	50.0	-17.8	0.13	2.0
			125	77.9	65.5	-12.4	0.13	2.0
			250	85.4	78.1	-7.3	0.12	2.0
			500	90.8	87.8	-3.0	0.14	2.0
			1000 (Ref.)	94.0	93.8	-0.2	0.13	2.0
			2000	95.1	95.0	-0.1	0.13	2.0
			4000	94.9	93.5	-1.4	0.13	2.0
			8000	92.9	89.6	-3.3	0.14	2.0
			12500	89.7	83.4	-6.3	0.14	2.0
			16000	87.5	79.5	-8.0	0.14	2.0

3 Frequency Response C-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainty	Coverage Factor
30 to 130	Fast	94	31.5	91.0	67.6	-23.4	0.15	2.0
			63	93.2	75.4	-17.8	0.15	2.0
			125	93.8	81.6	-12.2	0.15	2.0
			250	94.0	86.8	-7.2	0.12	2.0
			500	94.0	91.2	-2.8	0.12	2.0
			1000 (Ref.)	94.0	93.8	-0.2	0.13	2.0
			2000	93.7	93.6	-0.1	0.13	2.0
			4000	93.1	91.7	-1.4	0.13	2.0
			8000	91.0	87.7	-3.3	0.14	2.0
			12500	87.8	81.5	-6.3	0.14	2.0
			16000	85.6	77.5	-8.1	0.14	2.0

4 Frequency Response Z-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainty	Coverage Factor
30 to 130	Fast	94	31.5	94.0	70.6	-23.4	0.14	2.0
			63	94.0	76.3	-17.7	0.15	2.0
			125	94.0	81.8	-12.2	0.15	2.0
			250	94.0	86.8	-7.2	0.14	2.0
			500	94.0	91.1	-2.9	0.12	2.0
			1000 (Ref.)	94.0	93.8	-0.2	0.13	2.0
			2000	94.0	93.8	-0.2	0.13	2.0
			4000	94.0	92.5	-1.5	0.13	2.0
			8000	94.0	90.6	-3.4	0.14	2.0
			12500	94.0	88.0	-6.0	0.14	2.0
			16000	94.0	87.2	-6.8	0.14	2.0

Remark:

- Signal level at 1000 Hz is set as indication of reference sound pressure level.
- The uncertainty quoted is based on 95 % confidence level with coverage factor k=2.0.
- UUT reading are mean of three measurements.
- Deviation = UUT Reading - Reference Level

End of certificate

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Calibration Certificate

Certificate No. : **CSA42566**

Page : 1 of 3

Information Provided by Customer

Customer : ETS - TESTCONSULT LIMITED

Address : 6/F., Block B, Veristrong Industrial Centre, 34 - 36 Au Pui Wan Street, Fotan, Shatin, Hong Kong

Information of Unit-under-test (UUT)

	Sound Level Meter	Microphone	Pre-amplifier	Sound Calibrator
Manufacturer	RION	RION	-	N/A
Type	NL-52	UC-59	NH-25	-
Equipment I.D. no.	ET/EN/003/18	-	-	-
Serial No.	00264520	09668	64646	-
Adaptors used	-	-	-	-
Resolution	0.1 dB	-	-	-

Laboratory Information

Lab. Ref. No. : Q/CAL/24/2856/I

Date of Calibration : 18-Apr-2024

Date of Issue : 19-Apr-2024

Procedure : CQS/001/A

Date of Receipt : 11-Apr-2024

Calibration Location : Calibration Laboratory

Calibration Condition

Ambient Temperature : (20 ± 3) °C

Stabilizing Time : 30 minutes

Ambient Pressure : (1000 ± 50) hPa

Relative Humidity : (50 ± 20) %

Sampling : As received

Reference equipment

- Multi-function sound calibrator, ET/2801/01
- Signal generator, ET/2503/01

Calibration specification

- To perform the calibration of linearity and frequency response by multi-function sound calibrator.

Calibration result

- The results are detailed on the subsequent pages.

Remarks

- The calibration results apply to the particular unit-under-test only.
- The values given in this calibration certificate only to the values measureed at the time of test & any uncertainties quoted will not include allowance for the equipment long term drift, varifications with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement

Calibrated By : Tommy TAM (Technician)

Approved By: CHAN Chi Wai

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Calibration Certificate

Certificate No. : CSA42566

Calibration Result:

1 Reference Sound Pressure Level : (Unit in: dB)

Range / Mode			Reference Level	REF Frequency (kHz)	UUT Reading	Deviation	Expanded Uncertatiny	Coverage Factor
A-Weighting	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		104.0	0.0	0.13	2.0
	Mode	Fast	114.0		114.0	0.0	0.13	2.0
	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		104.0	0.0	0.13	2.0
	Mode	Slow	114.0		114.0	0.0	0.13	2.0
C-Weighting	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		104.0	0.0	0.13	2.0
	Mode	Fast	114.0		114.0	0.0	0.13	2.0
	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		104.0	0.0	0.13	2.0
	Mode	Slow	114.0		114.0	0.0	0.13	2.0
Z-Weighting	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.13	2.0
	Mode	Fast	114.0		113.9	-0.1	0.13	2.0
	Self-cal	-	94.0	1	93.9	-0.1	0.13	2.0
	Range	30 to 130	104.0		103.9	-0.1	0.13	2.0
	Mode	Slow	114.0		113.9	-0.1	0.13	2.0

Remark:

- The uncertainty quoted is based on 95 % confidence level.
- UUT reading are mean of three measurements.
- Deviation = UUT Reading - Reference Level

***

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Calibration Certificate

Certificate No. : CSA42566

Calibration Result:

Acoustic Sensitivity and Frequency Response:

2. Frequency Response A-Weighting (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	IEC 61672-1:2002 class 1 Specification
30 to 130	Fast	94	31.5	54.6	54.8	0.2	-39.4 +/- 2.0
			63	67.8	67.9	0.1	-26.2 +/- 1.5
			125	77.9	77.9	0.0	-16.1 +/- 1.5
			250	85.4	85.4	0.0	-8.6 +/- 1.4
			500	90.8	90.7	-0.1	-3.2 +/- 1.4
			1000 (Ref.)	94.0	93.9	-0.1	0 +/- 1.1
			2000	95.1	95.1	0.0	+1.2 +/- 1.6
			4000	94.9	95.0	0.1	+1.0 +/- 1.6
			8000	92.9	93.2	0.3	-1.1 (+2.1 ; - 3.1)
			12500	89.7	88.4	-1.3	-4.3 (+3.0 ; -6.0)
			16000	87.5	84.8	-2.7	-6.8 (+3.5 ; -17.0)

3 Frequency Response C-Weighting : (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	IEC 61672-1:2002 class 1 Specification
30 to 130	Fast	94	31.5	91.0	90.9	-0.1	-3.0 +/- 2.0
			63	93.2	93.2	0.0	-0.8 +/- 1.5
			125	93.8	93.9	0.1	-0.2 +/- 1.5
			250	94.0	94.0	0.0	0.0 +/- 1.4
			500	94.0	94.0	0.0	0.0 +/- 1.4
			1000 (Ref.)	94.0	93.9	-0.1	0 +/- 1.1
			2000	93.7	93.7	0.0	-0.2 +/- 1.6
			4000	93.1	93.2	0.1	-0.8 +/- 1.6
			8000	91.0	91.3	0.3	-3.0 (+2.1 ; -3.1)
			12500	87.6	86.5	-1.3	-6.2 (+3.0 ; -6.0)
			16000	85.6	82.8	-2.8	-8.5 (+3.5 ; -17.0)

4 Frequency Response Z-Weighting : (Unit in: dB)

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	IEC 61672-1:2002 class 1 Specification
30 to 130	Fast	94	31.5	94.0	94.0	0.0	0.0 +/- 2.0
			63	94.0	94.1	0.1	0.0 +/- 1.5
			125	94.0	94.0	0.0	0.0 +/- 1.5
			250	94.0	94.0	0.0	0.0 +/- 1.4
			500	94.0	93.9	-0.1	0.0 +/- 1.4
			1000 (Ref.)	94.0	93.9	-0.1	0 +/- 1.1
			2000	94.0	93.8	-0.2	0.0 +/- 1.6
			4000	94.0	94.0	0.0	0.0 +/- 1.6
			8000	94.0	94.2	0.2	0.0 (+2.1 ; -3.1)
			12500	94.0	93.0	-1.0	0.0 (+3.0 ; -6.0)
			16000	94.0	92.5	-1.5	0.0 (+3.5 ; -17.0)

- Expended uncertainty of measurement:

	Range (Hz)	(dB)	Range (Hz)	(dB)
94 dB	31.5	0.15	2000	0.13
	63	0.15	4000	0.13
	125	0.15	8000	0.14
	250	0.12	12500	0.14
	500	0.12	16000	0.14
	1000	0.13		

Remark:

- Manufacturer specification: IEC 61672 class 1
- Signal level at 1000 Hz is set as indication of reference sound pressure level.
- The uncertainty quoted is based on 95 % confidence level with coverage factor k=2.0.
- UUT reading are mean of three measurements.
- Deviation = UUT Reading - Reference Level

End of certificate

Appendix D2

Impact Noise Monitoring Results

Day-time Noise Monitoring`

Monitoring Location: TM-RN1 *

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Major Noise Sources	Weather Condition
		$L_{eq(30min)}$	L_{10}	L_{90}			
01/10/24	13:00	57.7	59.2	54.2	0.2	General site work	Cloudy
03/10/24	09:25	57.1	58.4	54.2	0.2	General site work	Sunny
08/10/24	08:25	57.1	58.5	53.6	0.2	General site work	Sunny
10/10/24	09:00	56.5	58.3	54.2	0.2	General site work	Sunny
15/10/24	08:20	57.1	58.5	54.3	0.2	General site work	Sunny
14/10/24	08:50	55.8	57.3	53.9	0.2	General site work	Fine
22/10/24	11:10	56.3	58.7	55.4	0.2	General site work	Sunny
24/10/24	10:00	56.6	58.3	54.2	0.2	General site work	Sunny
29/10/24	08:40	57.1	58.3	54.1	0.2	General site work	Cloudy
31/10/24	09:30	57.7	58.8	53.8	0.2	General site work	Cloudy

Remark: Since Lands Department did not approve us to enter their own area where the noise monitoring stations TM-N1 located due to the security, noise monitoring was carried out at noise monitoring stations TM-RN1 (refer to the figure 3 attached) in this reporting month.

Monitoring Location: TM-RN2 *

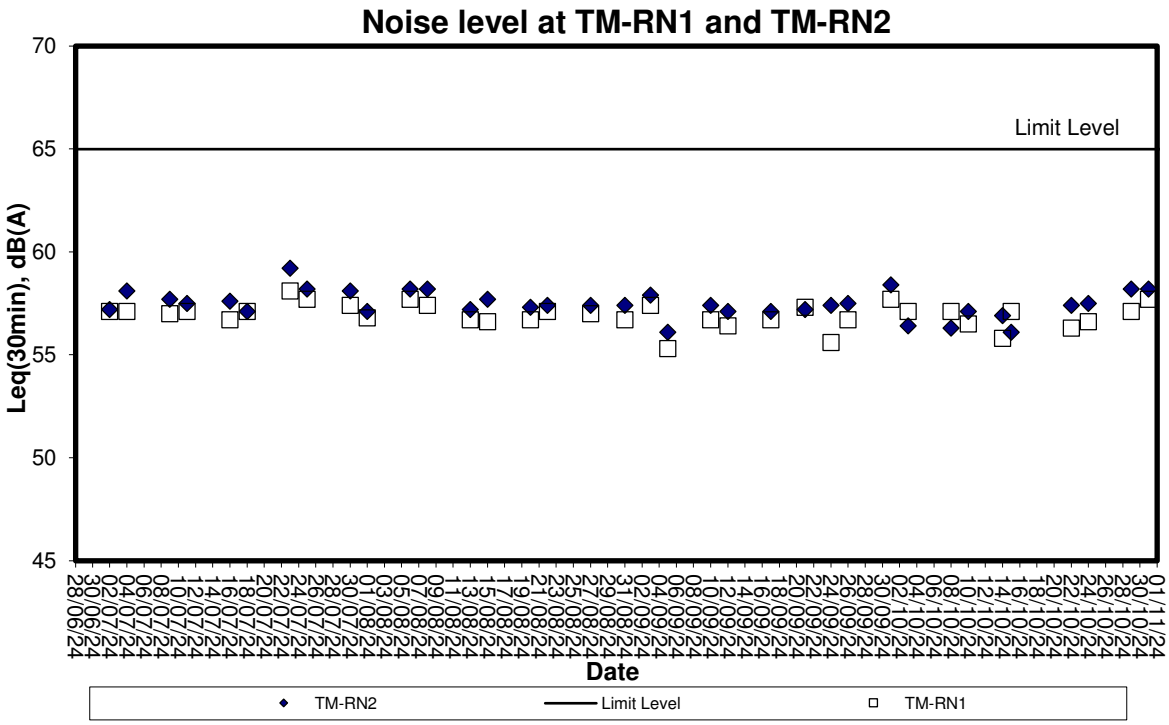
Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Major Noise Sources	Weather Condition
		$L_{eq(30min)}$	L_{10}	L_{90}			
01/10/24	13:05	58.4	59.7	55.1	0.2	General site work	Cloudy
03/10/24	09:30	56.4	58.9	54.6	0.2	General site work	Sunny
08/10/24	08:30	56.3	58.1	55.2	0.2	General site work	Sunny
10/10/24	09:30	57.1	59.0	55.2	0.2	General site work	Sunny
15/10/24	08:25	56.1	58.9	55.4	0.2	General site work	Sunny
14/10/24	08:55	56.9	58.2	54.0	0.2	General site work	Fine
22/10/24	11:45	57.4	59.1	56.7	0.2	General site work	Sunny
24/10/24	10:05	57.5	58.0	53.8	0.2	General site work	Sunny
29/10/24	08:45	58.2	59.1	55.3	0.2	General site work	Cloudy
31/10/24	09:35	58.2	59.6	54.5	0.2	General site work	Cloudy

Remark: Since Lands Department did not approve us to enter their own area where the noise monitoring stations TM-N2 located due to the security, noise monitoring was carried out at noise monitoring stations TM-RN2 (refer to the figure 3 attached) in this reporting month.

Appendix D3

Graphical Plots of Impact Noise Monitoring Data

Noise Monitoring (Day-time)



Appendix E

Weather Condition

Daily Extract of Meteorological Observations , October 2024 - Tuen Mun

Day	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg.C)	Absolute Daily Min (deg. C)					
1	1005.2	34.2	30.9	27.8	21.6	58	-	350	34.5
2	1009.9	30.8	27.4	25.5	17.3	54	-	350	40.2
3	1013.2	29.4	26.1	23.3	14.6	49	-	360	33.4
4	1014.4	30.9	27	24.6	15.8	50	-	360	18.8
5	1013.3	31.5	27.9	25.5	20	63	-	360	20
6	1013.7	33.3	29.2	26.7	23	70	-	80	14
7	1014.4	32.9	29.3	27.3	22.2	66	-	80	10.4
8	1014.2	31.7	28.2	26.2	20.1	62	-	360	24.8
9	1013.5	27.4	26.4	25.2	20.1	68	Trace	10	22.8
10	1013	30.6	27	24.5	20.4	68	Trace	80	19.2
11	1013.7	27.5	25.3	23.2	21.3	79	8.7	80	23.6
12	1015.1	29.7	27	25.6	20.2	67	-	80	31.3
13	1014.5	30.2	27.5	25.9	22.2	73	-	70	29.5
14	1013.5	31	28	26.3	23	75	-	80	24
15	1013.6	30.9	28.1	26.6	23.3	75	-	80	22.7
16	1014.5	31.1	28.2	27.4	23	74	Trace	80	33.9
17	1013.9	29.7	27.8	27.1	23.3	77	Trace	80	32
18	1013.2	30.7	28.3	27.1	24	78	Trace	80	19.3
19	1014.1	33.7	29.2	26.4	23.9	74	-	80	10.1
20	1016.5	29.7	27.9	26.9	23.1	75	1.9	80	39.8
21	1015	31.5	27.8	26.4	22.9	75	Trace	80	25
22	1013.7	32.3	28.3	26	20.5	64	-	360	24.2
23	1012.4	28.4	25.7	23.4	16.4	57	-	360	40.5
24	1009.2	28.5	24.8	22	10.6	42	-	360	39.2
25	1006.7	29.4	26	22.9	13.2	45	-	360	38.4
26	1006.6	28.5	26.6	25.3	19.8	67	0.7	50	41.9
27	1009.3	29.2	27.3	25.9	22	73	Trace	50	27
28	1010.1	27.2	25.8	24.6	19.2	67	Trace	360	26.3
29	1011.1	26.7	25.3	23.7	19.1	69	Trace	40	19
30	1010.3	29.3	26.2	24.3	18.7	64	-	360	15.3
31	1006	30.6	27.1	24.1	16.4	52	-	340	23.1

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Appendix F

Event-Action Plans

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

EVENT	ACTION			
	ET Leader	IC(E)	ER	Contractor
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, IC(E) and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily	1. Check monitoring data submitted by the ET 2. Check contractor's working method	1. Notify Contractor	1. Rectify any unacceptable practise 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform IC(E) and Contractor 3. Repeat measurements to confirm finding 4. Increase monitoring frequency to daily 5. Discuss with IC(E) and Contractor on remedial actions 6. If exceedance continues, arrange meeting with IC(E) and ER. 7. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by the ET Leader 2. Check the Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial actions to IC(E) within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, Contractor and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results	1. Check monitoring data submitted by the ET Leader 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate.

EVENT	EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	IC(E)	ER	Contractor
2. Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Notify IC(E), ER, EPD and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Carry out analysis of contractor's working procedures to determine possible mitigation to be implemented 6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring	1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures	1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IC(E), agree with the Contractor on the remedial measures to be implemented 4. Ensure remedial measures are properly implemented 5. If exceedances continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated	1. Take immediate action to avoid further exceedances 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated

EVENT/ACTION PLAN FOR NOISE EXCEEDANCE

EVENT	ACTION			
	ET Leader	IC(E)	ER	Contractor
Action Level	1. Notify the IC(E) and the Contractor. 2. Carry out investigation. 3. Report the results of investigation to the IC(E) and the Contractor. 4. Discuss with the Contractor and formulate remedial measures. 5. Increase monitoring frequency to check mitigation effectiveness	1. Review the analysed results submitted by the ET. 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IC(E). 2. Implement noise mitigation proposals.
Limit Level	1. Notify the IC(E), the ER, the EPD and the Contractor. 2. Identify source. 3. Repeat measurement to confirm findings. 4. Increase monitoring frequency. 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. 6. Inform the IC(E), the ER and the EPD the causes & actions taken for the exceedances. 7. Assess effectiveness of Contractor's remedial actions and keep the IC(E), the EPD and the ER informed of the results 8. If exceedance due to the construction works stops, cease additional monitoring	1. Discuss amongst the ER, the ET Leader and the Contractor on the potential remedial actions. 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing. 2. Notify the Contractor. 3. Require the Contractor to propose remedial measures for the analysed noise problem. 4. Ensure remedial measures are properly implemented. 5. If exceedances continue, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedances is abated.	1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification. 3. Implement the agreed proposals. 4. Resubmit proposals if problem still not under control. 5. Stop the relevant activity of works as determined by the ER until the exceedances is abated.

Event	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	Contractor	ER	IEC
Action level being exceeded by one sampling day	1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with Contractor if exceedance is due to the construction works within 4 working days 8. Repeat measurement on next day of exceedance if exceedance is due to the construction works	1. Notify the ER and IEC in writing within 24 hours of identification of exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Submit investigation report to IEC and ER within 3 working days of the identification of an exceedance 5. Consider changes of working method if exceedance is due to the construction works 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER if exceedance is due to the construction works within 4 working days of identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale	1. Notify EPD and other relevant governmental agencies in writing within 24 hours of the identification of the exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Require contractor to propose remedial measures for the analysed problem if related to the construction works 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the mitigation measure	1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures 4. Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly 5. Supervise the implementation of mitigation measures

Event	EVENT AND ACTION PLAN FOR WATER QUALITY			
	ACTION			
	ET Leader	Contractor	ER	IEC
Action level being exceeded by more than one consecutive sampling days	1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings 3. Notify Contractor in writing within 24 hours of identification 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC and Contractor within 4 working of identification of an exceedance 8. Ensure mitigation measures are implemented; 9. Prepare to increase the monitoring frequency to daily; 10. Repeat measurement on next day of exceedance.	1. Notify IEC and ER in writing within 24 hours of identification of exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days of identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale	1. Notify EPD and other relevant governmental agencies in writing within 24 hours of the identification of the exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Require contractor to propose remedial measures for the analysed problem if related to the construction works 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the mitigation measure	1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures. 4. Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly 5. Assess the effectiveness of the implemented mitigation measures.

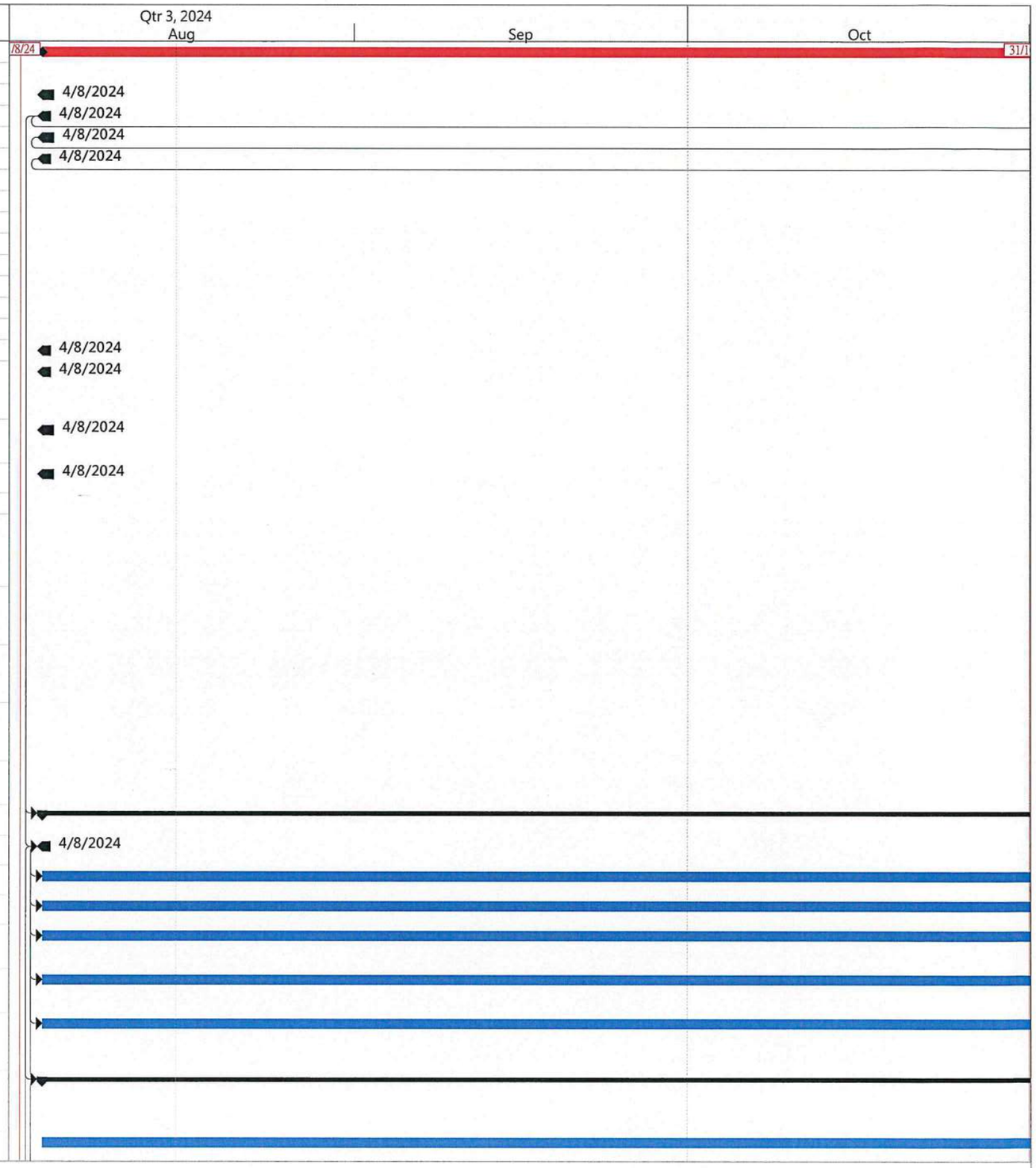
Event	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	Contractor	ER	IEC
Limit level being exceeded by one sampling day	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC, ER and Contractor within 4 working of identification of an exceedance 8. Ensure mitigation measures are implemented; 9. Increase the monitoring frequency to daily until no exceedance of Limit Level.	1. Notify IEC and ER in writing; within 24 hours of the identification of the exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days of the identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale	1. Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the implemented mitigation measures.	1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures

Event	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE			
	ACTION			
	ET Leader	Contractor	ER	IEC
Limit Level being exceeded by more than one consecutive sampling days	1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC, ER and Contractor; 8. Ensure mitigation measures are implemented; 9. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days.	1. Notify ER and IEC in writing within 24 hours of the identification of the exceedance and 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 8. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days; 6. Implement the agreed mitigation measures within reasonable time scale 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction actives.	1. Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 6. Ensure remedial measures are properly implemented 4. Assess the effectiveness of the implemented mitigation measures; 5. 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.	1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ER, ET and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures.

Appendix G

Construction Programme

ID	Task Name	Start	Finish	Duration	Predecesso	time risk allowances
1	**Contract duration of Contract CV/2023/10**	**Sun 4/8/24**	**Sat 31/7/27**	**1092 days**		
2	**Contract date, Date of Letter of Acceptance**	**Thu 11/7/24**	**Thu 11/7/24**	**1 day**		
3	**Starting Date of the Works**	Sun 4/8/24	Sun 4/8/24	**1 day**		
4	Starting Date of Section 1 of the Works	Sun 4/8/24	Sun 4/8/24	1 day		
5	Starting Date of Section 2 of the Works	Sun 4/8/24	Sun 4/8/24	1 day		
6	Starting Date of Section 3 of the Works	Sun 4/8/24	Sun 4/8/24	1 day		
7	**Date for Completion of the Works**	**Sat 31/7/27**	**Sat 31/7/27**	**1 day**		
8	Completion Date of Section 1 of the Works	Sat 31/7/27	Sat 31/7/27	1 day	4SF+1092 da	
9	Completion Date of Section 2 of the Works	Sat 31/7/27	Sat 31/7/27	1 day	5SF+1092 da	
10	Completion Date of Section 3 of the Works	Sat 31/7/27	Sat 31/7/27	1 day	6SF+1092 da	
11	**Planned completion dates**	**Sat 31/7/27**	**Sat 31/7/27**	**1 day**		
12	Planned completion date of Section 1	Sat 31/7/27	Sat 31/7/27	1 day		
13	Planned completion date of Section 2	Sat 31/7/27	Sat 31/7/27	1 day		
14	Planned completion date of Section 3	Sat 31/7/27	Sat 31/7/27	1 day		
15	**Access Date of the Site**	**Sun 4/8/24**	**Sun 4/8/24**	**1 day**		
16	Portion A2, A3a, A3b, A3c, A4a1, A4a2, A4b1, A4b2, A5a, A5b, A5c, A7a, A7b, A7c and A10 (within 60 days after starting date or later date notified by the Project Manager with 2 days advance notice)	Sun 4/8/24	Sun 4/8/24	1 day		
17	Portion B1, B3, B6a, B6b ,B7 and C (within 60 days after starting date or later date notified by the Project Manager with 2 days advance notice)	Sun 4/8/24	Sun 4/8/24	1 day		
18	Portion A1, A9, A9a and B6c (7 day's advance notice after starting date)	Sun 4/8/24	Sun 4/8/24	1 day		
19	**Hand back of the Site**	**Sat 31/7/27**	**Sat 31/7/27**	**1 day**		
20	Portion A2, A3a, A3b, A3c, A4a1, A4a2, A4b1, A4b2 ,A5a, A5b, A5c, ,A7a, A7b, A7c and A10 of the site on the completion date of the section 1 of the works (or at an earlier date notified by the Project Manager with 30 days' advance notice)	Sat 31/7/27	Sat 31/7/27	1 day		
21	Portion A1, A9 and A9a of the site if the Contractor has accessed to them ,on the completion date of the section 1 of the works (or at an earlier date as notified by the Project Manager with 30 days' advance notice)	Sat 31/7/27	Sat 31/7/27	1 day		
22	Portion B1, B3, B6a, B6b, B7 and C of the site on the completion date of the section 2 of the works (or at an earlier date as notified by the Project Manager with 30 days' advance notice)	Sat 31/7/27	Sat 31/7/27	1 day		
23	Portion B6c of the site if the Contractor has accessed to them ,on the completion date of the section 2 of the works (or at an earlier date as notified by the Project Manager with 30 days' advance notice)	Sat 31/7/27	Sat 31/7/27	1 day		
24	Portions C of the Site on the completion date of the section 2 of the works (or at an earlier date as notified by the Project Manager with 30 days' advance notice)	Sat 31/7/27	Sat 31/7/27	1 day		
25	**Section 1 of the Works - Tseung Kwan O Area 137 Fill Bank**	**Sun 4/8/24**	**Sat 31/7/27**	**1092 days**	**4SS**	
26	Taking over the existing facilities at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sun 4/8/24	Sun 4/8/24	1 day	4SS	0
27	Operation of the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	0
28	Operation and maintenance of the surveillance system within Portion A of the Site	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	0
29	Operation and maintenance of the existing tipping halls at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	0
30	Provision, operation and maintenance of the Crushing Plant at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	0
31	Operation and maintenance of the dewatering plant at the Tseung Kwan O Area 137 Fill Bank within portion A of the Site Facility to the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site.	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	0
32	Design, construction, operation and maintenance of 3 nos. new tipping halls with access ramp, new barge handling area, and associated seawalls within Portion A of the Site as and when instructed by the Project Manager.	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	
33	Submission of design proposals to Project Manager for acceptance	Sun 4/8/24	Sun 1/12/24	120 days		0



Project: 3 months rolling programme (Aug 2024 to Oct 2024)
Date: 16/8/2024
Revision:Rev_01

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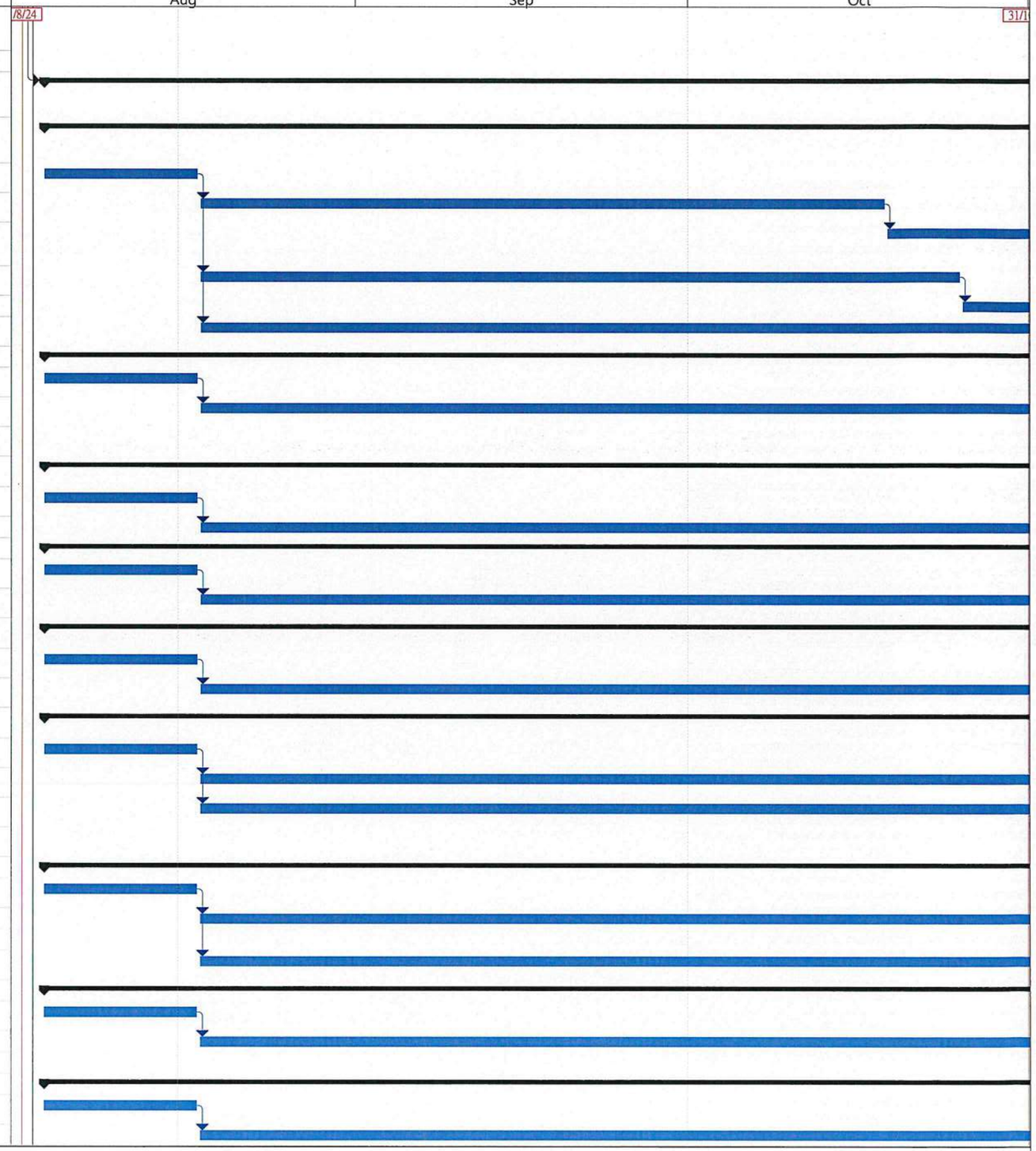
Split	External Tasks	Manual Task	Start-only	Progress	
Milestone	External Milestone	Duration-only	Finish-only	Deadline	
Summary	Inactive Milestone	Manual Summary Rollup	External Tasks		

ID	Task Name	Start	Finish	Duration	Predecesso	time risk allowances
34	Construction new tipping halls with access ramp, new barge handling area, and associated seawalls within Portion A of the Site	Mon 2/12/24	Tue 29/7/25	240 days	33	0
35	Operation and maintenance the new berthing facilities	Wed 30/7/25	Sat 31/7/27	732 days	34	
36	Demolition & reconstruction/relocation of existing facilities within Portion A of the Site above as and when instructed by the Project Manager	Sun 4/8/24	Thu 30/1/25	180 days	26SS	
37	Project Manager's Principal Site Office and Secondary Site Office, and Temporary Accommodation for the Contractor	Sun 4/8/24	Fri 1/11/24	90 days		
38	Preparing and submitting a proposal for project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		1
39	Construct a new Project Manager's Secondary Site Office	Sun 18/8/24	Fri 18/10/24	62 days	38	0
40	Relocate furniture, office equipment and computer facilities previously installed at the existing Project Manager's Site Office to the new office	Sat 19/10/24	Fri 1/11/24	14 days	39	0
41	Dismantle and re-assemble the existing Project Manager's Principal Site Office to a new location	Sun 18/8/24	Fri 25/10/24	69 days	38	0
42	Demolish the existing Secondary Site Office.	Sat 26/10/24	Fri 1/11/24	7 days	41	0
43	Construction of Temporary Accommodation for the Contractor	Sun 18/8/24	Fri 1/11/24	76 days	38	1
44	New Combined Reception and Exit Offices	Sun 4/8/24	Sun 1/12/24	120 days		
45	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		0
46	Construction of the new Combined Reception and Exit Offices and new weighbridges	Sun 18/8/24	Thu 21/11/24	96 days	45	0
47	Relocate the existing CWDCMIS to the new CREO office	Fri 22/11/24	Sun 1/12/24	10 days	46	0
48	Construction Concrete Paved Roads to the new Combined Reception and Exit	Sun 4/8/24	Sun 1/12/24	120 days		
49	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		0
50	Construction of the concrete pave roads	Sun 18/8/24	Sun 1/12/24	106 days	49	0
51	New Integrated Public Fill Reception Platform	Sun 4/8/24	Sun 1/12/24	120 days		
52	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		0
53	Construction of the New Integrated Public Fill Reception Platform	Sun 18/8/24	Sun 1/12/24	106 days	52	0
54	Bituminous Materials paved Roads to the Integrated Public Fill Reception Platform	Sun 4/8/24	Sun 1/12/24	120 days		
55	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		0
56	Construction of the Bituminous Materials paved Roads to the Integrated Public Fill Reception	Sun 18/8/24	Sun 1/12/24	106 days	55	0
57	Relocation of Dewatering Plant and construction of reinforced concrete slurry receiving tank	Sun 4/8/24	Thu 30/1/25	180 days		
58	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		
59	Relocation of the 3 number of existing Dewatering Plant phase by phase	Sun 18/8/24	Thu 16/1/25	152 days	58	
60	Construction of reinforced concrete slurry receiving tank	Sun 18/8/24	Thu 16/1/25	152 days	58	
61	Demolish the existing structures at the Dewatering Plant	Fri 17/1/25	Thu 30/1/25	14 days	59	
62	Construction ,Relocation and demolition of Wash Hous	Sun 4/8/24	Sun 1/12/24	120 days		
63	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		
64	Construction of a new wash house	Sun 18/8/24	Sun 24/11/24	99 days	63	
65	Demolish the existing Wash House A1	Mon 25/11/24	Sun 1/12/24	7 days	64	
66	Relocate the existing Wash House A2 and Wash House A3 to new location	Sun 18/8/24	Sun 1/12/24	106 days	63	
67	Wheel Washing Bays	Sun 4/8/24	Sun 1/12/24	120 days		
68	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		
69	Construction of 2 nos of Wheel Washing Bays	Sun 18/8/24	Sun 24/11/24	99 days	68	
70	Demolish the existing wash bays	Mon 25/11/24	Sun 1/12/24	7 days	69	
71	Construction of new Recorder Houses	Sun 4/8/24	Sun 1/12/24	120 days		
72	Preparing and submitting a proposal to project manager for acceptance	Sun 4/8/24	Sat 17/8/24	14 days		
73	Construction of two new Recorder Houses	Sun 18/8/24	Sun 24/11/24	99 days	72	



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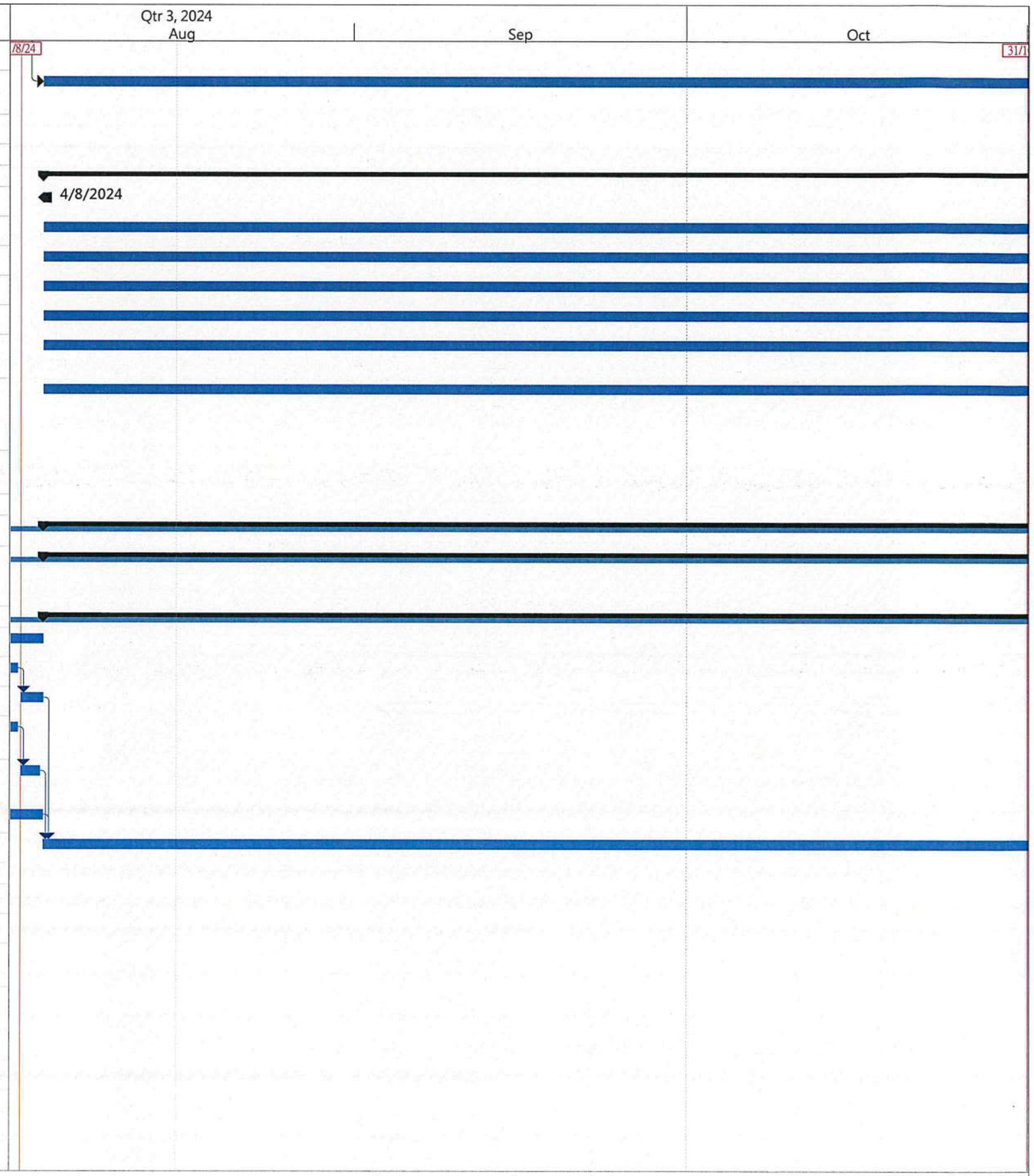
Summary	Inactive Milestone	Manual Summary Rollup	External Tasks		

ID	Task Name	Start	Finish	Duration	Predecesso	time risk allowances
74	Demolition of two existing recorder houses A1 and A4	Mon 25/11/24	Sun 1/12/24	7 days	73	
75	Collection and delivery of Public Fill by barges from the Chai Wan and Mui Wo Barging Points to the TKO Area 137 Fill Bank within Portion A of the Site	Sun 4/8/24	Sat 31/7/27	1092 days	26SS	
76	Handing over the facilities at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site to the Client.	Sat 31/7/27	Sat 31/7/27	1 day		
77	Planned Completion Date (Section 1)	Sat 31/7/27	Sat 31/7/27	1 day		
78	**Section 2 of the Works - Tuen Mun Area 38 Fill Bank**	**Sun 4/8/24**	**Sat 31/7/27**	**1092 days**		
79	Taking over the existing facilities at the Tuen Mun Area 38 Fill Bank within Portion B of the Site	Sun 4/8/24	Sun 4/8/24	1 day		0
80	Operation of the Tuen Mun Area 38 Fill Bank within Portion B of the Site	Sun 4/8/24	Sat 31/7/27	1092 days		0
81	Operation and maintenance of the surveillance system within Portion B of the Site	Sun 4/8/24	Sat 31/7/27	1092 days		0
82	Operation and maintenance of the existing tipping halls at the Tuen Mun Area 38 Fill Bank within Portion B of the	Sun 4/8/24	Sat 31/7/27	1092 days		0
83	Operation and Maintenance of the Crushing Plant at the Tuen Mun Area 38 Fill Bank within Portion B of the Site	Sun 4/8/24	Sat 31/7/27	1092 days		0
84	Operation and maintenance of glass cullet storage compartment at the Tuen Mun Area 38 Fill Bank within Portion B of the Site	Sun 4/8/24	Sat 31/7/27	1092 days		0
85	Collection of fill materials delivered by Others vide marine transportation through the berthing facility within the site at Tsang Tsui and disposal of the fill materials collected to areas within the Site at Tsang Tsui as agreed by the Project Manager.	Sun 4/8/24	Sat 31/7/27	1092 days		0
86	Handing over the facilities at the Tuen Mun Area 38 Fill Bank within Portion B of the Site and at Tsang Tsui within Portion C of the Site to the Client.	Sat 31/7/27	Sat 31/7/27	1 day		0
87	Planned Completion Date (Section 2)	Sat 31/7/27	Sat 31/7/27	1 day		
88	**Section 3 of the Works - Designated Reclamation Sites in the Mainland**	**Sun 4/8/24**	**Sat 31/7/27**	**1092 days**		
89	Collection and delivery of 34 million tonnes of Public Fill by vessels from the Tseung Kwan O Area 137 Fill Bank and the Tuen Mun Area 38 Fill Bank to the Designated Reclamation Sites in the Mainland.	Sun 4/8/24	Sat 31/7/27	1092 days		
90	Deliver of public fill to mainland in year 2024	**Sun 4/8/24**	**Tue 31/12/24**	**150 days**		
91	Installing and arranging Front End Mobile Unit (FEMU) onto the proposed vessels	Thu 11/7/24	Sat 3/8/24	24 days		0
92	Submitting application documents to EPD for application of dumping permits	Thu 1/8/24	Thu 1/8/24	1 day		
93	Obtaining the dumping permit from EPD (assumed on 30/09/2024)	Fri 2/8/24	Sat 3/8/24	2 days	92	0
94	Submitting application documents to the Employer for the application of the dumping permit of waste at the sea	Thu 1/8/24	Thu 1/8/24	1 day		
95	Obtaining the dumping permits from Ministry of Ecology and Environment of the People's Republic of China through the Employer (assumed on	Fri 2/8/24	Sat 3/8/24	2 days	94	0
96	Obtaining all necessary permits, licenses, approvals and consents	Thu 1/8/24	Sat 3/8/24	3 days		0
97	Collection and delivery of 5,000,000 tonnes of Public Fill	Sun 4/8/24	Tue 31/12/24	150 days	93,95,96	2
98	Deliver of public fill to mainland in year 2025	**Wed 1/1/25**	**Wed 31/12/25**	**365 days**		
99	Submitting application documents to EPD for application of dumping permits	Wed 18/12/24	Wed 18/12/24	1 day		
100	Obtaining the dumping permit from EPD (assumed on 31/12/24)	Thu 19/12/24	Tue 31/12/24	13 days	99	0
101	Submitting application documents to the Employer for the application of the dumping permit of waste at the sea	Wed 20/11/24	Wed 20/11/24	1 day		
102	Obtaining the dumping permits from Ministry of Ecology and Environment of the People's Republic of China through the Employer (assumed on	Thu 21/11/24	Tue 31/12/24	41 days	101	0
103	Obtaining all necessary permits, licenses, approvals and consents	Sat 21/12/24	Tue 31/12/24	11 days		0
104	Collection and delivery of 11,400,000 tonnes of Public Fill	Wed 1/1/25	Wed 31/12/25	365 days	103,100,102	2
105	Deliver of public fill to mainland in year 2026	**Thu 1/1/26**	**Thu 31/12/26**	**365 days**		
106	Submitting application documents to EPD for application of dumping permits	Thu 18/12/25	Thu 18/12/25	1 day		
107	Obtaining the dumping permit from EPD (assumed on 31/12/25)	Fri 19/12/25	Wed 31/12/25	13 days	106	0



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Progress
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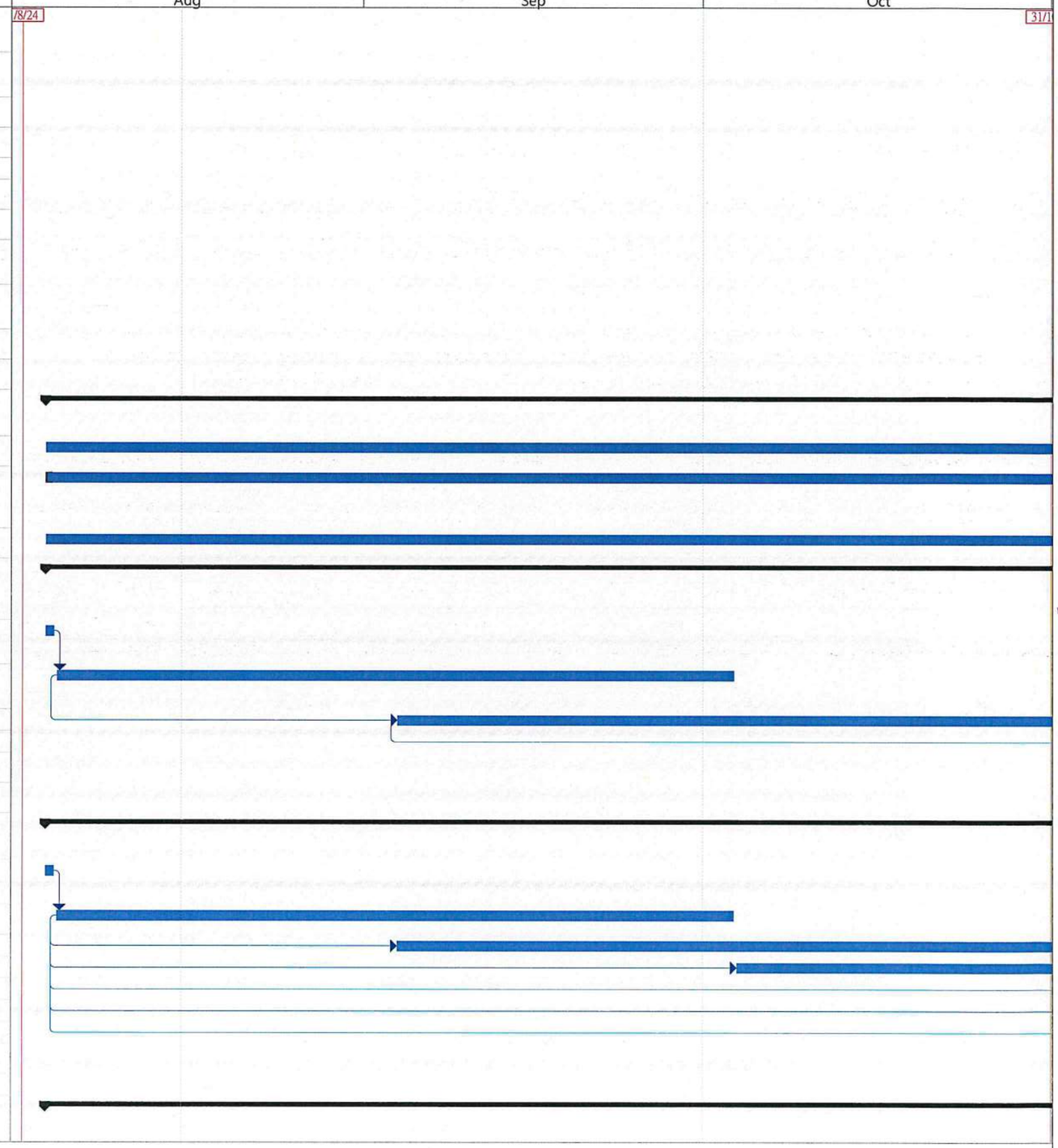
108	Submitting application documents to the Employer for the application of the dumping permit of waste at the sea	Thu 20/11/25	Thu 20/11/25	1 day		
109	Obtaining the dumping permits from Ministry of Ecology and Environment of the People's Republic of China through the Employer (assumed on	Fri 21/11/25	Wed 31/12/25	41 days	108	0
110	Obtaining all necessary permits, licenses, approvals and consents	Sun 21/12/25	Wed 31/12/25	11 days		0
111	Collection and delivery of 11,400,000 tonnes of Public Fill	Thu 1/1/26	Thu 31/12/26	365 days	107,109,110	2
112	**Deliver of public fill to mainland in year 2027**	**Fri 1/1/27**	**Sat 31/7/27**	**212 days**		
113	Submitting application documents to EPD for application of dumping permits	Fri 18/12/26	Fri 18/12/26	1 day		
114	Obtaining the dumping permit from EPD (assumed on 31/12/26)	Sat 19/12/26	Thu 31/12/26	13 days	113	0
115	Submitting application documents to the Employer for the application of the dumping permit of waste at the sea	Fri 20/11/26	Fri 20/11/26	1 day		
116	Obtaining the dumping permits from Ministry of Ecology and Environment of the People's Republic of China through the Employer (assumed on	Sat 21/11/26	Thu 31/12/26	41 days	115	0
117	Obtaining all necessary permits, licenses, approvals and consents	Mon 21/12/26	Thu 31/12/26	11 days		0
118	Collection and delivery of 6,200,000 tonnes of Public Fill	Fri 1/1/27	Sat 31/7/27	212 days	114,116,117	2
119	Removal, excavation and deposition of stockpiled and/or deposited Public Fill within the Designated Reclamation Sites in the Mainland	Sun 4/8/24	Sat 31/7/27	1092 days		
120	Removal, excavation and deposition of stockpiled and/or deposited public fill	Sun 4/8/24	Sat 31/7/27	1092 days		0
121	Operation and maintenance of the existing navigation channel and turning basins in association with the existing berthing facility at Zone E of the Designated Reclamation Sites in the Mainland.	Sun 4/8/24	Sat 31/7/27	1092 days		
122	Operation and maintenance of the existing navigation channel and turning basins	Sun 4/8/24	Sat 31/7/27	1092 days		0
123	Design, construction, operation and maintenance of the new navigation channel and turning basins in association with the new berthing facility at Zone B of the Designated Reclamation Sites in the Mainland.	Sun 4/8/24	Sat 31/7/27	1092 days		
124	Obtaining the dumping permits from Ministry of Ecology and environment of the People's Republic of China through the Employer for Zone B	Sun 4/8/24	Sun 4/8/24	1 day		0
125	Design submission of new navigation channel and turning basins and obtaining all necessary design approvals and consents	Mon 5/8/24	Thu 3/10/24	60 days	124	0
126	Construction of the new navigation channel	Wed 4/9/24	Fri 31/1/25	150 days	125SS+30 da	2
127	Construction of the new turning basins	Tue 3/12/24	Fri 31/1/25	60 days	126SS+90 da	1
128	Obtaining the construction completion certificate of new navigation channel and turning basins	Sat 1/2/25	Sat 1/2/25	1 day	127	0
129	Operation and maintenance of the new navigation channel and turning basins	Sun 2/2/25	Sat 31/7/27	910 days	128	0
130	Design, construction, operation and maintenance of new berthing facility at Zone B of the Designated Reclamation Sites in the Mainland.	Sun 4/8/24	Sat 31/7/27	1092 days		
131	Obtaining the dumping permits from Ministry of Ecology and environment of the People's Republic of China through the Employer for Zone B	Sun 4/8/24	Sun 4/8/24	1 day		
132	Design submission of new berthing facilities and obtaining all necessary design approvals and consents	Mon 5/8/24	Thu 3/10/24	60 days	131	0
133	Precasting cassion units and coping units	Wed 4/9/24	Mon 2/12/24	90 days	132SS+30 da	1
134	Construction of rubber mound foundation	Fri 4/10/24	Wed 1/1/25	90 days	132SS+60 da	2
135	Installation of cassion units and coping units	Sun 3/11/24	Fri 31/1/25	90 days	132SS+90 da	2
136	Backfilling and in-situ concreting	Tue 3/12/24	Fri 31/1/25	60 days	132SS+120 c	2
137	Installation of rubber fenders and bollards	Thu 2/1/25	Fri 31/1/25	30 days	132SS+150 c	2
138	Obtaining the construction completion certificate new berthing facilities	Sat 1/2/25	Sat 1/2/25	1 day	137	0
139	Operation and maintenance of new berthing facilities	Sun 2/2/25	Sat 31/7/27	910 days	138	
140	Design and construction of seawalls (approximate 4,400m) in association with new berthing facility at Zone B of the Designated Reclamation Sites in the Mainland.	Sun 4/8/24	Sat 31/7/27	1092 days		



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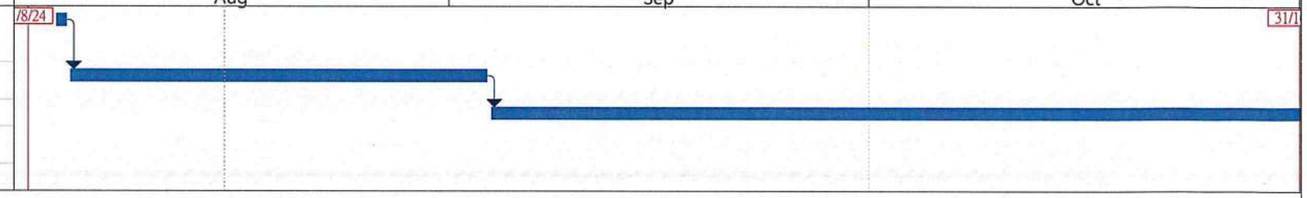
141	Obtaining the permits from Ministry of Ecology and environment of the People's Republic of China through the Employer for Zone B	Sun 4/8/24	Sun 4/8/24	1 day		0
142	Design submission of seawalls and obtaining all necessary design approvals and consents	Mon 5/8/24	Tue 3/9/24	30 days	141	0
143	Construction of seawalls (approx. 4400m)	Wed 4/9/24	Fri 30/7/27	1060 days	142	2
144	Obtaining the construction completion certificate of seawalls	Sat 31/7/27	Sat 31/7/27	1 day	143	0
145	Planned Completion Date (Section 3)	Sat 31/7/27	Sat 31/7/27	1 day		



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Appendix H

Weekly ET's Site Inspection Record

Inspection Date : 3/10/2024

Time : 10:00

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / Breeze / Strong

Temperature : 28°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:			
Name:	CK Ho	W. L. Kwok	Chris Ho
Title	Asow	E.O	ET

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Hoarding of at least 2.4m high shall be erected along the site boundary adjacent to Lung Mun Road, River Trade Terminal and EcoPark.	√			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
▪ Water sprays shall be provided and used to dampen materials.	√			
▪ All stockpile of aggregate or soil should be enclosed or covered, and water applied in dry or windy condition.	√			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin.	√			
▪ Unpaved areas should be watered regularly to avoid dust generation.	√			
▪ The designated site main haul road shall be paved with concrete, bituminous materials, hardcores or metal plates and kept regular watering.	√			
▪ The public road around the site entrance should be kept clean and free from dust.	√			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Tipping halls at the waterfront provided for transfer of public fill from trucks to barges shall be of enclosed design with top and 3-sides enclosed to prevent spillage of material into marine water.	√			
▪ Vehicle and equipment should be switched off while not in use.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√			
▪ Full implementation of on-shore power supply for marine vessels while at berth.			√	
▪ Increase of the use of internal trucks with at least Euro VI standard to at least 57% of the internal truck fleet.	√			
Noise Impact				
• The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
▪ The constructions works should be scheduled to minimize noise nuisance.	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪ Air compressors and hand held breakers should have noise labels.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Compressors and generators should operate with door closed.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			
Water Quality				
▪ Drainage system and the sand / silt removal facilities should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The storm water intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√			
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			
Landscape and Visual				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	√			
▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at bleast 3m above soil level.	√			
▪ Lighting shall be set to minimise night-time glare.	√			
Waste Management				
Construction Waste Management				
▪ Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	√			
▪ Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	√			
▪ Mud and debris should be removed from waterworks access roads and associated drainage systems.	√			
▪ Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	√			
▪ 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.	√			
▪ Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	√			
▪ In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	√			
▪ Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	√			
Chemical Waste Management				
▪ It is required to register as a chemical waste producer if chemical wastes would be produced from the 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.	√			
▪ After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	√			
▪ Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	√			
▪ Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	√			
▪ Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	√			
▪ The designated chemical waste storage area should only be used for storing chemical wastes.	√			
▪ The set-up of chemical waste storage area should				
▪ Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	√			
▪ Be enclosed on at least 3 sides and securely closed.	√			
▪ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Have adequate ventilation.	√			
▪ Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	√			
▪ Be arranged so that incompatible materials are adequately separated.	√			
▪ Warning panels should be displayed at the waste storage area.	√			
▪ Waste storage area should be cleaned and maintained regularly.	√			
▪ Chemical waste should be transported regularly by a registered chemical waste collector to a facility licensed to receive chemical waste.	√			
▪ All generators, fuel and oil storage should be within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant should be prevented.	√			
▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	√			
▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	√			
Good Site Practices				
▪ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	√			
▪ Training of site personnel in proper waste management and chemical handling procedures should be provided.	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	√			
• The Environmental Permit should be displaced conspicuously on site.	√			
• Construction noise permits should be posted at site entrance or available for site inspection.			√	
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪ Chemical storage area provided with lock and located on sealed areas.	√			
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√			
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√			
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√			
▪ To encourage collection of aluminium cans by individual collectors.	√			
▪ Separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	√			
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date

Remark

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative		03 October 2024

Inspection Date : 10 – 10 - 2024

Time : 1020

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / Breeze / Strong

Temperature : 31°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:			IEC Rep-王
Name:	CKH	W. L. Kwok	IEC Rep-王 Chris
Title	Agent	E.O	IEC Rep-王 ET

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Hoarding of at least 2.4m high shall be erected along the site boundary adjacent to Lung Mun Road, River Trade Terminal and EcoPark.	√			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
• Water sprays shall be provided and used to dampen materials.	√			
▪ All stockpile of aggregate or soil should be enclosed or covered, and water applied in dry or windy condition.	√			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin.	√			
▪ Unpaved areas should be watered regularly to avoid dust generation.	√			
▪ The designated site main haul road shall be paved with concrete, bituminous materials, hardcores or metal plates and kept regular watering.	√			
▪ The public road around the site entrance should be kept clean and free from dust.	√			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Tipping halls at the waterfront provided for transfer of public fill from trucks to barges shall be of enclosed design with top and 3-sides enclosed to prevent spillage of material into marine water.	√			
▪ Vehicle and equipment should be switched off while not in use.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
• Open burning should be prohibited.	√			
▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√			
▪ Full implementation of on-shore power supply for marine vessels while at berth.			√	
▪ Increase of the use of internal trucks with at least Euro VI standard to at least 57% of the internal truck fleet.	√			
Noise Impact				
• The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
• The constructions works should be scheduled to minimize noise nuisance.	√			
• Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
• Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪ Air compressors and hand held breakers should have noise labels.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Compressors and generators should operate with door closed.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			
Water Quality				
▪ Drainage system and the sand / silt removal facilities should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The storm water intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√			
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			
Landscape and Visual				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	√			
▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at bleast 3m above soil level.	√			
▪ Lighting shall be set to minimise night-time glare.	√			
Waste Management				
Construction Waste Management				
▪ Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	√			
▪ Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	√			
▪ Mud and debris should be removed from waterworks access roads and associated drainage systems.	√			
▪ Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	√			
▪ 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.	√			
▪ Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	√			
▪ In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	√			
▪ Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	√			
Chemical Waste Management				
▪ It is required to register as a chemical waste producer if chemical wastes would be produced from the 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.	√			
▪ After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	√			
▪ Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	√			
▪ Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	√			
▪ Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	√			
▪ The designated chemical waste storage area should only be used for storing chemical wastes.	√			
▪ The set-up of chemical waste storage area should				
▪ Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	√			
▪ Be enclosed on at least 3 sides and securely closed.	√			
▪ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
• Have adequate ventilation.	√			
• Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	√			
• Be arranged so that incompatible materials are adequately separated.	√			
• Warning panels should be displayed at the waste storage area.	√			
• Waste storage area should be cleaned and maintained regularly.	√			
• Chemical waste should be transported regularly by a registered chemical waste collector to a facility licensed to receive chemical waste.	√			
• All generators, fuel and oil storage should be within bundle areas.	√			
• Oil leakage from machinery, vehicle and plant should be prevented.	√			
• In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	√			
• The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	√			
Good Site Practices				
• Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	√			
• Training of site personnel in proper waste management and chemical handling procedures should be provided.	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	√			
• The Environmental Permit should be displaced conspicuously on site.	√			
• Construction noise permits should be posted at site entrance or available for site inspection.			√	
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
• Chemical storage area provided with lock and located on sealed areas.	√			
• All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√			
• Any unused chemicals or those with remaining functional capacity should be recycled.	√			
• Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√			
• To encourage collection of aluminium cans by individual collectors.	√			
• Separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	√			
• A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date

Remark

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative		10 October 2024

Inspection Date : 17/10/24

Time : 10:00

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / Breeze / Strong

Temperature : 28°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:	[signature]	[signature]	Mak
Name:	CKN	W. L. KWOK	Mak Kei Wai
Title	Alan	E.O	E.T

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Hoarding of at least 2.4m high shall be erected along the site boundary adjacent to Lung Mun Road, River Trade Terminal and EcoPark.	√			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
▪ Water sprays shall be provided and used to dampen materials.	√			
▪ All stockpile of aggregate or soil should be enclosed or covered, and water applied in dry or windy condition.	√			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin.	√			
▪ Unpaved areas should be watered regularly to avoid dust generation.	√			
▪ The designated site main haul road shall be paved with concrete, bituminous materials, hardcores or metal plates and kept regular watering.	√			
▪ The public road around the site entrance should be kept clean and free from dust.	√			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Tipping halls at the waterfront provided for transfer of public fill from trucks to barges shall be of enclosed design with top and 3-sides enclosed to prevent spillage of material into marine water.	√			
▪ Vehicle and equipment should be switched off while not in use.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√			
▪ Full implementation of on-shore power supply for marine vessels while at berth.			√	
▪ Increase of the use of internal trucks with at least Euro VI standard to at least 57% of the internal truck fleet.	√			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
▪ The constructions works should be scheduled to minimize noise nuisance.	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪ Air compressors and hand held breakers should have noise labels.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Compressors and generators should operate with door closed.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			
Water Quality				
▪ Drainage system and the sand / silt removal facilities should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The storm water intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√			
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			
Landscape and Visual				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	√			
▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at bleast 3m above soil level.	√			
▪ Lighting shall be set to minimise night-time glare.	√			
Waste Management				
Construction Waste Management				
▪ Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	√			
▪ Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	√			
▪ Mud and debris should be removed from waterworks access roads and associated drainage systems.	√			
▪ Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	√			
▪ 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.	√			
▪ Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	√			
▪ In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	√			
▪ Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	√			
Chemical Waste Management				
▪ It is required to register as a chemical waste producer if chemical wastes would be produced from the 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.	√			
▪ After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	√			
▪ Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	√			
▪ Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	√			
▪ Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	√			
▪ The designated chemical waste storage area should only be used for storing chemical wastes.	√			
▪ The set-up of chemical waste storage area should				
▪ Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	√			
▪ Be enclosed on at least 3 sides and securely closed.	√			
▪ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Have adequate ventilation.	√			
▪ Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	√			
▪ Be arranged so that incompatible materials are adequately separated.	√			
▪ Warning panels should be displayed at the waste storage area.	√			
▪ Waste storage area should be cleaned and maintained regularly.	√			
▪ Chemical waste should be transported regularly by a registered chemical waste collector to a facility licensed to receive chemical waste.	√			
▪ All generators, fuel and oil storage should be within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant should be prevented.	√			
▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	√			
▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	√			
Good Site Practices				
▪ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	√			
▪ Training of site personnel in proper waste management and chemical handling procedures should be provided.	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	√			
• The Environmental Permit should be displaced conspicuously on site.	√			
• Construction noise permits should be posted at site entrance or available for site inspection.			√	
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪ Chemical storage area provided with lock and located on sealed areas.	√			
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√			
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√			
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√			
▪ To encourage collection of aluminium cans by individual collectors.	√			
▪ Separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	√			
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date

Remark

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative		17 October 2024

Inspection Date : 25/10/2024

Time : 10:00

Weather : (Sunny) / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / (Light) / Breeze / Strong

Temperature : 26°c

Humidity : High / Moderate / (Low)

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:			
Name:	T Yko	W.L. Kwok	To Kwan Yin
Title	Alow	E.O	E.T

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Hoarding of at least 2.4m high shall be erected along the site boundary adjacent to Lung Mun Road, River Trade Terminal and EcoPark.	√			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
▪ Water sprays shall be provided and used to dampen materials.		√		Item 1
▪ All stockpile of aggregate or soil should be enclosed or covered, and water applied in dry or windy condition.	√			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin.	√			
▪ Unpaved areas should be watered regularly to avoid dust generation.	√			
▪ The designated site main haul road shall be paved with concrete, bituminous materials, hardcores or metal plates and kept regular watering.	√			
▪ The public road around the site entrance should be kept clean and free from dust.	√			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Tipping halls at the waterfront provided for transfer of public fill from trucks to barges shall be of enclosed design with top and 3-sides enclosed to prevent spillage of material into marine water.	√			
▪ Vehicle and equipment should be switched off while not in use.	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪ Open burning should be prohibited.	√			
▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√			
▪ Full implementation of on-shore power supply for marine vessels while at berth.			√	
▪ Increase of the use of internal trucks with at least Euro VI standard to at least 57% of the internal truck fleet.	√			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
▪ The constructions works should be scheduled to minimize noise nuisance.	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪ Air compressors and hand held breakers should have noise labels.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Compressors and generators should operate with door closed.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			
Water Quality				
▪ Drainage system and the sand / silt removal facilities should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The storm water intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√			
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			
Landscape and Visual				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	√			
▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at bleast 3m above soil level.	√			
▪ Lighting shall be set to minimise night-time glare.	√			
Waste Management				
Construction Waste Management				
▪ Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	√			
▪ Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	√			
▪ Mud and debris should be removed from waterworks access roads and associated drainage systems.	√			
▪ Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	√			
▪ 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.	√			
▪ Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	√			
▪ In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	√			
▪ Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	√			
Chemical Waste Management				
▪ It is required to register as a chemical waste producer if chemical wastes would be produced from the 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.	√			
▪ After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	√			
▪ Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	√			
▪ Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	√			
▪ Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	√			
▪ The designated chemical waste storage area should only be used for storing chemical wastes.	√			
▪ The set-up of chemical waste storage area should				
▪ Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	√			
▪ Be enclosed on at least 3 sides and securely closed.	√			
▪ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Have adequate ventilation.	√			
▪ Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	√			
▪ Be arranged so that incompatible materials are adequately separated.	√			
▪ Warning panels should be displayed at the waste storage area.	√			
▪ Waste storage area should be cleaned and maintained regularly.	√			
▪ Chemical waste should be transported regularly by a registered chemical waste collector to a facility licensed to receive chemical waste.	√			
• All generators, fuel and oil storage should be within bundle areas.	√			
▪ Oil leakage from machinery, vehicle and plant should be prevented.	√			
• In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	√			
• The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	√			
Good Site Practices				
▪ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	√			
▪ Training of site personnel in proper waste management and chemical handling procedures should be provided.	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	√			
• The Environmental Permit should be displaced conspicuously on site.	√			
• Construction noise permits should be posted at site entrance or available for site inspection.			√	
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪ Chemical storage area provided with lock and located on sealed areas.	√			
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√			
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√			
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√			
▪ To encourage collection of aluminium cans by individual collectors.	√			
▪ Separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	√			
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Dusty environment was observed at the bituminous material zone.	To provide water spraying properly	241025_001	Yes	2024-10-30

Remark

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative		25 October 2024

Photo

 Photo 241025_001		

Inspection Date : 30/10/24

Time : 14:00

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy

Wind : Calm / Light / Breeze / Strong

Temperature : 28°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:	[signature]	[signature]	Mak
Name:	CKK	W.L. KWOK	Mak Kei Wai
Title	AIQW	E.O	E.T

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
• The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
• Hoarding of at least 2.4m high shall be erected along the site boundary adjacent to Lung Mun Road, River Trade Terminal and EcoPark.	√			
• Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
• Water sprays shall be provided and used to dampen materials.	√			
• All stockpile of aggregate or soil should be enclosed or covered, and water applied in dry or windy condition.	√			
• Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin.	√			
• Unpaved areas should be watered regularly to avoid dust generation.	√			
• The designated site main haul road shall be paved with concrete, bituminous materials, hardcores or metal plates and kept regular watering.	√			
• The public road around the site entrance should be kept clean and free from dust.	√			
• Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
• Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
• The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
• Tipping halls at the waterfront provided for transfer of public fill from trucks to barges shall be of enclosed design with top and 3-sides enclosed to prevent spillage of material into marine water.	√			
• Vehicle and equipment should be switched off while not in use.	√			
• All plant and equipment should be well maintained e.g. without black smoke emission.	√			
• Open burning should be prohibited.	√			
• Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√			
• Full implementation of on-shore power supply for marine vessels while at berth.			√	
• Increase of the use of internal trucks with at least Euro VI standard to at least 57% of the internal truck fleet.	√			
Noise Impact				
• The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
• The constructions works should be scheduled to minimize noise nuisance.	√			
• Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
• Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
• Air compressors and hand held breakers should have noise labels.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Compressors and generators should operate with door closed.	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√			
Water Quality				
▪ Drainage system and the sand / silt removal facilities should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√			
▪ The storm water intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√			
▪ The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√			
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√			
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√			
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	√			
Landscape and Visual				
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	√			
▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	√			
▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at bleast 3m above soil level.	√			
▪ Lighting shall be set to minimise night-time glare.	√			
Waste Management				
Construction Waste Management				
▪ Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	√			
▪ Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	√			
▪ Mud and debris should be removed from waterworks access roads and associated drainage systems.	√			
▪ Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	√			
▪ 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.	√			
▪ Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	√			
▪ In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	√			
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Chemical Waste Management				
▪ It is required to register as a chemical waste producer if chemical wastes would be produced from the 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.	√			
▪ After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	√			
▪ Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	√			
▪ Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	√			
▪ Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	√			
▪ The designated chemical waste storage area should only be used for storing chemical wastes.	√			
▪ The set-up of chemical waste storage area should				
▪ Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	√			
▪ Be enclosed on at least 3 sides and securely closed.	√			
▪ Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	√			

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
▪ Have adequate ventilation.	√			
▪ Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	√			
▪ Be arranged so that incompatible materials are adequately separated.	√			
• Warning panels should be displayed at the waste storage area.	√			
• Waste storage area should be cleaned and maintained regularly.	√			
▪ Chemical waste should be transported regularly by a registered chemical waste collector to a facility licensed to receive chemical waste.	√			
▪ All generators, fuel and oil storage should be within bundle areas.	√			
• Oil leakage from machinery, vehicle and plant should be prevented.	√			
▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	√			
▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	√			
Good Site Practices				
▪ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	√			
▪ Training of site personnel in proper waste management and chemical handling procedures should be provided.	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	√			
• The Environmental Permit should be displaced conspicuously on site.	√			
• Construction noise permits should be posted at site entrance or available for site inspection.			√	
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪ Chemical storage area provided with lock and located on sealed areas.	√			
▪ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	√			
▪ Any unused chemicals or those with remaining functional capacity should be recycled.	√			
▪ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	√			
▪ To encourage collection of aluminium cans by individual collectors.	√			
▪ Separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			
▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	√			
▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Followed up Item 1 on 25/10/2024, regular watering on dusty materials was provided.	--	241030_001	No	--

Remark

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative		30 October 2024

Photo

 Photo 241030_001		

Appendix I

Implementation Schedule of Mitigation Measures

Contract No.: CV/2023/10
Handling of Surplus Public Fill (2024-2027) - Tuen Mun Area 38 Fill Bank

Environmental Mitigation Implementation Schedule

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Air Quality					
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	All areas	√			
▪ Hoarding of at least 2.4m high shall be erected along the site boundary adjacent to Lung Mun Road, River Trade Terminal and EcoPark.	Site boundary	√			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	All areas	√			
▪ Water sprays shall be provided and used to dampen materials.	All areas	√			
▪ All stockpile of aggregate or soil should be enclosed or covered, and water applied in dry or windy condition.	All areas	√			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards and shall be covered by a clean tarpaulin.	All areas	√			
▪ Unpaved areas should be watered regularly to avoid dust generation.	Site Egress	√			
▪ The designated site main haul road shall be paved with concrete, bituminous materials, hardcores or metal plates and kept regular watering.	All haul roads	√			
▪ The public road around the site entrance should be kept clean and free from dust.	All areas	√			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	Site Egress	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	Site Egress	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	All areas	√			
▪ Tipping halls at the waterfront provided for transfer of public fill from trucks to barges shall be of enclosed design with top and 3-sides enclosed to prevent spillage of material into marine water.	Tipping halls	√			
▪ Vehicle and equipment should be switched off while not in use.	All areas	√			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	All areas	√			
▪ Open burning should be prohibited.	All areas	√			
▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	All areas	√			
▪ Full implementation of on-shore power supply for marine vessels while at berth.	Barging points		√		
▪ Increase of the use of internal trucks with at least Euro VI standard to at least 57% of the internal truck fleet.	All areas	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	All areas	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	All areas	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	All areas	√			
▪ Air compressors and hand held breakers should have noise labels.	All areas	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	All areas	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	All areas	√			
Water Quality					
▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.	All areas	√			
▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	All areas	√			
▪ The storm water intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	All areas	√			
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	All areas	√			
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	All areas		√		
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	Temporary Slopes	√			
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	All areas	√			
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	Wheel Washing facility	√			
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Site Egress	√			
▪ Sewage from toilets shall be discharged into a foul sewer, or chemical toilets shall be provided.	Site Office	√			
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	All areas	√			
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	All areas	√			
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	Along the seafront	√			
▪ A waste collection vessel shall be deployed to remove floating debris.	Along the seafront	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Landscape and Visual					
• The maximum stockpiling height at the fill bank shall be limited to a maximum of +65.2mPD.	All areas	√			
• Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	Completed slopes	√			
• Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	Completed slopes	√			
• *Casuarina equisetifolia* were planted as buffer tree along the northern perimeter of the Site. The height of *Casuarina equisetifolia* was maintained at least 3m above soil level.	Site boundary	√			
• Lighting shall be set to minimise night-time glare.	All areas	√			
Waste Management					
Construction Waste Management					
• Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	All areas	√			
• Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	All areas	√			
• Mud and debris should be removed from waterworks access roads and associated drainage systems.	All areas	√			
• 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.	All areas	√			
• Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	All areas	√			
• In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	All areas	√			
▪ Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	All areas	√			
Chemical Waste Management					
• It is required to register as a chemical waste producer if chemical wastes would be produced from the 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.	Waste Storage Area	√			
• After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	Waste Storage Area	√			
• Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	Waste Storage Area	√			
• Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	Waste Storage Area	√			
• Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	Waste Storage Area	√			
• The designated chemical waste storage area should only be used for storing chemical wastes.	Waste Storage Area	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
The set-up of chemical waste storage area should					
• Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	Waste Storage Area	√			
• Be enclosed on at least 3 sides and securely closed.	Waste Storage Area	√			
• Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	Waste Storage Area	√			
• Have adequate ventilation.	Waste Storage Area	√			
• Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	Waste Storage Area	√			
• Be arranged so that incompatible materials are adequately separated.	Waste Storage Area	√			
• Warning panels should be displayed at the waste storage area.	Waste Storage Area	√			
• Waste storage area should be cleaned and maintained regularly.	Waste Storage Area	√			
• Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	All areas	√			
• All generators, fuel and oil storage should be within bundle areas.	All areas	√			
• Oil leakage from machinery, vehicle and plant should be prevented.	All areas	√			
• In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	All areas	√			
• The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	All areas	√			
Good Site Practices					
• Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	All areas	√			
• Training of site personnel in proper waste management and chemical handling procedures should be provided.	All areas	√			
• Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	All areas	√			
• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	All areas	√			
• The Environmental Permit should be displaced conspicuously on site.	Site Entrance	√			
• Construction noise permits should be posted at site entrance or available for site inspection.	Site Entrance				√
• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	All areas	√			
• Chemical storage area provided with lock and located on sealed areas.	Chemical Storage Area	√			

Environmental Protection Measures	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
• All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	Chemical Storage Area	√			
• Any unused chemicals or those with remaining functional capacity should be recycled.	All areas	√			
• Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	All areas	√			
• To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	All areas	√			
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	All areas	√			
• A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.	All areas	√			
• Remove wastes in a timely manner.	All areas	√			

Appendix J

Site General Layout plan

LOCATION PLAN
LOCATION OF PORTION B OF THE SITE
SETTING-OUT DETAILS
HANDLING OF SURPLUS PUBLIC FILL (2016-2018)
PORTION B - TUEN MUN AREA 38 FILL BANK
FM10077-3
FILL MANAGEMENT DIVISION
CIVIL ENGINEERING OFFICE
CEDD
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
RIVER TRADE TERMINAL
EXISTING ACCESS ROAD BY OTHERS
EXISTING PORTION OF SITE OF STAGE 1
EDGE PARK PHASE 1
SKIN KING STEEL LTD.

Appendix K

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for 2024

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	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(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 ‘000kg)
Jan											
Feb											
Mar											
Apr											
May											
Jun											
Sub-total											
Jul											
Aug	0	0	0	0	0	0	135.63	0	0	0	60.35
Sep	0	0	0	0	0	0	111.48	0	0	0	245.58
Oct	0	0	0	0	0	0	161.81	0	0	0	131.52
Nov											
Dec											
Total	0	0	0	0	0	0	408.92	0	0	0	437.45

Notes:
(1) The performance targets are given in **PS Clause 1.108(14)**.
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
(4) The *Contractor* shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the *works*, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the *works* is equal to or exceeding 50,000 m^3.
(5) This waste flow table is under Contract (No. CV/2023/10) and the quantities of materials shown in the table is the sum of the material quantities generated by TKO137 Fill Bank and TM38 Fill Bank

Appendix L

Monitoring Schedule for the Coming Month

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Contract No. CV/2023/10 Handling of Surplus Public Fill (2024-2027)
Tuen Mun 38

Time Schedule for Impact Water Quality Monitoring (WQM), Impact Air Monitoring (1-hrTSP, 24-hr TSP), Weekly Site Inspection (Weekly SI) and Impact Noise Monitoring
November 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	1-Nov	2-Nov
	24-hr TSP	**1-hr TSP x 2** **NM** WQM Mid-ebb (10:00-11:30) Mid-flood (16:00-17:30)		**1-hr TSP x 1** **Set 24 hr (03/11)** **NM** **Weekly SI (am)** WQM Mid-ebb (11:30-13:00) Mid-flood (16:30-18:00)		WQM Mid-flood (08:00-09:30) Mid-ebb (12:30-14:00)
3-Nov	4-Nov	5-Nov	6-Nov	7-Nov	8-Nov	9-Nov
24-hr TSP WQM Mid-flood (09:00-10:30) Mid-ebb (14:00-15:30)		**1-hr TSP x 2** **NM**	WQM Mid-flood (09:30-11:00) Mid-ebb (15:30-17:00)	**1-hr TSP x 1** **NM** **Weekly SI (am)**		**24-hr TSP** WQM Mid-ebb (07:30-09:00) Mid-flood (13:30-15:00)
10-Nov	11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov
		1-hr TSP x 2 **NM** WQM Mid-ebb (09:00-10:30) Mid-flood (15:00-16:30)		**1-hr TSP x 1** **Set 24 hr (15/11)** **NM** **Weekly SI (am)** WQM Mid-ebb (10:30-12:00) Mid-flood (15:30-17:00)	**24-hr TSP**	**1-hr TSP x 2** WQM Mid-flood (08:00-09:30) Mid-ebb (12:30-14:00)
17-Nov	18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov
	WQM Mid-flood (09:00-10:30) Mid-ebb (13:30-15:00)	**1-hr TSP x 1** **NM**		**24-hr TSP** **NM** **Weekly SI (am)** WQM Mid-ebb (06:30-08:00) Mid-flood (10:30-12:00)		**1-hr TSP x 2** WQM Mid-ebb (08:00-09:30) Mid-flood (13:00-14:30)
24-Nov	25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov
		1-hr TSP x 1 **Set 24 hr (27/11)** **NM** WQM Mid-ebb (09:00-10:30) Mid-flood (15:00-16:30)	**24-hr TSP**	**1-hr TSP x 2** **NM** **Weekly SI (am)** WQM Mid-ebb (10:30-12:00) Mid-flood (15:30-17:00)		**1-hr TSP x 1** **Set 24 hr (09/12)** WQM Mid-ebb (12:00-13:30) Mid-flood (16:00-17:30)

Remarks:
1. The monitoring schedule may be changed due to unforeseen circumstances such as adverse weather.

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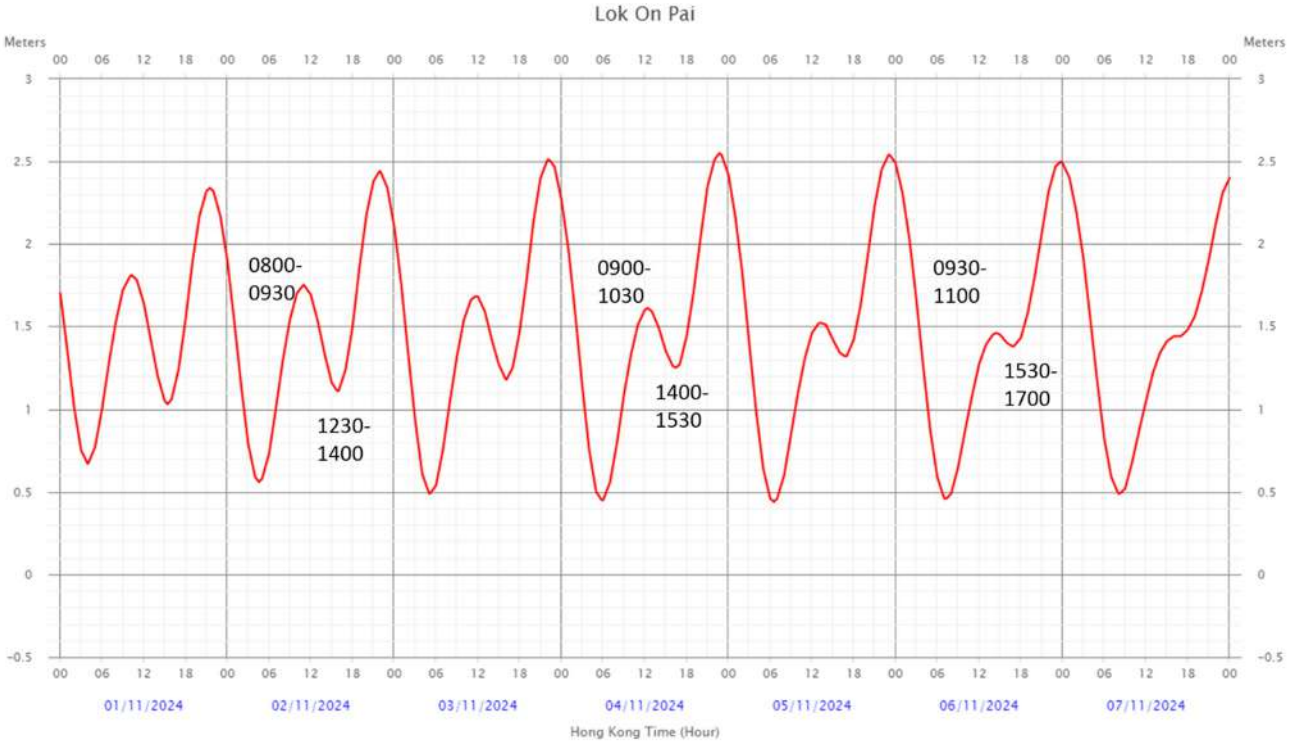
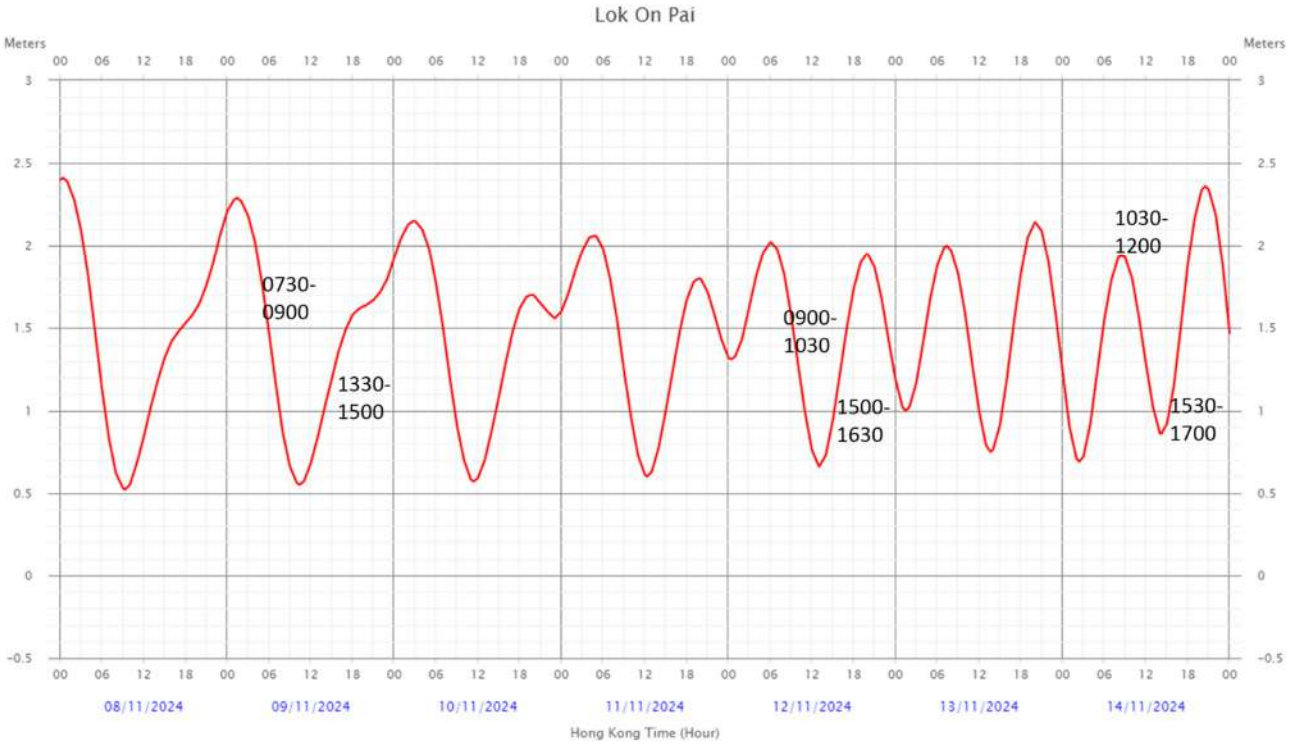
Contract No. CV/2023/10 Handling of Surplus Public Fill (2024-2027)
Tuen Mun 38

Predicted tide schedule from the Hong Kong Observatory for Impact Water Quality Monitoring (WQM)

November 2024





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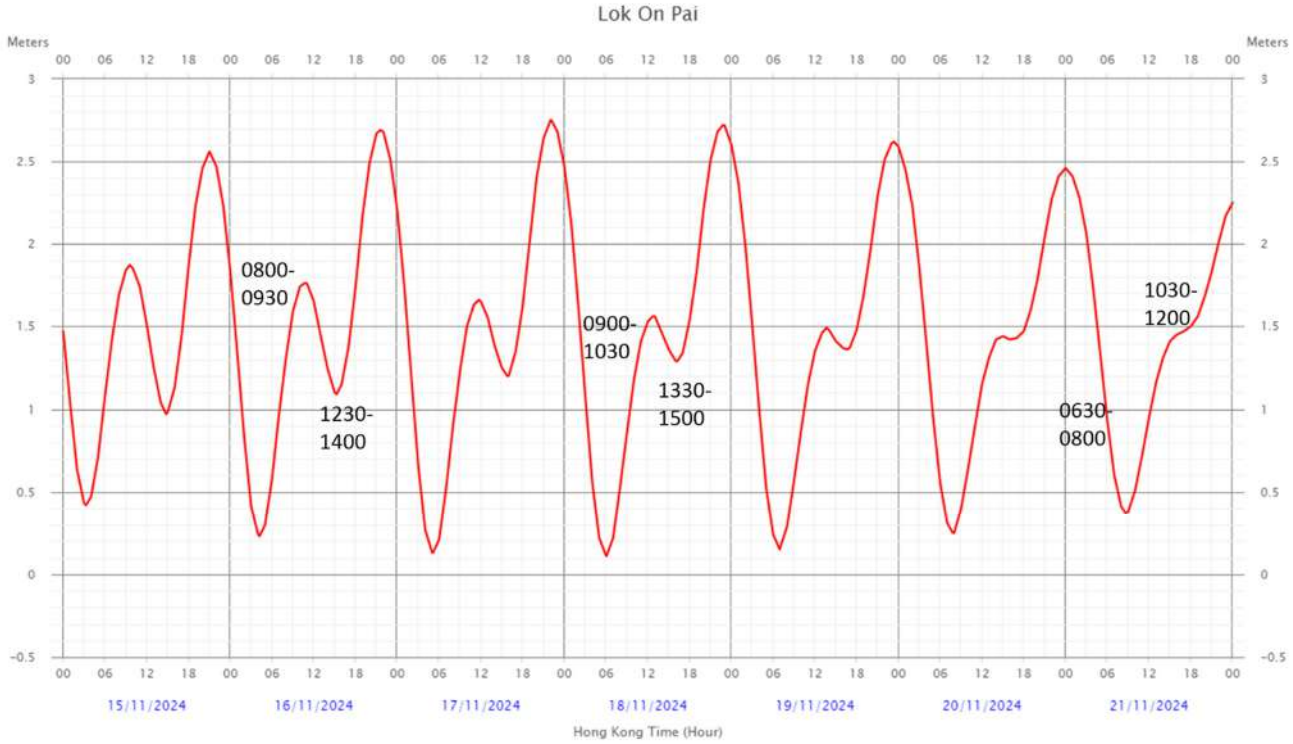
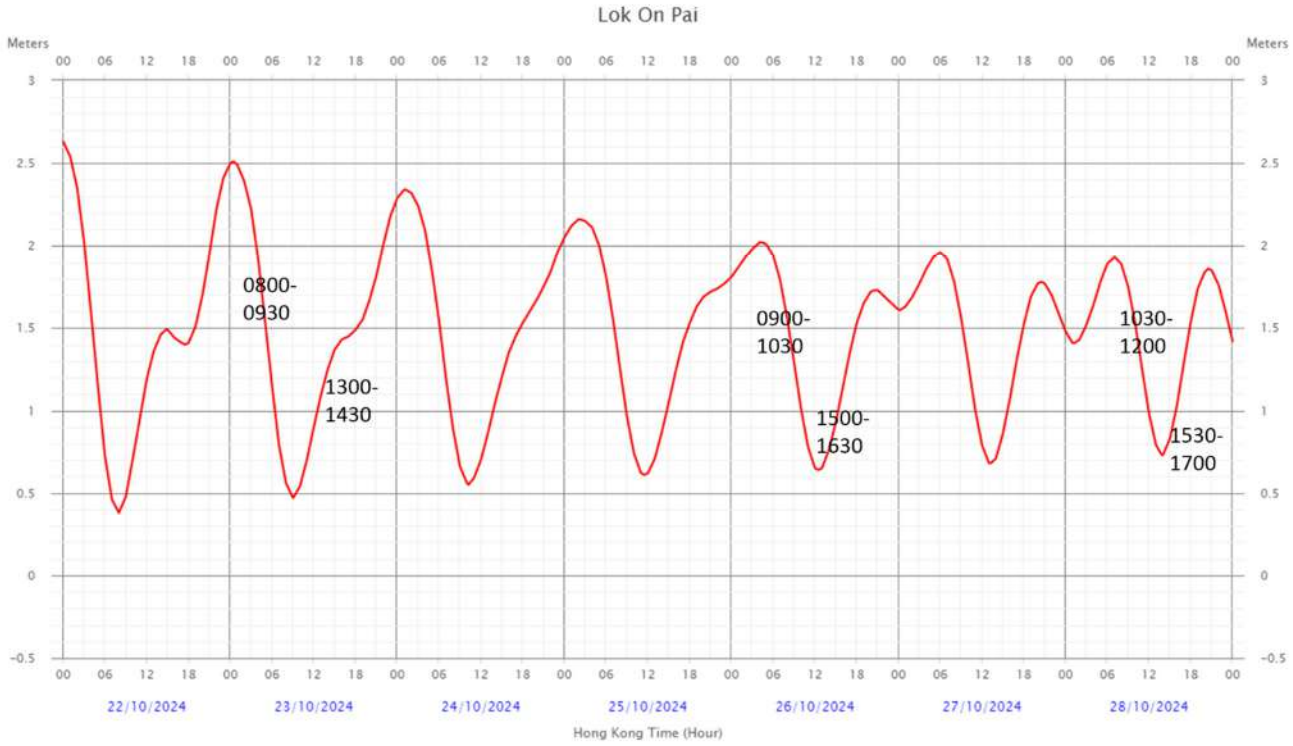
Contract No. CV/2023/10 Handling of Surplus Public Fill (2024-2027)
Tuen Mun 38

Predicted tide schedule from the Hong Kong Observatory for Impact Water Quality Monitoring (WQM)

November 2024





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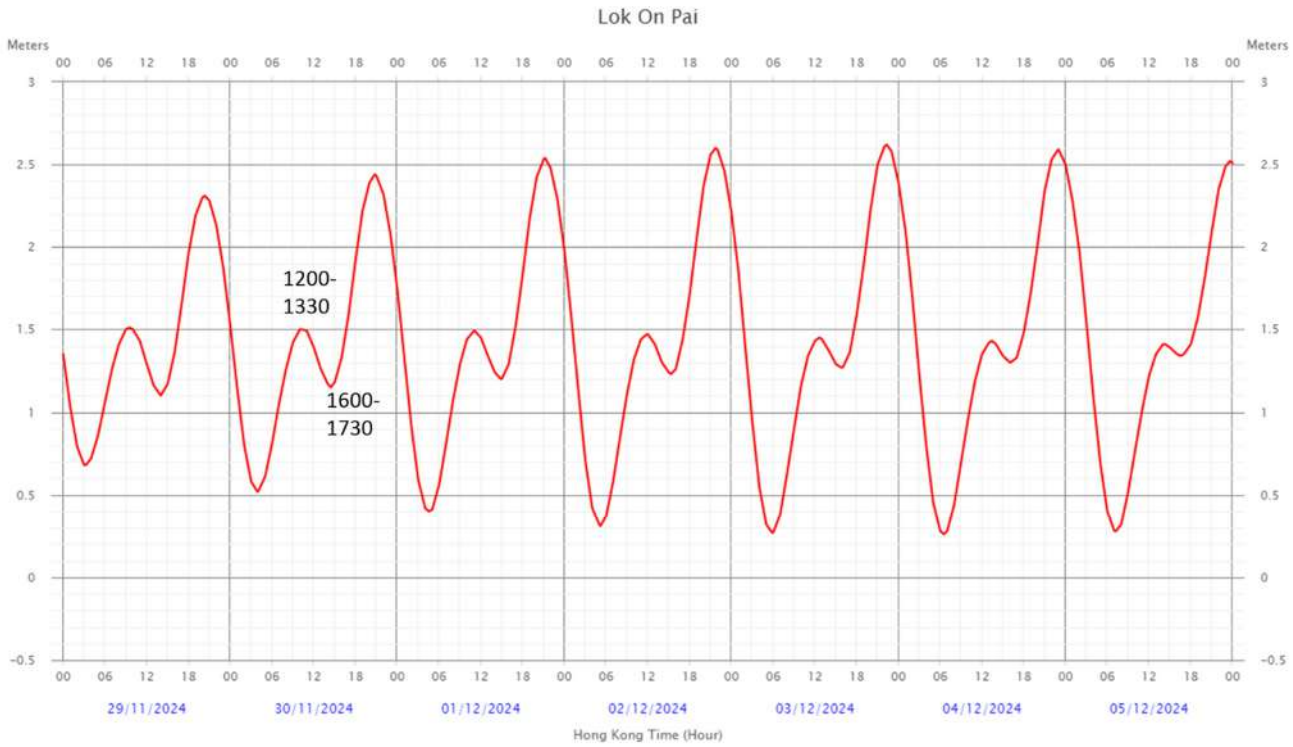
ETS-TESTCONSULT LTD.

Contract No. CV/2023/10 Handling of Surplus Public Fill (2024-2027)
Tuen Mun 38

Predicted tide schedule from the Hong Kong Observatory for Impact Water Quality Monitoring (WQM)

November 2024



Appendix M

Reporting Month Monitoring Schedule

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Contract No. CV/2023/10 Handling of Surplus Public Fill (2024-2027)
Tuen Mun 38

Time Schedule for Impact Water Quality Monitoring (WQM), Impact Air Monitoring (1-hrTSP, 24-hr TSP), Weekly Site Inspection (Weekly SI) and Impact Noise Monitoring
October 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29-Sep	30-Sep	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct
	WQM Mid-ebb (10:30-12:00) Mid-flood (17:00-18:30)	**1-hr TSP x 3** **NM**		**NM** **Weekly SI (am)** WQM Mid-flood (07:30-09:00) Mid-ebb (13:00-14:30)	**24-hr TSP**	WQM Mid-flood (08:30-10:00) Mid-ebb (13:30-15:00)
6-Oct	7-Oct	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct
	1-hr TSP x 2 WQM Mid-flood (09:00-10:30) Mid-ebb (14:30-16:00)	**1-hr TSP x 1** **NM**		**24-hr TSP** **NM** **Weekly SI (am)** WQM Mid-ebb (07:00-08:30) Mid-flood (13:00-14:30)	**1-hr TSP x 2**	WQM Mid-ebb (09:00-10:30) Mid-flood (15:00-16:30)
13-Oct	14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct
		1-hr TSP x 1 **Set 24 hr (16/10)** **NM** WQM Mid-ebb (10:00-11:30) Mid-flood (16:00-17:30)	**24-hr TSP**	**1-hr TSP x 2** **NM** **Weekly SI (am)** WQM Mid-ebb (12:00-13:30) Mid-flood (17:00-18:30)		**1-hr TSP x 1** WQM Mid-flood (08:30-10:00) Mid-ebb (13:30-15:00)
20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct
	WQM Mid-flood (09:00-10:30) Mid-ebb (14:30-16:00)	**24-hr TSP** **NM**		**1-hr TSP x 2** **NM** WQM Mid-ebb (07:30-09:00) Mid-flood (13:00-14:30)	**Weekly SI (am)**	**1-hr TSP x 1** **Set 24 hr (28/10)**
27-Oct	28-Oct	29-Oct	30-Oct	31-Oct	1-Nov	2-Nov
WQM Mid-ebb (09:30-11:00) Mid-flood (15:30-17:00)	**24-hr TSP**	**1-hr TSP x 2** **NM** WQM Mid-ebb (10:00-11:30) Mid-flood (16:00-17:30)	**Weekly SI (pm)**	**1-hr TSP x 1** **Set 24 hr (03/11)** **NM** WQM Mid-ebb (11:30-13:00) Mid-flood (16:30-18:00)		WQM Mid-flood (08:00-09:30) Mid-ebb (12:30-14:00)

Remarks:
1. The monitoring schedule may be changed due to unforeseen circumstances such as adverse weather.
2. Water quality monitoring (Mid-Flood &Ebb) on 26/10/2024 was rescheduled to 27/10/2024 due to the adverse weather condition (The Tropical Cyclone Signal No.3).

Appendix N

QA/QC Results of Laboratory Analysis

東業德勤測試顧問有限公司
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QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample Analysis	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2024/10/3	**104.0**	FC1-S	8.85	FM2-M	**86.7**
	100.4	FM2-B	7.69	EM1-S	**109.7**
	100.2	EM1-M	7.14	EC2-B	**91.8**
2024/10/5	**101.9**	FC1-S	5.71	FM2-M	**111.9**
	100.1	FM2-B	2.02	EM1-S	**105.2**
	100.2	EM1-M	7.06	EC2-B	**93.7**
2024/10/7	**102.1**	FC1-S	7.14	FM2-M	**106.3**
	103.6	FM2-B	8.96	EM1-S	**113.4**
	102.1	EM1-M	5.31	EC2-B	**94.1**
2024/10/10	**103.3**	FC1-S	3.08	FM2-M	**111.1**
	103.5	FM2-B	6.74	EM1-S	**99.4**
	101.3	EM1-M	7.69	EC2-B	**83.3**
2024/10/12	**102.8**	FC1-S	5.26	FM2-M	**102.7**
	99.6	FM2-B	3.39	EM1-S	**111.0**
	103.0	EM1-M	4.55	EC2-B	**104.4**
2024/10/15	**101.9**	FC1-S	8.70	FM2-M	**96.4**
	101.2	FM2-B	6.25	EM1-S	**94.2**
	97.9	EM1-M	8.22	EC2-B	**88.1**
2024/10/17	**100.8**	FC1-S	2.78	FM2-M	**87.7**
	103.7	FM2-B	9.52	EM1-S	**117.9**
	101.0	EM1-M	9.01	EC2-B	**104.8**
2024/10/19	**97.5**	FC1-S	8.45	FM2-M	**109.0**
	97.9	FM2-B	7.41	EM1-S	**97.9**
	102.1	EM1-M	4.32	EC2-B	**94.8**
2024/10/21	**100.6**	FC1-S	9.23	FM2-M	**108.5**
	100.4	FM2-B	3.64	EM1-S	**113.0**
	99.7	EM1-M	9.52	EC2-B	**107.9**
2024/10/24	**101.6**	FC1-S	8.96	FM2-M	**103.7**
	100.0	FM2-B	4.55	EM1-S	**98.9**
	101.2	EM1-M	9.52	EC2-B	**113.2**
2024/10/27	**103.5**	FC1-S	8.00	FM2-M	**86.4**
	102.0	FM2-B	8.51	EM1-S	**110.6**
	100.6	EM1-M	6.32	EC2-B	**94.9**
2024/10/29	**101.9**	FC1-S	7.69	FM2-M	**106.5**
	100.2	FM2-B	8.22	EM1-S	**113.6**
	99.8	EM1-M	6.74	EC2-B	**106.5**
2024/10/31	**96.6**	FC1-S	1.74	FM2-M	**95.7**
	95.2	FM2-B	3.92	EM1-S	**113.8**
	104.9	EM1-M	1.71	EC2-B	**98.9**

Note:(*)% Recovery of QC sample should be between 80% to 120%.
(#)% Error of Sample Duplicate should be between –10% to 10%.
(@)% Recovery of Sample Spike should be between 80% to 120%.

Appendix O

Complaint Log

東業德勤測試顧問有限公司
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Complaint Log

Log Ref.	Location	Received Date	Details of Complaint	Investigation / Mitigation Action	Status
001	Lung Mun Road near Tuen Mun Area 38 Fill Bank	24 May 2017	One complaint received on 24 May 2017, which was forwarded to ET on 03 June 2017, from public against the rocks and debris deposited on the road surface along Lung Mun Road near Tuen Mun Area 38 Fill Bank. The complainant complained that waste generated caused an environmental nuisance.	Refer to the ET site investigation on 06 June 2017, the condition of Lung Mun Road near Tuen Mun Area 38 Fill Bank was found satisfactory. Details of Action(s) Taken by the Contactor: 1. Regular water spraying by water lorries is provided for road cleaning at Lung Mun Road; 2. Regular cleaning on Lung Mun Road and the access road at the site exit by road sweeper to remove mud and gravel is arranged four times on each working day; 3. Site vehicles are washed to remove any dusty materials from their bodies and wheels by using high pressure water jet manually at the entrance of work site before leaving; 4. Site vehicle for transporting materials are covered properly by using clean tarpaulin sheets; 5. Regular cleaning at the site haul road is provided to minimize the fugitive dust emission.	Closed
002	Lung Mun Road near Tuen Mun Area 38 Fill Bank	16 April 2018	One complaint received on 16 April 2018 from public and forwarded to ET by email at 10:51 on 25 May 2018. The complaint detail was”來往屯門第 38 區填料庫的龍門路沿路有很多泥頭車出入，泥頭會從車上掉至路面上，要求部門跟進及回覆。”	Refer to the ET site investigation on 26 May 2018, the condition of Lung Mun Road near Tuen Mun Area 38 Fill Bank was found satisfactory. Details of Action(s) Taken by the Contactor: 1. Regular cleaning on Lung Mun Road and the access road at the site exit by road sweeper to remove mud and gravel is arranged four times on each working day; 2. Regular water spraying by water lorries is provided for road cleaning at Lung Mun Road; 3. Site vehicles are washed to remove any dusty materials from their bodies and wheels by using high pressure water jet manually at the entrance of work site before leaving; 4. Site vehicles for transporting materials are covered properly by using clean tarpaulin sheets; Regular cleaning at the site haul road is provided.	Closed

003	Lung Mun Road near Tuen Mun Area 38 Fill Bank	26 June 2018	One complaint received on 26 June 2018 from public and forwarded to ET by email at 13:58 on 03 July 2018. The complaint detail was" 當天水車於 6 時出動洗街,導致交通阻塞."	Refer to the ET site investigation on 07 July 2018, the condition of Lung Mun Road near Tuen Mun Area 38 Fill Bank was found satisfactory. Details of Action(s) Taken by the Contactor: 1. Improve the road washing plan to avoid washing in traffic peak peroid 2. Revised the road washing schedule as soon as possible once there is traffic jam	Closed
004	Tuen Mun Area 38 Fill Bank	06 October 2021	A complaint was received on 06 October 2021 from public regarding dust nuisance within TM38 Fill Bank and was forwarded to ET by email on 06 October 2021 for investigation.	Refer to the ET site investigation on 12 October 2021, no defective observation related to dust emission was recorded during the investigation. Details of Action(s) Taken by the Contactor: 1. Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank. 2. Regular cleaning at the site haul road is provided to minimize the dust emission.	Closed

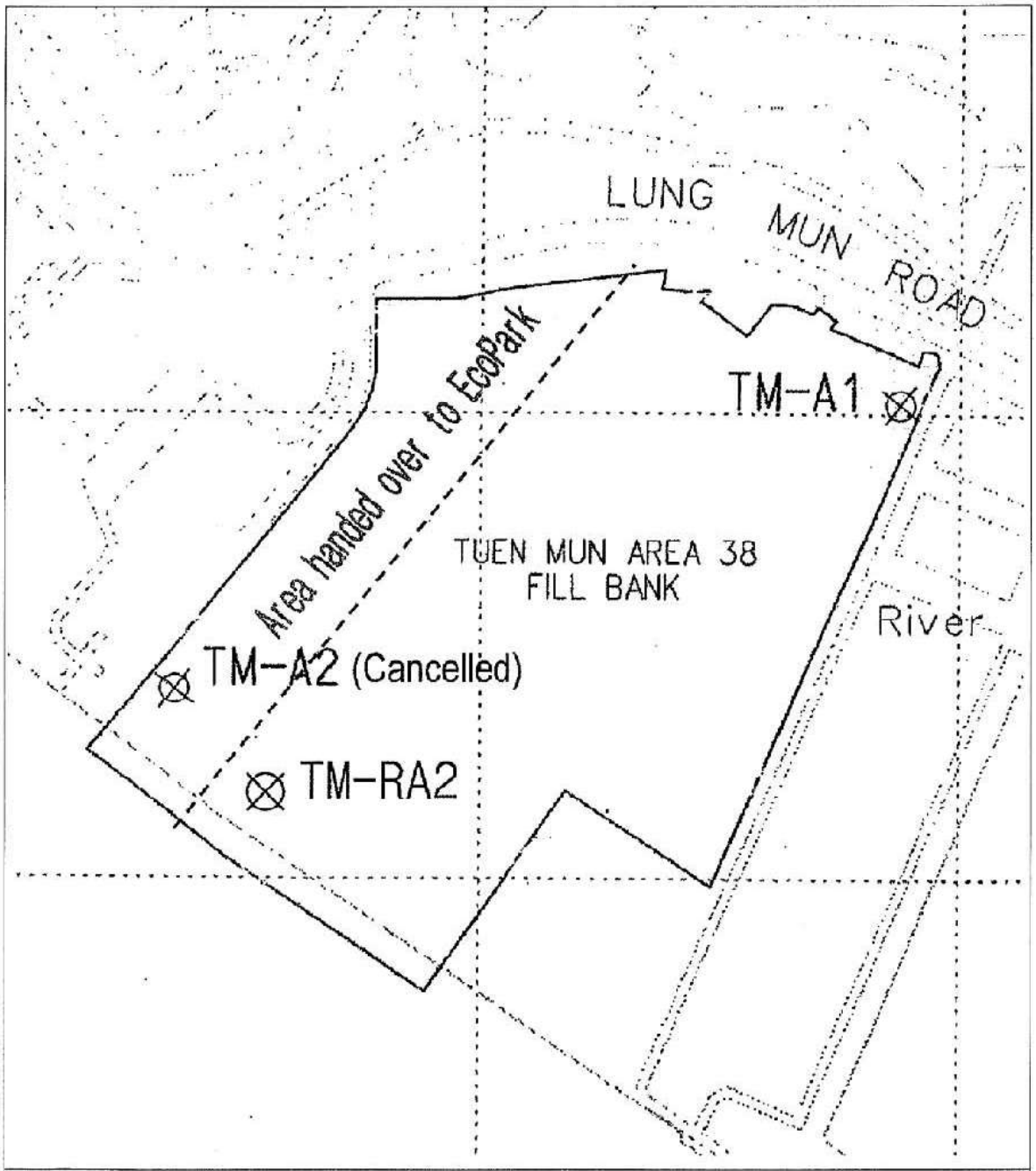
005	Tuen Mun Area 38 Fill Bank	28 June 2022	A complaint was received on 28 June 2022, which was forwarded to ET by email on 28 June 2022 for investigation, from public against "土木工程署屯門第 38 區填料庫經常發出異味，致現場的空氣及環境被受污染，土木工程拓展署難辭其咎，環保署亦應就現場大量大型車輛造成的空氣污染作出跟進。"	Refer to the ET site investigation on 30 June 2022, no defective observation related to dust emission was recorded during the investigation Details of Action(s) Taken by the Contactor: 1. Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; 2. Regular cleaning at the site haul road is provided to minimize the dust emission; 3. Site vehicles are washed to remove any dusty materials from their bodies and wheels by using high pressure water jet manually at the entrance of work site before leaving;	Closed
006	Tuen Mun Area 38 Fill Bank	05 July 2022	A complaint was received on 05 July 2022, which was forwarded to ET by email on 15 July 2022 for investigation, from an environmental group against "為何 TM38 區之斜坡不同蓋上帆布”.	Refer to the ET site investigation on 14 July 2022, no defective observation related to dust emission was recorded during the investigation. Details of Action(s) Taken by the Contactor: 1. Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank. 2. Regular cleaning at the site haul road is provided to minimize the dust emission.	Closed

007	Tuen Mun Area 38 Fill Bank	30 September 2022	A complaint was received on 30 September 2022, which was forwarded to ET by email on 03 October 2022 for investigation, against "In recent days, we found that there was significant dust emission from the fill bank. As you are aware that we need to conduct RSP and TSP monitoring at the site boundary with very tight limits. We worry that these situations might affect our measurement. Please see the videos attached. They are taken on 21 Sept and one on 26 Sept. Grateful if you could investigate the cases and ensure dust is properly controlled.".	The video provided by the complainant showed that there was serious dust emission in 3RS collection area of public fill. Based on this situation, mitigation measures implemented in TM38 Fill Bank were reviewed and enhanced to avoid dust emission. A joint site inspection and meeting was carried out on 06 October 2022 to discuss the dust emission at TM38 Fill Bank. The location of 3RS and discharge point would be inspected in every weekly environmental audit. The status of 3RS location would be recorded to monthly EM&A report. Details of Action(s) Taken by the Contactor: 1. Increasing the frequency of water spraying by water lorries inside the Fill Bank. 2. Setting up water spraying machine in the 3RS area 3. Regular cleaning at the site haul road is provided to minimize the dust emission.	Closed
008	Tuen Mun Area 38 Fill Bank	25 January 2024	A complaint was received on 25 January 2024, which was forwarded to ET by email on 26 January 2024 for investigation, from public against dust nuisance and lack of lighting facilities "投訴屯門 38 區填料庫，沙塵四起，要求加強灑水。要求增加石屎路。夜間增加照明。"	Refer to the ET site investigation on 14 July 2022, no defective observation related to dust emission was recorded during the investigation. Details of Action(s) Taken by the Contactor: 1. Increasing the frequency of water spraying by water lorries to suppress dust emission inside the Fill Bank. 2. Regular cleaning at the site haul road is provided to minimize the dust emission.	Closed

009	Tuen Mun Area 38 Fill Bank	30 September 2024	A complaint referred by 1823 was received on 30 September 2024, which was forwarded to ET by email on 02 October 2024, from public against dust nuisance "投訴屯門 38,泥塵大,要求增加水車灑水。"	The Contractor has implemented control measures to reduce dust emission to the environment and no defective observation related to dust emission was recorded during the site investigation on 03 October 2024. No exceedance was found on recent air quality monitoring results. Therefore, there is no direct evidence showing that the complaint is likely related to the TM38 fill bank project. Although this complaint was invalid, considering the complaint was targeted to TM 38 Fill Bank, the Contractor will take more effort on the dust suppression to avoid pollutants to the nearby environment. Details of Action(s) Taken by the Contactor: 1. Increasing frequency of water spraying by water lorries from four times per day to five times per day, to suppress dust emission inside the Fill Bank 2. Regular cleaning at the site haul road is provided to minimize the dust emission. 3. Site vehicles are washed to remove any dusty materials by using high pressure water jet manually at the entrance of work site before leaving	Closed
010	Tuen Mun Area 38 Fill Bank	02 October 2024	A complaint referred by 1823 was received on 02 October 2024, which was forwarded to ET by email on 02 October 2024 for investigation, from public against dust nuisance "投訴屯門 38 泥尾,泥塵大,要求增加水車灑水"	The Contractor has implemented control measures to reduce dust emission to the environment and no defective observation related to dust emission was recorded during the site investigation on 03 October 2024. No exceedance was found on recent air quality monitoring results. Therefore, there is no direct evidence showing that the complaint is likely related to the TM38 fill bank project. Although this complaint was invalid, considering the complaint was targeted to TM 38 Fill Bank, the Contractor will take more effort on the dust suppression to avoid pollutants to the nearby environment. Details of Action(s) Taken by the Contactor: 1. Increasing frequency of water spraying by water lorries from four times per day to five times per day, to suppress dust emission inside the Fill Bank 2. Regular cleaning at the site haul road is provided to minimize the dust emission. 3. Site vehicles are washed to remove any dusty materials by using high pressure water jet manually at the entrance of work site before leaving	Closed

011	Tuen Mun Area 38 Fill Bank	21 October 2024	A complaint was received by CEDD on 21 October 2024, which was forwarded to the Contractor and the ET by email on 28 October 2024 for investigation, from public against dust nuisance "屯門 38 泥尾泥塵大，要求加密水車淋水"	The Contractor has implemented control measures to reduce dust emission to the environment and no defective observation related to dust emission was recorded during the site investigation on 30 October 2024. No exceedance was found on recent air quality monitoring results. Therefore, there is no direct evidence showing that the complaint is likely related to the TM38 fill bank project. Although this complaint was invalid, considering the complaint was targeted to TM 38 Fill Bank, the Contractor will take more effort on the dust suppression to avoid pollutants to the nearby environment. Details of Action(s) Taken by the Contactor: 1. Increasing frequency of water spraying by water lorries from four times per day to five times per day, to suppress dust emission inside the Fill Bank 2. Regular cleaning at the site haul road is provided to minimize the dust emission. 3. Site vehicles are washed to remove any dusty materials by using high pressure water jet manually at the entrance of work site before leaving	Closed

Figures



Contract No. CV/2021/09
Handling of Surplus Public Fill (2022-2023)

Figure 1
Locations of Air Quality Monitoring Stations –
Tuen Mun Area 38 Fill Bank

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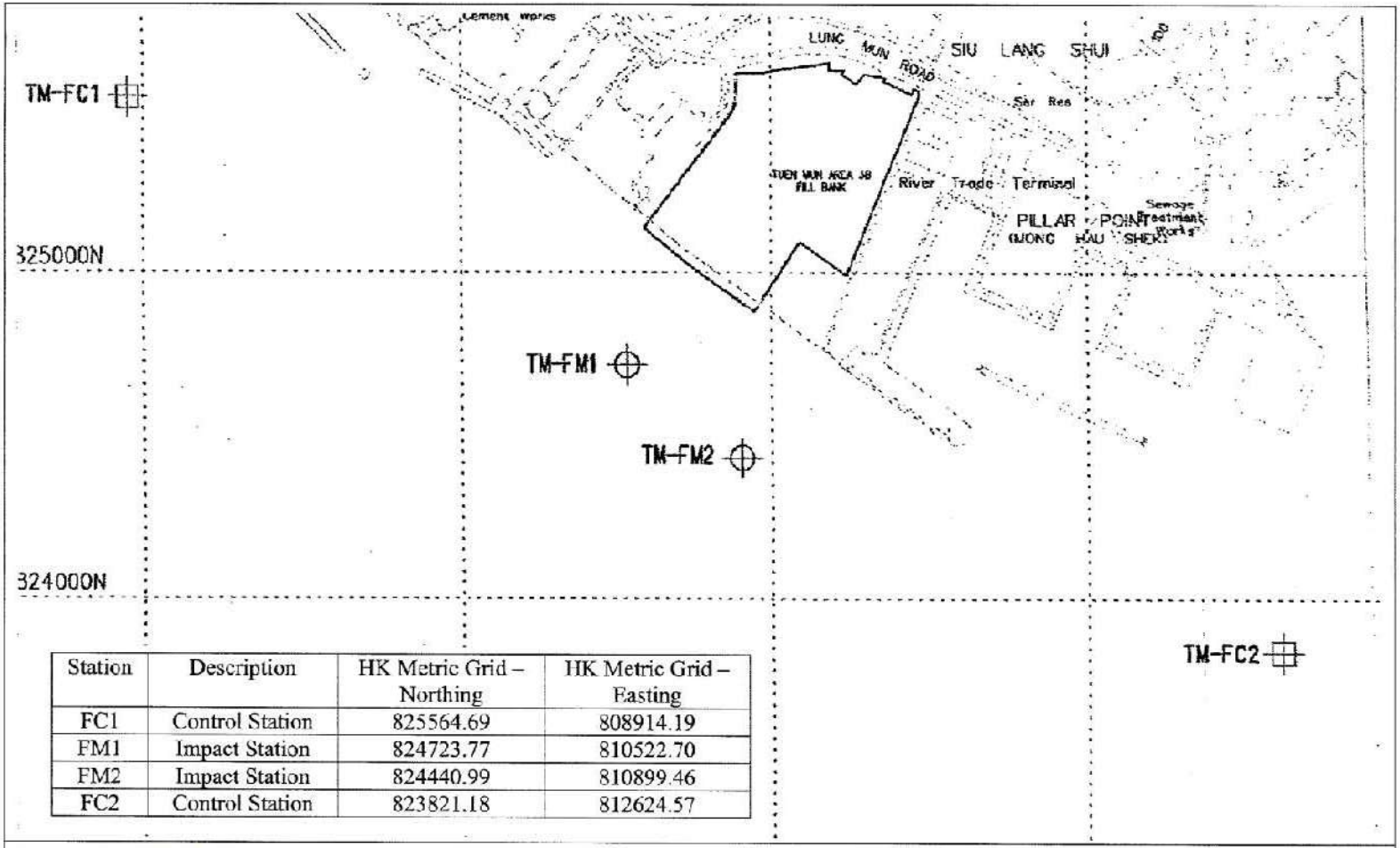

Station	Description	HK Metric Grid – Northing	HK Metric Grid – Easting
FC1	Control Station	825564.69	808914.19
FM1	Impact Station	824723.77	810522.70
FM2	Impact Station	824440.99	810899.46
FC2	Control Station	823821.18	812624.57

Contract No. CV/2021/09
Handling of Surplus Public Fill (2022-2023)

Figure 2
Locations of Water Quality Monitoring Station –
Tuen Mun Area 38 Fill Bank

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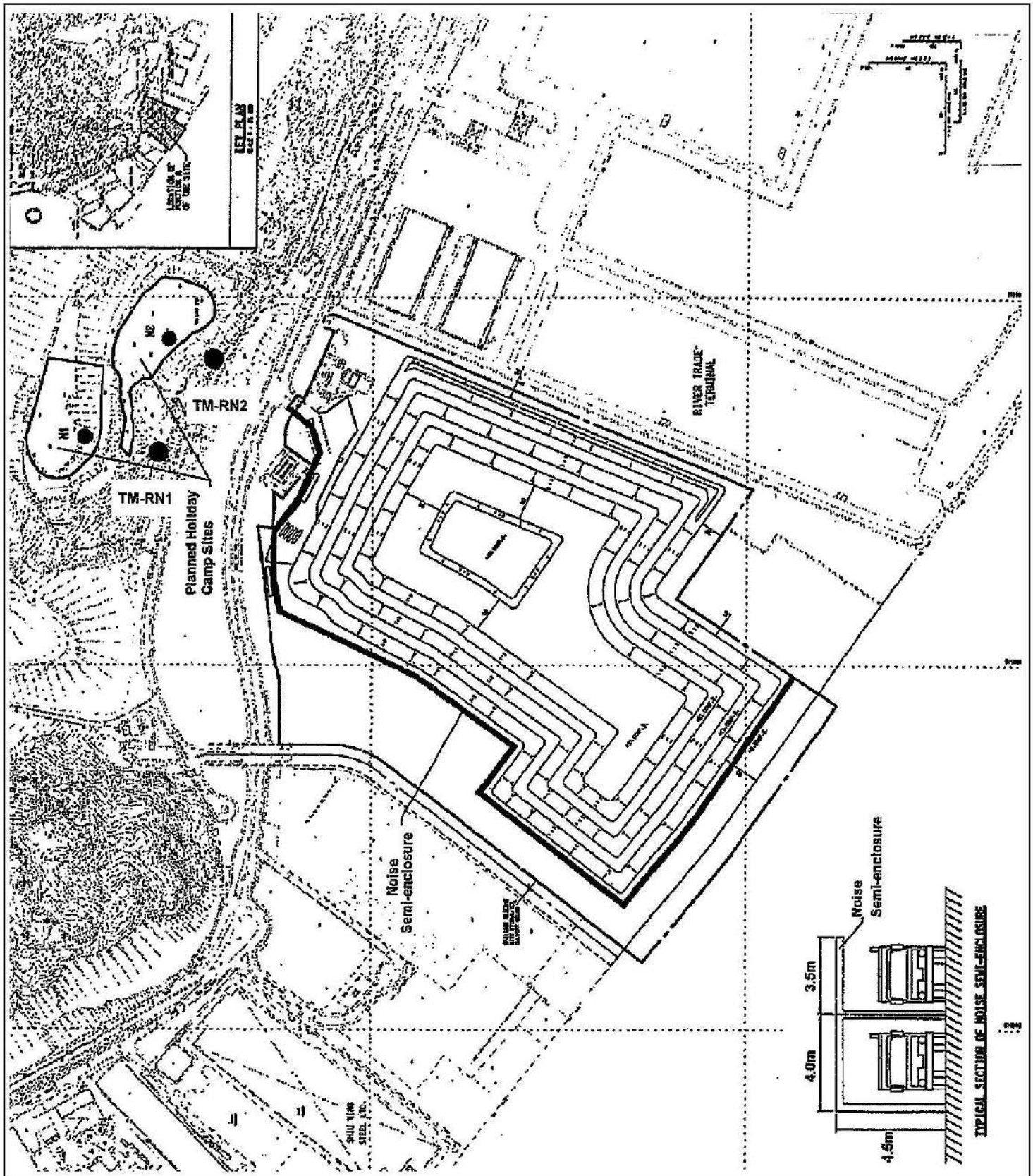

Contract No. CV/2021/09
Handling of Surplus Public Fill (2022-2023)

Figure 3
Locations of Noise Monitoring Stations –
Tuen Mun Area 38 Fill Bank

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