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China Harbour Engineering Co Ltd

TEST REPORT

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

TSEUNG KWAN O AREA 137 FILL BANK

MONTHLY EM&A REPORT NO.19

(JULY 2023)

Prepared by:

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Our Ref: PL-202308012

ETS-Testconsult Limited 8/F, Block B, Veristrong Industrial Centre 34-36 Au Pui Wan Street Fo Tan, Hong Kong

Attention: Mr. C. L. Lau

15 August 2023

Dear Mr. Lau,

RE: Contract No. CV/2021/09 Handling of Surplus Public Fill (2022-2023) Monthly EM&A Report (No. 19) for July 2023 for the Tseung Kwan O Area 137 Fill Bank

Reference is made to your submission of the Monthly EM&A Report for July 2023 for the TKO Area 137 Fill Bank, we are pleased to inform you that we have no adverse comment on the report.

Thank you for your attention. Please do not hesitate to contact us should you have any queries.

Yours faithfully,

Toang Jan Bearg

F. C. Tsang Independent Environmental Checker

cc. CEDD – Mr. P. C. LEUNG



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Contract No.: CV/2021/09 Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O Area 137 Fill Bank

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EXECUTIVE SUMMARY

This monthly Environmental Monitoring and Audit (EM&A) report No.19 was prepared by ETS-Testconsult Ltd (ET) for "Contract No: CV/2021/09 – Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O (TKO) Area 137 Fill Bank" (The Project).

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at TKO Area 137 in July 2023.

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 Tseung Kwan O Fill Bank (TKOFB);
- 2. Operation of dewatering plant at TKOFB;
- 3. Operation and Maintenance of crushing plants at TKOFB;
- 4. Operation and Maintenance of Artificial Intelligent System for Crushing Plant at TKOFB;
- 5. Operation of the Integrated Public Fill Reception at TKOFB;
- 6. Operation and Maintenance of the Wash House at TKOFB;
- 7. Personnel Position Tracking and Proximity Detection System of Moving Plant at TKOFB;
- 8. Operation and Maintenance a Digital Works Supervision System (DWSS) for TKOFB;
- 9. Operation and maintenance of Wheel Washing Bays and Facilities at TKOFB;
- 10. Maintenance of the Drainage Systems at TKOFB;
- 11. Delivery of Public Fill to Taishan at TKOFB;
- 12. Construction of Gabion Wall at TKOFB;
- 13. Implementation of C Easy system at TKOFB (Phase 1)
- 14. Carry out GCO Probe test and SRT

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 1 Occasion at 1 designated location
- 24-hour TSP Monitoring: 5 Occasions at 2 designated locations
- 1-hour TSP Monitoring: 15 Occasions at 2 designated locations
- Marine Water Quality Monitoring: 13 Occasions at 2 designated locations
- Weekly-site inspection: 4 Occasions

Noise Monitoring

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

Air Monitoring

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

Marine Water Quality Monitoring

According to the summary of marine water monitoring results, no exceedance of Action and Limit levels was recorded in this reporting period.

Weekly Site Inspections

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

No complaint, notification of summons or successful prosecutions with respect to environmental issues was received in this reporting period.

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Future Key Issues

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

- Noise and air quality impact due to site works;
- Maintain wheel washing facilities properly;
- Maintain all drainage and desilting facilities properly;
- Use and maintain silt curtain properly;
- Clean up the fill material on concrete pavement along the BHA frequently;
- Sufficient drip trays for all oil drums / chemical containers;
- Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste;
- Maintain good site practice and waste management to minimize environmental impacts at the site; and
- Follow-up improvements on waste management issues.

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/2021/09 –Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O (TKO) Area 137 Fill Bank" (The Project).

In accordance with the Environmental Permit (No.: EP-134/2002/P) (the EP), an EM&A programme should be implemented in accordance with the procedures and requirements in the EM&A Manual of the approved EIA report (Registration No. AEIAR-060/2002). The EM&A programme for this study as stated in Section 2.3.1 of the EM&A Manual covers the following environmental aspects during the establishment, operation and removal phases of the Fill Bank at Tseung Kwan O Area 137:

- Fugitive Dust;
- Noise generation from onsite activities;
- Water Quality; and
- Landscape and Visual.

The EM&A programme requires environmental monitoring for air quality, noise and water quality and environmental site inspections for air quality, noise, 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 period and forthcoming months;
- Action and Limit levels for all environmental parameters;
- Event/Action Plans;
- Environmental mitigation measures, as recommended in the Project EIA study final report; and
- Environmental requirements in contract documents.

Baseline monitoring was completed in August and October 2002 by MateriaLab. 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 Tseung Kwan O Area 137 in July 2023.

2.0 **PROJECT INFORMATION**

2.1 Scope of the Project

The scale and scope of the Project as stated in the EP include:

- Site clearance;
- Construction of a temporary storm water system;
- Stockpiling of 6 million m³ of public fill;
- Setting up two barging points: one at the TKO Basin and one at the Construction and Demolition Material Sorting Facility (C&DMSF) for transporting the stockpiled public fill by barges;
- Setting up a temporary barging point at the existing Explosive Off-loading Barging Point located in the south-eastern part of Area 137 for the month of May 2004 to December 2004 for transporting the stockpiled public fill by barge;
- Construction and operation of a Construction and Demolition Material Sorting Facility (C&DMSF);
- Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin; and
- Remove the temporary fill bank.

2.2 Site Description

TKO Area 137 Fill Bank is located at the southern end of Wan Po Road. In the vicinity of the site are other industrial uses such as SENT landfill, TKO Industrial Estate, etc. Both Island Resort and Fullview Garden are also situated at more than 1.8km from the site. Other existing Air Sensitive Receivers (ASRs) and Noise Sensitive Receivers (NSRs), including resident developments and schools, are located at a further distance away from TKO Area 137.

2.3 Work Programme

Details of work programme are shown in Appendix G.

2.4 **Project Organization and Management Structure**

The project organization chart is shown in Appendix A.

2.5 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
1 auto 2.1	Contact Details	

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 (Acuity)	Mr. F C Tsang	IEC	2698 9097	2333 1316
Contractor (CHZH-JV)	Zhou Chang Ying	Senior Project Manager	9626 6299	2247 4108
ET (ETL)	C. L. Lau	ET Leader	2946 7791	2695 3944

3.0 WORK PROGRESS IN THIS REPORTING PERIOD

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

- 1. Operation of the Public Fill Reception Facilities at Tseung Kwan O Fill Bank (TKOFB);
- 2. Operation of dewatering plant at TKOFB;
- 3. Operation and Maintenance of crushing plants at TKOFB;
- 4. Operation and Maintenance of Artificial Intelligent System for Crushing Plant at TKOFB;
- 5. Operation of the Integrated Public Fill Reception at TKOFB;
- 6. Operation and Maintenance of the Wash House at TKOFB;
- 7. Personnel Position Tracking and Proximity Detection System of Moving Plant at TKOFB;
- 8. Operation and Maintenance a Digital Works Supervision System (DWSS) for TKOFB;
- 9. Operation and maintenance of Wheel Washing Bays and Facilities at TKOFB;
- 10. Maintenance of the Drainage Systems at TKOFB;
- 11. Delivery of Public Fill to Taishan at TKOFB;
- 12. Construction of Gabion Wall at TKOFB;
- 13. Replacement of concrete pavement at TKOFB
- 14. Implementation of C Easy system at TKOFB (Phase 1)
- 15. Carry out GCO Probe test and SRT

4.0 AIR QUALITY MONITORING

4.1 Monitoring Requirement

TSP levels were monitored in the reporting period in accordance with the EM&A Manual. Table 4.4 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. A copy of the calibration certificates for the HVS and calibrator are attached in Appendix B1.

Equipment	Model and Make
HVS	Graseby 105, Andersen G1051
Calibrator	Tisch TE-5025A

Т

4.3 Monitoring Parameters, Frequency and Duration

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

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

4.4 Monitoring Locations

Table 4.3 tabulates the air quality monitoring locations of this project.

Table 4.3Air quality monitoring locations

Monitoring station	Location
TKO-A1	Site Egress
TKO-A2a	CREO

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 1hour 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 EM&A Manual.

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 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate was indicated on the flow rate chart.
- For TSP sampling, fiberglass filters (Whatman G653) 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 month of 1 hour or 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 equilibrated in a desiccator for 24 hour with the temperature of 25°C <u>+</u> 3°C and the relative humidity (RH) <50% <u>+</u>5%.
- All measurement procedures in Section 2.3 of the EM&A Manual were followed during the reporting period.



Maintenance & Calibration

- 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 (wind speed and wind direction) were directly extracted from Tseung Kwan O Station of Hong Kong Observatory. All wind data during this reporting period are shown in Appendix E.

4.6 Action and Limit Levels

Table 4.4 shows the Action and Limit levels for 24-hr TSP and 1-hr TSP monitoring.

Table 4.4	Action and Limit Levels for 24-hr TSP and 1-hr TSP

Monitoring Location	24-hr TSP (mg/m ³)		1-hr TSP (mg/m³)	
Monitoring Location	Action Level	Limit Level	Action Level	Limit Level
TKO-A1	210	260	376	500
TKO-A2a *	210	260	376	500

Remark (*): Since dust monitoring stations TKO-A2 and TKO-A2a are located close to the major dust emission sources and also close to the same sensitive receptor and no significant difference between them on the prevailing meteorological conditions, the baseline data from TKO-A2 (August and September 2002 by MateriaLab) can also be valid in the case of TKO-A2a.

4.7 Event-Action Plans

Please refer to Appendix F for details.

4.8 Results and Observation

4.8.1 1-hour and 24-hour TSP Monitoring results

Monitoring data of both 1-hour and 24-hour TSP monitoring carried out in this reporting period are summarized in Appendix B2. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting period is shown in Appendix B3. Wind data included wind speed and wind direction was extracted from Tseung Kwan O Station of Hong Kong Observatory during this reporting period and is presented in Appendix E.

No exceedance of Action and Limit Level of 1-hr TSP and 24-hour TSP monitoring results was recorded during the reporting period.

4.8.2 Observation

Generally, the Contractor implemented sufficient dust mitigation measures, including operation of the mist spraying systems at the CEDD Combined Reception Office and crushing plants. And the site egress area provided wheel washing facilities; Road dampening, water bowsers and automatic water sprinklers on the main haul roads. Other dust sources near TKO Area 137 also included operation of the temporary Construction Waste Sorting Facilities (CWSF) and dumping activities at the SENT Landfill.

5.0 Noise Monitoring

5.1 Monitoring Requirements

Noise monitoring was conducted at 1 monitoring station as specified in the approved EM&A Monitoring Proposal for good site practice. The equipment, parameter, frequency, duration, methodology, calibration details, results and observations of the noise monitoring for the reporting period are presented in this section.

5.2 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 (Leq) 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 5.1 summarizes noise monitoring equipment model being used. A copy of the calibration certificate for noise meter and calibrator are attached in Appendix C1

Table 5.1	Noise Monitoring	Equipment
	Noise Monitoring	Lyuphicht

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

5.3 Monitoring Parameters, Duration and Frequency

Duration, frequencies and parameters of noise measurement are presented in Table 5.2.

Table 5.2	Duration,	Frequencies	and Parameters	of Noise Monitoring

Time	Duration/min	Parameters	Frequency
Day-time: 0700-1900 hrs on normal weekday	30	L _{eq} , L ₁₀ , L ₉₀	Once per month

5.4 Monitoring Locations

One Noise monitoring was conducted at the noise monitoring location, TKO-N1 as shown in Figure 2 during the reporting period. Table 5.3 describes the location of the monitoring station.

Table 5.3Noise Monitoring Location

Monitoring station	Location	Type of Measurement
TKO-N1	Outside site Egress along Wan Po Road	Free Field

5.5 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 mins
- 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.
- 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.

5.6 Action and Limit Levels

The Action and Limit levels for noise levels derived as illustrated in Table 5.4.



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Table 5.4 Action and Limit Levels for noise monitoring			
Time Period	Action	Limit	
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A)	

5.7 Event-Action Plans

Please refer to the Appendix F for details.

5.8 Results and Observation

5.8.1 Results

Only Day-time noise monitoring was carried out at monitoring station TKO-N1 in this reporting period. The detail of the noise monitoring is provided in Appendix C2. Graphical presentation of the monitoring result for the reporting period is shown in Appendix C3. Since no documented complaints on noise issue were 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 monitoring.

5.8.2 Observation

The major noise source during the monitoring event was the dump truck traffic and crushing plant.

6.0 MARINE WATER QUALITY MONITORING

6.1 Monitoring Requirements

In accordance with the EM&A Manual, 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 Control Station, C1 and Monitoring Station, M4.

6.2 Monitoring Locations

For the Reclamation Project, there were 4 Designated Monitoring Stations and 2 Designated Control Stations specified in the EM&A Manual. Upon the completion of the monitoring programme under Stage 2 reclamation works, the ET started monitoring events at the impact station M4 and the control station C1 from 18 May 2004 onwards.

Figure 1 shows the location of the marine water quality monitoring stations. Table 6.1 describes the locations of the monitoring stations in the reporting period.

Station Description	Code	HK Metric Grid E	HK Metric Grid N	
Control Station (Ebb tide)	TKO-C1	844 740.208	815 371.502	
Monitoring Station, Tung Lung Chau Fish Culture Zone	TKO-M4	847 741.029	812 977.878	

Table 6.1 Locations of Marine Water Monitoring Stations

According to Environmental Permit (Permit no.:EP-134/2002/N) Condition 3.2, water quality survey/monitoring shall be conducted at control station C1a, monitoring stations M4a and M5 for the period from two weeks before commencement of operation of the additional 5 barging points to 4 weeks after cessation of their operation. The water quality survey/monitoring frequency and parameters at stations C1a, M4a and M5 shall be same as the requirements set out in the EM&A Manual and the monitoring results shall be incorporated in the monthly EM&A reports.

Due to "Hong Kong International Airport, Three Runway System Project Contract 3206 – Main Reclamation Works "(3RS project) operation of the additional barging point at TKO Area 137, the ET started monitoring events at the impact station M4a, M5 and the control station C1a from 14 May 2018 onwards.

Figure 4 shows the location of water control station C1a and water monitoring station M4a and M5.

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Table 6.2 describes the locations of the additional marine water monitoring stations

Table 6.2 Locations of Additiona	5.2 Locations of Additional Marine Water Monitoring Stations (3RS project)				
Station Description Code HK Metric Grid E HK Metric Grid					
Control Station (Ebb tide)	C1a	845647	814146		
	M4a	845922	813973		
Impact Monitoring Station	M5	847005	813678		

6.3 Monitoring Parameters

Monitoring of the marine water quality parameters are listed in Table 6.3. Table 6.3 Marine Water Quality Monitoring Parameters

In-situ measurement	Laboratory analysis
Depth (m)	Suspended solids (mg/L)
Temperature (°C)	
Dissolved Oxygen (mg/L and % saturation)	
Turbidity (NTU)	
Salinity (ppt)	

6.4 Monitoring Frequency

The monitoring frequency of the marine water monitoring is summarized in Table 6.4.

Table 6.4Monitoring frequency of the marine water

Parameter	Frequency	No. of Location	No. of Depths
Temperature		2	
Salinity		(TKO-C1 and TKO-	3
Dissolved Oxygen (DO)	3 days/week,	M4)	(Surface, mid-depth
Turbidity	2 lides/day	anu 3	& bottom)
Suspended solids (SS)		(C1a, M4a and M5)	

6.5 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 recalibrated 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, and temperature:

a dissolved oxygen level in the range of 0 to 50 mg/L and 0-500 % saturation;

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- 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, labelled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4°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 6.5.

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

Table 6.5Summary of testing procedures

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 6.6 shows the equipment used for in-situ monitoring of water quality. The calibration certificates are attached in Appendix D1.



able 6.6 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	20/04/23 & 19/07/23	19/07/23 & 18/10/23	ET/EW/008/011*
Water Depth	Speedtech SM-5			ET/EW/002/08

Remark:(*) indicates the instrument should be calibrated on use.

6.6 Action and Limit Level

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

Table 6.7 Wat	er Quality A	Action and Limit	Levels
---------------	--------------	------------------	--------

Parameter	Action Level	Limit Level
DO (mg/L)	<u>Surface & Middle</u> <5.45 mg/L (5%-ile of baseline data) <u>Bottom</u> <4.72 mg/L (5%-ile of baseline data)	<u>Surface & Middle</u> <5.10 mg/L (1%-ile of baseline data) <u>Bottom</u> <2.00 mg/L
SS (mg/L)	>6.74 mg/L (95%-ile of baseline data) or	>7.67 mg/L (99%-ile of baseline data) or
(Depth-	>120% of the upstream control station's	>130% of the upstream control station's
averaged)	SS at the same tide on the same day	SS at the same tide on the same day
Turbidity	>4.28 NTU (95%-ile of baseline data) or	>4.58 NTU (99%-ile of baseline data) or
(NTU) (Depth-	>120% of the upstream control station's	>130% of the upstream control station's
averaged)	turbidity at the same tide on the same day	turbidity at the same tide on the same day

The water quality Action and Limit Levels (3RS project) are presented in the table below.

 Table 6.8
 Water Quality Action and Limit Levels (3RS project)

Parameter	Action Level	Limit Level		
DO (mg/L)	Surface & Middle	Surface & Middle		
	<5.5 mg/L Bottom	<4.00 mg/L (1%-lie of baseline data) Bottom		
	<5.2 mg/L	<2.00 mg/L		
SS (mg/L) (Depth- averaged)	>4.9 mg/L or >120% of the upstream control station's SS at the same tide on the same day	>5.2 mg/L or >130% of the upstream control station's SS at the same tide on the same day		
Turbidity (NTU) (Depth- averaged)	>3.9NTU or >120% of the upstream control station's turbidity at the same tide on the same day	>4.2 NTU or >130% of the upstream control station's turbidity at the same tide on the same day		

6.7 Event and Action Plan

Please refer to the Appendix F for details.

6.8 Monitoring Duration in this reporting period

Below is the time schedule for the marine water quality monitoring events that were conducted in this reporting period:

Table 6.9 Time Schedule of Impact Marine Water Quality Monitoring

July 2023							
Sunday	Monday	Tuesday	Wednesday	r Thursday	Friday	Saturday	
						1	
2	3	▼ 4	5	• 6	7	▼ 8	
9	10	▼ 11	12	v ¹³	14	1 5 ▼	
16	17	18	▼ 19	20	▼ 21	22	
23	24	v 25	26	v ²⁷	28	2 9 ▼	
30	31	•					

Remark: $(\mathbf{\nabla})$ = Marine water quality monitoring carried out by ET.

6.9 Marine Water Quality Monitoring Results

The impact water quality measurement results are detailed in Appendix D2. Appendix D3 presents the water quality monitoring data and graphical presentations of monitoring results. The summary of marine water quality exceedances is shown in Table 6.10.

Table 6.10	Summary of Impact Marine Water Quality Exceedances	3
------------	--	---

Station Exceedance		D	DO		Turbidity		SS		Total	
Station	Level	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	
	Action	0	0	0	0	0	0	0	0	
170-1014	Limit	0	0	0	0	0	0	0	0	

The impact water quality measurement results (3RS project) are detailed in Appendix D4. Appendix D5 presents the water quality monitoring data and graphical presentations of monitoring results. The summary of marine water quality exceedances (3RS project) is shown in Table 6.11.

Table 6.11 Summai	y of Impact Marin	e Water Quality	/ Exceedances	(3RS proj	ect)
-------------------	-------------------	-----------------	---------------	-----------	------

								/	
Station	Exceedance	D	0	Turbidity		SS		Total	
Station	Level	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb
Mia	Action	0	0	0	0	0	0	0	0
ivi4a	Limit	0	0	0	0	0	0	0	0
МБ	Action	0	0	0	0	0	0	0	0
M5	Limit	0	0	0	0	0	0	0	0

According to the summary of marine water monitoring results, no exceedance of Action and limit levels was recorded for this reporting period.

7.0 ENVIRONMENTAL AUDIT

7.1 Weekly ET Site Inspections and EPD's Site Inspection

7.1.1 Weekly ET Site Inspections

Weekly ET 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 period, four weekly site inspections were conducted (05, 12, 19 and 28 July 2023). Table 7.1 presents the key findings of weekly ET site inspection in this reporting period.



Table 7.1	Key Findings of Weekly ET Site Audits in this reporting period						
Date	Key Findings	Action(s) Taken recommended by ET	Action(s) Taken by the Contractor during the ET weekly site audit	Rectification Status by ET			
05 July 2023	No defective work or obs	No defective work or observation was recorded during the weekly ET site inspection					
12 July 2023	No defective work or observation was recorded during the weekly ET site inspection						
19 July 2023	No defective work or observation was recorded during the weekly ET site inspection						
28 July 2023	No defective work or observation was recorded during the weekly ET site inspection						

7.1.2 EPD's Site Inspection

No EPD's site inspection was carried out in this reporting period.

7.2 Review of Environmental Monitoring Procedures

The monitoring works conducted by the Environmental Team were inspected regularly. The observations for the monitoring works were recorded and summarized as follows:

Air Quality Monitoring

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

Noise Monitoring

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

Water Quality Monitoring

• The monitoring team recorded the observations around the monitoring stations, which might affect the results.

7.3 Assessment of Environmental Monitoring Results

All monitoring results were audited against the Action and Limit levels and any exceedance would be validated.

No exceedance was recorded in water quality, air quality and noise monitoring in this reporting period.

The monitoring results in this reporting period were comparable with those of baseline month. Detailed discussions were given in Section 4, 5 and 6 of this Report.

7.4 Advice on the Solid and Liquid Waste Management Status

The Contractor usually disposed of non-inert waste, including general refuse and materials segregated from the existing stockpiles, to SENT landfill. Table 7.2 summarizes data on offsite waste disposal in this reporting period and the Monthly Summary Waste Flow Table is shown in Appendix K.

 Table 7.2
 Actual amounts of Waste generated in this reporting period



Contract No.: CV/2021/09	
Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O Area 137 Fill Bank	5

Waste Type	Actual Amount	Disposal Locations
Public Fill ('000m³)	0	TKO 137 Fill Bank
C&D Waste ('000kg)	64.40	SENT Landfill / Refuse Collection Point
Chemical Waste (kg/L)	0 (L)	Collected by licensed collector

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.

Concrete bunding has erected outside the CEDD combined reception office and near the automatic wheel washing facilities for storing generator sets and oil drums. 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 were 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, DP3 and DP4 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.

8.0 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting period are summarized in Table 8.1.

Description	Permit No.	Valid	Period	Section
		From	То	
Environmental Permit	EP- 134/2002/P	14/02/23	01/01/20 27	 Site clearance Construction of a temporary storm water system Stockpiling of 6 million m3 of public fill Setting up two barging points for transporting the stockpiled public fill by barges Setting up a temporary barging point at the existing Explosive Off-loading Barging Point for the month of May 2004 to December 2004 for transporting the stockpiled public fill by barge Construction of operation of a construction and Demolition Material Sorting Facility (C&DMSF) Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin Remove the temporary fill bank
Chemical Waste Registration	5213-839- C3750-04	19/04/17		 Spent battery cell containing heavy metals and spent lubricating oil
Effluent Discharge License	WT000411 69-2022	06/06/22	30/06/27	 Effluent, Surface Run-off, and all other wastewater discharges from screen and sedimentation tank
Marine Dumping Permit	EP/MD/24- 019	03/07/23	31/08/23	 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	7042821	22/05/17	End of project	

 Table 8.1
 Summary of environmental licensing and permit status



Waste				
Disposal				
Notification	475209	12/04/17	End of	
Pursuant to			project	
Section 3(3)				
of the Air				
Pollution				
Control				
(Construction				
Dust)				

9.0 ENVIRONMENTAL NON-CONFORMANCE

9.1 Summary of air quality, noise and marine water quality

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

Since no documented complaints on noise issue were 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 monitoring.

According to the summary of marine water monitoring results, no exceedance of Action and Limit levels was recorded for this reporting period.

9.2 Summary of Environmental Complaints

No complaint was received in this reporting period.

9.3 Summary of Notification of Summons and successful Prosecution

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

10.0 IMPLEMENTATION STATUS

10.1 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. Any deficiencies were noted in the remarks of the schedule.

10.2 Implementation Status of Event and Action Plan

Since no exceedance of Action and Limit level of air quality, noise and marine water monitoring results was recorded for this reporting period, no further action was required.

10.3 Implementation Status of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling

A summary of environmental complaints, notifications of summons and successful prosecutions was given in Table 10.1 and further details of the complaint could be found in the Complaint Log (Appendix N).

Complaints	logged	Summons	served	Successful prosecution received			
July 2023	Cumulative	July 2023	Cumulative	July 2023 Cumulativ			
0	0 18		0	0	0		

 Table 10.1
 Summary of Environmental Complaints and Prosecutions

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11.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Impact monitoring of air quality, noise and water quality were carried out at designated locations in accordance with the EM&A Manual in this reporting period.

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

Since no documented complaints on noise issue were 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 monitoring.

According to the summary of marine water monitoring results, no exceedance of Action and Limit levels was recorded for this reporting period.

No complaint, prosecutions and notifications of summons were received in this reporting period.

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

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, crushing plant, 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;
- Provide continuously water spraying system for crushing plant including receiving point and unloading point;
- Provide enclosed conveyor belt for transporting the crushed material directly to the unloading point
- Provide dust screen fenced for crushing plant, and the receiving point of crushing facility would be situated inside an enclosure with one side opening for vehicular access;
- 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 site 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, permanent desilting chambers, regularly;
- Operate and maintain the silt curtains regularly;
- Operate the cleaning vessel within the TKO Basin regularly;
- Clean up the fill material on the concrete pavement at BHA frequently; and
- Remove the stagnant water or provide approved pesticides for the stagnant water in the permanent desilting chambers, if any.

Landscape and Visual

Provide hydroseeding on the exposed slopes, on which the final profile has been formed;

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- Erect all the site hoarding/chaining fences in accordance with agreed design at proper location;
- Maintain the hydroseeded slopes in accordance with the Landscape Plan.

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 mesh screen on top of the additional drainage to avoid improper dumping of rubbish;
- 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

12.0 FUTURE KEY ISSUES

12.1 Work Programme for the Coming Month

- 1. Operation of the Public Fill Reception Facilities at Tseung Kwan O Fill Bank (TKOFB);
- 2. Operation of dewatering plant at TKOFB;
- 3. Operation and Maintenance of crushing plants at TKOFB;
- 4. Operation and Maintenance of Artificial Intelligent System for Crushing Plant at TKOFB;
- 5. Operation of the Integrated Public Fill Reception at TKOFB;
- 6. Operation and Maintenance of the Wash House at TKOFB;
- 7. Personnel Position Tracking and Proximity Detection System of Moving Plant at TKOFB;
- 8. Modification and Operation a Digital Works Supervision System (DWSS) for TKOFB;
- 9. Operation and maintenance of Wheel Washing Bays and Facilities at TKOFB;
- 10. Maintenance of the Drainage Systems at TKOFB;
- 11. Construction of Gabion Wall at TKOFB;
- 12. Implementation of C Easy system at TKOFB (Phase 1)
- 13. Carry out GCO Probe test and SRT
- 14. Delivery of Excavated Materials (T2 Materials) from TKOFB to Sha Chau Dumping Site at TKOFB
- 15. Preparation works for temporary storage of containers

12.2 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

- Chemical and waste management;
- Treatment of runoff and wastewater prior to discharge;
- Dust generated from loading and unloading activities;
- Dust generated from dump trucks traffic;
- Regular checking of the drainage system;
- Flood prevention: and
- Noise from operation of the crushing plant.

Mitigation measures to be required in the coming month:

Air Quality Impact

- To provide adequate water spraying on haul roads and working platform;
- To operate and maintain automatic wheel washing facilities properly;
- To dampen the fill material prior to unloading or movement;
- To provide road sweeping on haul road near site egress and public roads outside site egress;
- To ensure implementation of the dust mitigation measures for the site activities;
- To maintain proper operation of the mist spraying system;
- To provide proper maintenance for vehicles and machines on site; and
- To investigate any other dust sources around the air sensitive receivers

<u>Noise</u>

- To switch off equipment if not in use;
- To operate silent equipment;
- To identify the noise sources inside and outside of the site;
- To follow up any exceedance caused by the Fill Bank operation; and

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To re-schedule the work activities in the event of valid noise exceedance.

Water Quality Impact

- To maintain the drainage system in the Fill Bank;
- To ensure the cleanliness of oil interceptor bypass tanks and all the drainage channels;
- To maintain the existing silt trap to ensure good efficiency of wheel wash facilities;
- To repair, inspect and maintain the silt curtains regularly;
- To provide covers for the drip trays to avoid stagnant water pond due to rainfall;
- To deploy a cleaning vessel to remove floating rubbish in the TKO Basin;
- To clean up the concrete paved area at Portion I every night to avoid fill materials from being washed into the sea;
- To avoid any stagnant water or provide insecticide to avoid mosquito breeding in the Fill Bank.
- To prevent untreated wastewater directly discharge into nullahs; and
- To provide desilting facilities such as granular rock filter and geotextile filter at nullah.

Chemical and Waste Management

- To remove waste from the site regularly;
- To properly store and handle chemical wastes on site;
- To implement trip ticket system for all the imported public fill and general refuse disposal;
- To provide and manage sufficiently sized drip trays for diesel drums or chemical containers;
- To remove existing unwanted material in the stockpiles and avoid improper disposal at the Fill Bank through inspection of imported truckloads;
- To maintain proper housekeeping at the workshop area;
- To remove the oil stains in the event of leakage and handle all materials using for this cleaning works as chemical waste;
- To maintain mesh screen on top of the additional drainage, DP3 opening to avoid improper dumping of rubbish into this channel; and
- To identify C&D material by packaging, labeling, storage, transportation and disposal in accordance with statutory regulations.

12.3 Monitoring Schedule for the Coming Month

The proposed EM&A program of the coming month and predicted tide schedule from the Hong Kong Observatory are attached in Appendix L.

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Appendix A

Project Organization Chart







Appendix B1

Calibration Certificates for Impact Air Quality Monitoring Equipment



RECALIBRATION DUE DATE:

January 17, 2024

i*ficate d* Salibration **Calibration Certification Information** °К Ta: 294 Rootsmeter S/N: 438320 Cal. Date: January 17, 2023 Pa: 741.4 mm Hg Operator: Jim Tisch Calibrator S/N: 4128 Calibration Model #: TE-5025A ΔH Vol. Init Vol. Final ΔVol. **ATime** ΔΡ (in H2O) (mm Hg) (m3) (min) Run (m3) (m3) 2.00 1.4370 3.2 1 2 1 1 4.00 3 4 1 1.0170 6.4 2 0.9140 8.0 5.00 3 6 1 5 5.50 0.8640 8.8 4 7 8 1 5 9 10 1 0.7170 12.8 8.00 **Data Tabulation** ΔH(Pa)(Tstd) /ΔH(Ta/Pa Qa Qstd Vstd (y-axis) (x-axis) Va (x-axis) (m3) (y-axis) 0.9957 0.6929 0.8905 0.6852 1.4063 0.9846 0.9914 0.9748 1.2594 0.9803 0.9639 1.9888 1.4081 1.0702 2.2235 0.9892 1.0823 0.9782 1.4768 0.9881 1.1437 0.9771 1.1309 2.3321 1.7811 0.9718 1.3553 2.8126 0.9827 1.3706 1.31296 2.09676 m= m= -0.01917 -0.03027b= b= OA OSTD 0.999910.99991 r= r= Calculations $Va=\Delta Vol((Pa-\Delta P)/Pa)$ Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$ Qa= Va/ATime Qstd= Vstd/ATime For subsequent flow rate calculations: Pa Tstd ΔH(Ta/Pa Qa= 1/m Qstd= 1/m AH Pstd Ta **Standard Conditions** RECALIBRATION 298.15 °K Tstd: Pstd: 760 mm Hg US EPA recommends annual recalibration per 1998 Key 40 Code of Federal Regulations Part 50 to 51, ΔH: calibrator manometer reading (in H2O) Appendix B to Part 50, Reference Method for the ΔP: rootsmeter manometer reading (mm Hg) Ta: actual absolute temperature (°K) Determination of Suspended Particulate Matter in Pa: actual barometric pressure (mm Hg) the Atmosphere, 9.2.17, page 30 b: intercept

Tisch Environmental, Inc. 145 South Miami Avenue

m: slope

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		Calibration Re	port				
		of <u>High Volume Air S</u>	ampler				
Manufacturer	3	Graseby 105 Date	e of Calibra	ation	: <u>23 Ju</u>	ine 2023	
Serial No.	:	9795 (ET / EA / 003 / 18) Cali	bration Du	e Date	: <u>22 Au</u>	igust 2023	-
Method	ł	Five-point calibration by using standard cali Operations Manual	bration kit	Tisch TE-(5025A ref	er to the	
Results	č:	Flow recorder reading (cfm)	48	42	32	26	21
		Qstd (Actual flow rate, m ³ /min)	1.65	1.47	1.23	1.05	0.84
	8	Pressure: 754.94 mm Hg		Temp. :	303	к	

Sampler 9795 Calibration Curve Site: Tseung Kwan O 137 (TKO-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 (Assistant Supervisor) Checked by LAU, Chi Leung

(Environmental Team Leader)

- END OF REPORT -



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TEST REPORT

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Calibration Report of <u>High Volume Air Sampler</u>

Manufacturer		Andersen G1051 C	ate of Calib	ration	:	23 June 2023		
Serial No.	:	<u>1176 (ET/EA/003/05)</u>	alibration D	ue Date	:	22 August 2023		
Method	• :	Based on Operations Manual for the 5-po manufactured by Tisch TE-5025 A	oint calibratio	on using sta	and	ard ca	libration kit	5
Results	ŝ	Flow recorder reading (cfm) Qstd (Actual flow rate, m ³ /min)	52 1.64	45 1.48		41 1.33	34 1.06	26 0.79
		Pressure: 754.94 mm Hg	1	Temp. :		303	к	

Sampler 1176 Calibration Curve Site: Tseung Kwan O 137 (TKO-A2a)



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

Summary of 24-hr TSP Monitoring Results



Monitoring Station : TKO-A1

Location : Site Egress

St	art	Fin	ish	Elaps	e Time	Sampling	Flow Rate	e (m ³ /min.)	Average	Filter Weight (g)		
Date	Time	Date	Time	Initial	Final	Time (hrs)	Initial	Final	(m³/min.)	Initial	Final	Conc. (µg/m)
3/7/2023	10:00	4/7/2023	10:00	27212.74	27236.74	24.00	1.1947	1.1947	1.1947	3.1458	3.3867	140
8/7/2023	09:30	9/7/2023	09:30	27239.74	27263.74	24.00	1.1947	1.1947	1.1947	3.2070	3.4599	147
14/7/2023	13:00	15/7/2023	13:00	27266.74	27290.74	24.00	1.2236	1.2236	1.2236	3.1993	3.4601	148
20/7/2023	15:00	21/7/2023	15:00	27293.74	27317.74	24.00	1.2236	1.2236	1.2236	3.2476	3.5048	146
26/7/2023	13:00	27/7/2023	13:00	27320.74	27344.74	24.00	1.2236	1.2236	1.2236	3.1459	3.3961	142

Monitoring Station : TKO-A2a

Location : CREO

St	art	Fin	nish	Elaps	e Time	Sampling Flow Rate		Flow Rate (m ³ /min.)		Filter Weight (g)		
Date	Time	Date	Time	Initial	Final	Time (hrs)	Initial	Final	(m ³ /min.)	Initial	Final	Conc. (µg/m³)
3/7/2023	10:10	4/7/2023	10:10	29216.71	29240.71	24.00	0.9665	0.9665	0.9665	3.2593	3.4555	141
8/7/2023	09:40	9/7/2023	09:40	29243.71	29267.71	24.00	0.9665	0.9665	0.9665	3.2147	3.4222	149
14/7/2023	13:10	15/7/2023	13:10	29270.71	29294.71	24.00	1.0005	1.0005	1.0005	3.2085	3.4260	151
20/7/2023	15:10	21/7/2023	15:10	29297.71	29321.71	24.00	1.0005	1.0005	1.0005	3.2519	3.4651	148
26/7/2023	13:10	27/7/2023	13:10	29324.71	29348.71	24.00	1.0005	1.0005	1.0005	3.1853	3.3942	145

Summary of 1-hr TSP Monitoring Results



Monitoring Station : TKO-A1

Location : Site Egress Site Egress

Sta	art	Finish		Elapse Time		Sampling	Flow Rate (m ³ /min.)		Average	Filter W	Conc (ug/m ³)	
Date	Time	Date	Time	Initial	Final	Time (hrs)	Initial	Final	(m³/min.)	Initial	Final	οοπο: (μg/m)
5/7/2023	09:30	5/7/2023	10:30	27236.74	27237.74	1.00	1.1974	1.1974	1.1974	3.2225	3.2393	235
5/7/2023	10:30	5/7/2023	11:30	27237.74	27238.74	1.00	1.1974	1.1974	1.1974	3.1579	3.1750	238
7/7/2023	09:30	7/7/2023	10:30	27238.74	27239.74	1.00	1.1947	1.1947	1.1947	3.1464	3.1642	249
10/7/2023	09:30	10/7/2023	10:30	27263.74	27264.74	1.00	1.2236	1.2236	1.2236	3.1869	3.2051	248
10/7/2023	11:00	10/7/2023	12:00	27264.74	27265.74	1.00	1.2236	1.2236	1.2236	3.1451	3.1635	250
12/7/2023	09:30	12/7/2023	10:30	27265.74	27266.74	1.00	1.2236	1.2236	1.2236	3.2214	3.2409	265
19/7/2023	09:00	19/7/2023	10:00	27290.74	27291.74	1.00	1.2236	1.2236	1.2236	3.2287	3.2473	254
19/7/2023	10:00	19/7/2023	11:00	27291.74	27292.74	1.00	1.2236	1.2236	1.2236	3.2613	3.2802	257
19/7/2023	11:00	19/7/2023	12:00	27292.74	27293.74	1.00	1.2236	1.2236	1.2236	3.2439	3.2626	255
21/7/2023	09:30	21/7/2023	10:30	27317.74	27318.74	1.00	1.2236	1.2236	1.2236	3.2301	3.2478	241
21/7/2023	10:30	21/7/2023	11:30	27318.74	27319.74	1.00	1.2236	1.2236	1.2236	3.2810	3.2988	243
24/7/2023	09:30	24/7/2023	10:30	27319.74	27320.74	1.00	1.2236	1.2236	1.2236	3.1347	3.1528	246
28/7/2023	09:30	28/7/2023	10:30	27344.74	27345.74	1.00	1.1947	1.1947	1.1947	3.2451	3.2630	250
28/7/2023	11:00	28/7/2023	12:00	27345.74	27346.74	1.00	1.1947	1.1947	1.1947	3.2147	3.2328	252
31/7/2023	10:00	31/7/2023	11:00	27346.74	27347.74	1.00	1.1947	1.1947	1.1947	3.2149	3.2327	248



Monitoring Station : TKO-A2a

Location : CREO

St	art	Fin	ish	Elaps	e Time	Sampling	Flow Rate (m ³ /min.)		Average	Filter Weight (g)		C_{ana} (ug/m ³)
Date	Time	Date	Time	Initial	Final	Time (hrs)	Initial	Final	(m ³ /min.)	Initial	Final	Conc. (µg/m)
5/7/2023	09:40	5/7/2023	10:40	29240.71	29241.71	1.00	0.9665	0.9665	0.9665	3.1914	3.2053	239
5/7/2023	10:40	5/7/2023	11:40	29241.71	29242.71	1.00	0.9665	0.9665	0.9665	3.0953	3.1093	241
7/7/2023	09:40	7/7/2023	10:40	29242.71	29243.71	1.00	0.9665	0.9665	0.9665	3.0663	3.0810	253
10/7/2023	09:40	10/7/2023	10:40	29267.71	29268.71	1.00	1.0005	1.0005	1.0005	3.1742	3.1893	251
10/7/2023	11:10	10/7/2023	12:10	29268.71	29269.71	1.00	1.0005	1.0005	1.0005	3.2373	3.2525	254
12/7/2023	09:40	12/7/2023	10:40	29269.71	29270.71	1.00	1.0005	1.0005	1.0005	3.2374	3.2532	263
19/7/2023	09:10	19/7/2023	10:10	29294.71	29295.71	1.00	1.0005	1.0005	1.0005	3.2739	3.2892	255
19/7/2023	10:10	19/7/2023	11:10	29295.71	29296.71	1.00	1.0005	1.0005	1.0005	3.2265	3.2422	261
19/7/2023	11:10	19/7/2023	12:10	29296.71	29297.71	1.00	1.0005	1.0005	1.0005	3.3162	3.3317	258
21/7/2023	09:40	21/7/2023	10:40	29321.71	29322.71	1.00	1.0005	1.0005	1.0005	3.2045	3.2193	246
21/7/2023	10:40	21/7/2023	11:40	29322.71	29323.71	1.00	1.0005	1.0005	1.0005	3.2637	3.2784	245
24/7/2023	09:40	24/7/2023	10:40	29323.71	29324.71	1.00	1.0005	1.0005	1.0005	3.2423	3.2572	248
28/7/2023	09:40	28/7/2023	10:40	29348.71	29349.71	1.00	0.9665	0.9665	0.9665	3.2157	3.2304	253
28/7/2023	11:10	28/7/2023	12:10	29349.71	29350.71	1.00	0.9665	0.9665	0.9665	3.2367	3.2515	255
31/7/2023	10:10	31/7/2023	11:10	29350.71	29351.71	1.00	0.9665	0.9665	0.9665	3.1536	3.1682	252



Appendix B3

Graphical Plots of Impact Air Quality Monitoring Data





1-hour TSP level at TKO-A1

Date





24-hour TSP level at TKO-A1

Date



24-hour TSP level at TKO-A2a

Date



Appendix C1

Calibration Certificates for Impact Noise Monitoring Equipment


東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

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Form Q/AS/C/02 Issue 1(1/4) [02/22]

Calibration Certificate

		Certificate No.	CSA27669
		Page	; 1 of 2
Information Provi	ided by Customer		
Customer	ETS - Testconsult Limited		
Address	: 8/F., Block B, Veristrong Industria	al Centre, 34 - 36 Au Pui Wan St	reet, Fotan, Shatin, Hong Kong
Information of Un	it-under-test (UUT)		
Description	: Sound Level Calibrator		
Manufacturer	: RION	Equipment I.D.	ET/EN/002/01
Туре	: NC-73	Serial No.	10196943
Laboratory Inform	nation		
Lab. Ref. No.	: Q/CAL/22/9442/I	Procedure	: CQS/002/A
Date of Calibration	; 7-Nov-2022	Date of Receipt	: 1-Nov-2022
Date of Issue	: 10-Nov-2022	Calibration Location	: Calibration Laboratory
Calibration Condi	ition	а	
Ambient Temperature	; (20±3) °C	Relative Humidity	: (50±20) %
Stabilizing Time Ambient Pressure	: 30 minutes : (1000±5) hPa	Sampling	: As received
Reference equiph	nent		
Multi-tunction sound	calibrator, E1/2801/01		
 Measuring Amplinet Signal generator, E 	T/2503/01		
Reference Oscilloso	соре, ЕТ/2502/01		
Calibration specif	fication		
- To perform the calib	pration of sound level calibrator.		
Calibration result			
 The results are detail 	ailed on the subsequent pages.		
<u>Remarks</u>		at anti-	٨
The calibration results	ins apply to the particular unit-under-te	ist only.	test & any undertainties quoted will
 The values given in 	this calibration certificate only to the v	vifications with environmental ch	anges, wibration and shock during
not include allowand	ce for the equipment long term drift, va	infocations with environmental ch	t the measurement
transportation, over	ioauing, mis-nandling, or the capability	or any other laboratory to repea	the measurement

Calibrated By :

Tommy TAM & Tony MA (Technician)

Approved By: _____CHAN Chi Wai

The results shown in this certificate are traceable to the International System of Units (SI) or recognised measurement standards, This report shall not be reproduced unless with prior written approval from this laboratory.



東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

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Calibration Certificate

Certificate No. © CSA27669

Page 2 of 2

Calibration Result:

1. Measured Sound Pressure Level:

Nominal Frequency	Nominal Output	Measured Output (dB)	Expanded	Coverage
(Hz)	Sound Pressure (dB)		Uncertatiny (dB)	Factor
1000	94.0	94_0	0,13	2.0

2. Actual Output Frequency:

Nominal Frequency	Nominal Output	Measured Output (Hz)	Expanded	Coverage	
(Hz)	Sound Pressure (dB)		Uncertatiny (Hz)	Factor	
1000	94.0	981.906	0.13	2.0	

Remark:

- The uncertainty quoted is based on 95 % confidence level.

- Measured output are mean of three measurements.

End of certificate



東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

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Form Q/AS/C/01 Issue 1(1/7) [09/21]

Calibration Certificate

Certificate No.	
-----------------	--

CSA34546

Page

1 of

3

Information Provided by Customer

ETS - Testconsult Limited Customer ;

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
Manufacturer	RION	RION	RION
Туре	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	4	

Laboratory Information

CQS/001/A Q/CAL/23/5141/I Procedure Lab. Ref. No. 21-Jun-2023 : 28-Jun-2023 Date of Calibration Date of Receipt Calibration Laboratory Date of Issue • 28-Jun-2023 **Calibration Location**

Calibration Condition

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

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 :

Tony MA (Technician)

Approved By: CHAN Chi Wai

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(50 ± 20) % As received



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Calibration Certificate

Certificate No. : CSA34546

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Calibration Result:

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

Range / Mode			Reference Level	REF Frequency (kHz)	UUT Reading	Deviation	Expanded Uncertatiny	Coveragé Factor
	Self-cal	Before	94.0		93.7	-0.3	0.13	2.0
A-Weighting	Range	30 to 130	104.0	1	103.7	-0.3	0.13	2.0
	Mode	Fast	114.0		113.7	-0.3	0.13	2.0
	Self-cal	After	94.0		94.0	0.0	0.13	2.0
	Range	30 to 130	104.0	1	104.1	0.1	0.13	2.0
	Mode	Fast	114.0		114.1	0.1	0.13	2.0
A-weighting	Self-cal	After	94.0		94.0	0.0	0.13	2.0
	Range	30 to 130	104.0	1	104.1	0.1	0.13	2.0
	Mode	Slow	114.0		114.1	0.1	0.13	2.0
	Self-cal	10	94.0	1	94.0	0.0	0.13	2.0
	Range	30 to 130	104.0		104.1	0.1	0.13	2.0
A.W. 1.17	Mode	Fast	114.0		114.0	0.0	0.13	2.0
C-Weighting	Self-cal	-	94.0		94.0	0.0	0.13	2.0
	Range	30 to 130	104.0	1	104.1	0.1	0.13	2.0
	Mode	Slow	114.0		114.0	0.0	0.13	2.0
	Self-cal	-	94.0		94.0	0.0	0.13	2.0
	Range	30 to 130	104.0	1	104.1	0.1	0.13	2.0
T M A A	Mode	Fast	114.0		114.1	0.1	0.13	2.0
Z-Weighting	Self-cal	-	94.0		94.0	0.0	0.13	2.0
	Range	30 to 130	104.0	1	104.1	0.1	0.13	2.0
	Mode	Slow	114.0		114.0	0.0	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

- Laboratory reference multi-function sound calibrator was used to adjust the "Self cal" reading of UUT.



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

Calibration Certificate

CSA34546 Certificate No. 3 of 3 Page

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		
			31.5	54.6	40.5	-14.1	0.29	2.6		
			63	67.8	57.2	-10.6	0.22	2,3		
			125	77.9	72.2	-5.7	0.13	2.0		
		1.1	250	85.4	83,6	-1.8	0.12	2.0		
		94	500	90,8	90.9	0.1	0.12	2.0		
30 to 130	Fast		94	1000 (Ref.)	94.0	94.0	0.0	0.13	2.0	
				2000	95.1	94.0	-1,1	0.13	2.0	
			4000	94,9	92,3	-2.6	0.13	2.0		
- v -					8000	92.9	85.4	-7.5	0.14	2.0
- V			12500	89.7	76.0	-13,7	0.14	2.0		
8-1-1-1-			16000	87.5	71.6	-15,9	0.16	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					
			31.5	91.0	74.6	-16.4	0.22	2.3					
1			63	93.2	82.4	-10.8	0.15	2.0					
			125 93.8	93.8	. 88.1	-5.7	0.15	2.0					
			250	94.0	92.2	-1.8	0.14	2.0					
		fast 94	Fasl 94	94	94			500	94.0	94.1	0.1	0.12	2.0
30 to 130	Fasl					1000 (Ref.)	94.0	94.0	0.0	0.13	2.0		
			2000	93.7	92.6	-1.1	0,13	2.0					
			4000	93.1	90.5	-2.6	0.13	2.0					
			8000	91.0	83.5	-7.5	0.14	2,0					
		-	12500	87.8	74.1	-13.7	0,16	2.0					
			16000	65.6	69.8	-15.8	0.20	2.2					

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

Range	Mode	Applied Level	Frequency (Hz)	Reference Level	UUT Reading	Deviation	Expanded Uncertainly	Coverage Factor														
			31.5	94.0	77.6	-16.4	0.14	2.0														
			63	94.0	63.2	-10.8	0.15	2.0														
			125	94.0	88.3 -5.7	-5.7	0.13	2.0														
		Í	250	94.0	92.2	-1.8	0.14	2.0														
		si 94	Fast 94	94	94	94	94										500	94.0	94.0	0.0	0.12	2.0
30 to 130	Fast							1000 (Ref.)	94.0	94.0	0.0	0.13	2.0									
				2000	94.0	92.8	-1.2	0.13	2.0													
			4000	94.0	91.3	-2.7	0.13	2.0														
				8000	94.0	86.4	-7.6	0.14	2.0													
			12500	94.0	80.7	-13.3	0.14	2.0														
				16000	94.0	79.4	-14.6	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



Appendix C2

Impact Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Location: TKO-N1 (Site Egress)

Date	Start Sampling Time	Nois	Noise Level dB (A)			Weather	Major Noise	
	(hh:mm)	Leq(30min)	L ₁₀	L ₉₀	Speed (m/s)	Condition	Source	
03/07/2023	11:00	64.8	66.2	60.7	0.2	Fine	General site work	

Remark: 3dB(A) correction was added to the results during the free-field noise measurements



Appendix C3

Graphical Plots of Impact Noise Monitoring Data



Noise Monitoring (Day-time)



Date



Appendix D1

Calibration Certificates for Impact Marine Water Quality Monitoring Equipments



	Performance Check / Calibration of Multiparameter	Water	· Quality Meter	
_				

Equipment Ref. No. 📱	ET/EW/008/011	Manufacturer	3	YSI	
Model No.	Pro DSS	Serial No.	÷	18M101760	
Date of Calibration :	20/4/2023	Calibration Due Date	ä	19/7/2023	

<u>Results</u>

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)
19.7	19.6	-0.1
25.0	25.2	+0.2
27.4	27.3	-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)

Tolerance Limit (pH unit): ± 0.10

3. Conductivity

(Method Reference: APHA 19ed 2510 B)

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	156.6	+6.6
1412	1473	+4.3
12890	13627	+5.7
58760	62743	+6.7

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	10.17	+1.7
20.0	19.42	-2.9
30.0	31.48	+4.9

Tolerance Limit (g/L): ± 10.0%



Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No. :	ET/EW/008/011	Manufacturer	:	YSI
Model No.	Pro DSS	Serial No.	:	18M101760
Date of Calibration :	20/4/2023	Calibration Due Date	:	19/7/2023

5. Dissolved Oxygen

(Method Reference: APHA 19ed 4500-O G)

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.50	1.57	+0.07
4.76	4.62	-0,14
6.61	6.76	+0.15

Tolerance Limit (mg/L): ± 0.20

6. Turbidity

(Method Reference: APHA 19ed 2130 B)

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
10	10.6	+6.0
40	42.2	+5.5
100	105.4	+5.4
400	427.1	+6.8

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

:

Approved by :

Page 2 of 2



Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No.	ET/EW/008/011	Manufacturer	8	YSI
Model No.	Pro DSS	Serial No.		18M101760
Date of Calibration	19/7/2023	Calibration Due Date	ŝ	18/10/2023

<u>Results</u>

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)
19.7	19.8	+0.1
25.0	24,9	-0,1
27.4	27.5	+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)

Tolerance Limit (pH unit): ± 0.10

3. Conductivity

(Method Reference: APHA 19ed 2510 B)

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	151.4	+3.1
1412	1485	+5.2
12890	13474	+4.5
58760	60194	+2,4

Tolerance Limit (µS/cm): ± 10.0%

4. Salinity

(Method Reference: APHA 19ed 2520 B)

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
	10.23	+2.3
20.0	19.38	-3.1
30.0	31.57	+5.2

Tolerance Limit (g/L): ± 10.0%



Performance Check / Calibration of Multiparameter Water Quality Meter

Equipment Ref. No. :	ET/EW/008/011	Manufacturer	:	YSI
Model No.	Pro DSS	Serial No.	:	18M101760
Date of Calibration	19/7/2023	Calibration Due Date	3	18/10/2023

5. Dissolved Oxygen

(Method Reference: APHA 19ed 4500-O G)

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.44	1.49	+0.05
4.36	4.42	-0.06
6.38	6.46	+0.08

Tolerance Limit (mg/L): ± 0.20

6. Turbidity

(Method Reference: APHA 19ed 2130 B)

(
Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
10	10.4	+4.0
40	42.5	+6.3
100	104.7	+4.7
400	424.1	+6.0

Tolerance Limit (NTU): ± 10.0%

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

Toley

[#] Delete as appropriate

Calibrated by



Appendix D2

Impact Marine Water Quality Monitoring Results

Monitoring Station : TKO-C1



Data	Time	Ambient Temp	Monitorii	ng Depth	Temp	Salinit	y (ppt)	Dissolv	red Oxyger	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Τι	urbidity (NT	U)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	(r	n)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
		25	Surface	1.0	25.9	31.0	31.0	6.32	6.31		92.6	92.4	0.61	0.62		1.9	2.3	Ŭ
3/7/2023	17:34:00	25	Middle	87	23.1	35.8	35.9	5.64	5.64	5.97	92.2 81.0	81.0	1.56	1.57	1 64	3.5	39	27
0/1/2020	17.04.00	/ Fine	Wilduic	0.7	20.1	35.9 35.9	00.0	5.64	0.04		81.0 76.7	01.0	1.58	1.07	1.04	4.2	0.0	
		,	Bottom	17.4	23.0	36.0	36.0	5.29	5.32	5.32	75.9	76.3	2.72	2.74		2.6	2.0	
		26	Surface	1.0	25.4	31.8 31.8	31.8	6.12 6.13	6.13	5.00	89.4 89.5	89.4	1.71	1.67		2.1	1.6	
5/7/2023	18:41:33		Middle	9.9	24.6	33.3	33.6	5.68	5.67	5.90	82.5	82.3	2.07	2.09	2.08	3.5	3.1	2.0
		/ Fine	Bottom	19.8	23.5	35.3	35.3	5.34	5.32	5 32	77.0	76.6	2.11	2.48		1.4	1.4	
			Bottom	10.0	20.0	35.4 31.9	00.0	5.29 6.14	0.02	0.02	76.3 90.1	70.0	2.49	2.40		1.3 2.3	1.4	
		25	Surface	1.0	25.7	31.8	31.8	6.11	6.13	5.82	89.7	89.9	0.99	1.00		1.6	2.0	_
7/7/2023	9:02:29		Middle	9.3	23.2	35.7	35.7	5.54 5.49	5.52		79.6	79.3	1.50	1.50	1.39	1.1 3.5	2.3	2.0
		/ Fine	Bottom	18.5	23.1	35.8 35.8	35.8	5.41 5.40	5.41	5.41	77.7	77.6	1.71	1.69		1.8	1.7	
			Surface	1.0	25.3	33.0	33.0	6.98	6.98		102.5	102.4	1.05	1.05		4.8	5.3	
10/7/0000	0.41.11	25	Middle	0.5	00.0	33.1 35.4	05.4	6.97 5.78	5.74	6.36	102.3 83.1	00 F	1.05 0.91	0.00	1.00	5.7 5.1	5.0	
10/7/2023	9:41:11	/ Fine	IVIIddie	8.5	23.3	35.5	35.4	5.70	5.74		82.0	82.5	0.94	0.93	1.02	6.0	5.6	5.3
		/ Fine	Bottom	17.0	22.9	35.9	35.9	5.37	5.36	5.36	76.9	76.7	1.09	1.08		4.2	5.1	
		25	Surface	1.0	26.6	31.6 31.6	31.6	8.33 8.36	8.35		123.9 124.4	124.2	1.81	1.84		2.5	2.3	
12/7/2023	13:11:21		Middle	8.9	23.0	35.9	35.9	5.88	5.88	7.11	84.3	84.2	2.51	2.52	2.36	2.8	3.3	3.0
		/ Fine	Dettern	17.0	00.0	35.9 36.0	00.0	5.87 5.50	5.40	5.40	84.2 78.8	70.1	2.53 2.73	0.70		3.8 4.5	0.5	
			Bottom	17.9	22.9	36.0	36.0	5.41	5.46	5.46	77.4	78.1	2.72	2.73		2.5	3.5	
		25	Surface	1.0	26.9	31.6	31.6	7.30	7.29	6.52	109.0	108.9	0.38	0.39		1.2	1.5	
14/7/2023	15:31:24		Middle	9.8	23.2	35.7 35.7	35.7	5.80 5.72	5.76	0.02	83.3 82.1	82.7	1.49 1.53	1.51	1.15	1.7 2.8	2.3	2.1
		/ Fine	Bottom	19.5	22.7	36.1	36.1	5.44	5.43	5.43	77.7	77.5	1.56	1.54		2.3	2.6	
			Surface	1.0	28.2	36.1	30.5	5.42 8.11	8.26		123.1	123.4	1.51	1./3		3.1	3.3	
		29	Gundoe	1.0	20.2	30.5 30.6	00.0	8.40 7.82	0.20	8.03	123.7 118.7	120.4	1.41	1.40		3.4 6.5	0.0	-
18/7/2023	17:30:27		Middle	10.5	28.1	30.6	30.6	7.80	7.81		118.4	118.6	1.47	1.48	1.48	6.9	6.7	5.0
		/ Fine	Bottom	21.0	27.9	30.8 30.8	30.8	7.67	7.66	7.66	116.2 115.9	116.1	1.55	1.54		5.3 5.0	5.2	
		28	Surface	1.0	26.9	33.7 33.7	33.7	6.00	5.98		90.8	90.5	0.60	0.62		1.5	2.5	
20/7/2023	8:12:25		Middle	10.7	26.8	33.9	33.9	5.79	5.78	5.88	87.6	87.5	0.77	0.81	0.78	2.1	2.1	2.9
		/ Fine	During			34.0 34.0	04.0	5.77 5.73	5 70	5 70	87.3 86.9		0.84	0.00		2.1 5.3	10	
			Bottom	21.4	26.9	34.0	34.0	5.72	5.73	5.73	86.7	86.8	0.95	0.92		3.1	4.2	
		28	Surface	1.0	27.1	33.3	33.3	6.16	6.15	5 99	93.0	93.2	0.85	0.84		4.0	3.0	
22/7/2023	8:00:21		Middle	10.8	26.8	35.1 35.1	35.1	5.85 5.82	5.84	0.00	89.1 88.6	88.9	1.06	1.06	1.27	2.2	3.2	3.3
		/ Fine	Bottom	21.6	26.5	35.7	35.7	5.47	5.46	5.46	83.2	83.0	1.90	1.91		4.5	3.7	
			Surface	1.0	27.0	35.7 33.6	22.7	5.45 6.82	6 92		82.9 104.9	104.0	1.91	1.21		2.8 3.5	4.4	
		27	Sunace	1.0	27.5	33.8 35.0	33.7	6.84	0.03	6.44	104.9 90.3	104.9	1.31	1.31		5.3	4.4	-
24/7/2023	8:01:18		Middle	11.1	25.6	35.0	35.0	6.05	6.05		90.3	90.3	1.66	1.68	1.73	1.5	1.5	2.9
		/ Fine	Bottom	22.3	24.9	35.4 35.4	35.4	5.55 5.53	5.54	5.54	82.0 81.6	81.8	2.17	2.20		3.6 2.1	2.9	
		26	Surface	1.0	27.8	33.2	33.2	6.65	6.64		101.9	101.7	2.74	2.74		1.4	2.4	
26/7/2023	10:00:11	20	Middle	10.4	24.3	35.2	35.7	6.02	6.01	6.32	88.2	88.0	2.74	2.83	2 80	1.3	12	16
20,772020	10.00111	/ Fine	inidato		20	35.7 35.8	00	6.00 5.27	0.01		87.9 76.8	00.0	2.81	2.00	2.00	1.0		-
			Bottom	20.9	24.0	35.8	35.8	5.26	5.27	5.27	76.7	76.8	2.83	2.82		1.6	1.4	
		27	Surface	1.0	28.4	32.8	32.9	6.61 6.57	6.59	6 17	102.1	101.8	0.90	0.91		1.9 3.1	2.5	
28/7/2023	14:34:15		Middle	11.1	25.1	35.1	35.2	5.77	5.75	0.17	85.4 84.8	85.1	2.62	2.64	1.82	4.6	4.4	3.3
		/ Fine	Bottom	22.1	24.9	35.4	35.4	5.30	5.29	5.29	78.3	78.1	1.91	1.92		4.0	3.0	
			C		07.7	35.4 32.4	00.5	5.28 6.36	0.00		78.0 96.8	00.0	1.92 0.89	0.07		2.0 3.0		
		26	Surrace	1.0	21.1	32.5	32.5	6.29	6.33	6.07	95.5	96.2	0.84	0.87		5.1	4.1	-
31/7/2023	9:01:02		Middle	10.9	24.6	35.3	35.3	5.80	5.81		85.1	85.3	1.29	1.28	1.62	5.4	4.2	3.3
		/ Fine	Bottom	21.8	24.0	35.7 35.7	35.7	5.53 5.50	5.52	5.52	80.6 80.0	80.3	2.69 2.72	2.71		1.6 1.8	1.7	

Monitoring Station : TKO-M4



		Ambient Temp	Monitori	ng Dooth	Tomp	Salini	ty (ppt)	Dissolv	ed Oxyger	n (mg/L)	Dissolve	d Oxygen	Τι	urbidity (NT	ſU)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	(r	n)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
		05	Surface	1.0	25.8	31.4	31.5	6.27	6.28		92.0	92.1	0.60	0.59		1.8	2.3	
0/7/0000	10.00 57	25	No. 1 II.	47		31.6 35.6	05.7	6.29 5.84	5 00	6.05	92.2 84.1		0.57	0.00	1.00	2.8	10	
3/7/2023	18:39:57	(5)	Middle	4.7	23.3	35.7	35.7	5.80	5.82		83.5	83.8	0.98	0.96	1.20	1.4	1.8	1.9
		/ Fine	Bottom	9.4	23.1	35.8 35.9	35.8	5.53	5.52	5.52	79.4 79.0	79.2	2.05	2.05		1.2 2.1	1.7	
			Surface	1.0	25.4	32.4	32.4	6.67	6.68		97.7	97.9	1.35	1.34		2.5	2.5	
E/7/0000	10,10,00	26	No. 1 II.	5.4	05.0	32.4 33.2		6.69 6.24	0.00	6.45	98.0 91.2		1.33	4.00		2.5		
5/7/2023	19:43:20	(Fire	Middle	5.1	25.0	33.5	33.3	6.20	6.22		90.4	90.8	2.00	1.99	1.69	2.8	2.4	2.3
		/ Fine	Bottom	10.3	24.5	33.8 34.0	33.9	6.03	6.08	6.08	89.0 87.6	88.3	1.72	1.73		2.3	2.1	
		25	Surface	1.0	25.1	33.2 33.1	33.2	6.25 6.28	6.27		91.5 92.1	91.8	0.84	0.84		4.1 4.3	4.2	
7/7/2023	10:07:59		Middle	5.2	23.9	34.3	34.4	5.77	5.73	6.00	83.3	82.8	1.08	1.08	1.08	2.8	2.2	2.8
		/ Fine	Detterr	10.4	00.0	34.6 35.0	05.4	5.69 5.56			82.2 80.4	00.0	1.07	1.00	-	1.6	0.0	
			BOLLOIN	10.4	23.0	35.1	35.1	5.54	5.55	5.55	80.1	00.2	1.33	1.32		2.7	2.0	
		25	Surface	1.0	25.2	33.3	33.3	7.42	7.44	7 10	109.3	109.1	0.80	0.82		6.9	7.0	
10/7/2023	10:42:11		Middle	5.0	23.8	34.8	34.8	6.86	6.76	7.10	99.1	97.6	0.84	0.85	0.88	4.9	5.2	5.6
		/ Fine	Bottom	10.0	23.3	35.5	35.7	5.75	5 72	5 72	82.7	82.1	0.80	0.98		3.5	47	1
			Dottom	10.0	20.0	35.9	33.7	5.68	5.72	5.72	81.4	02.1	0.99	0.30		5.9	4.7	
		25	Surface	1.0	26.4	31.9	31.9	7.85	7.83	6.87	116.6	116.3	2.03	2.03		5.4	4.1	
12/7/2023	14:14:09		Middle	4.8	23.4	35.3	35.4	5.95	5.91	0.07	85.6	85.1	2.31	2.33	2.33	2.6	2.7	3.7
		/ Fine	Pottom	0.7	22.1	35.8	25.9	5.87	5.27	5.27	77.4	77.0	2.64	2.64	-	4.9	12	1
			Dottom	5.7	20.1	35.9	33.0	5.35	3.57	5.57	76.7	11.0	2.63	2.04		3.5	7.2	<u> </u>
		26	Surface	1.0	27.0	31.2	31.2	7.46	7.45	6 66	111.9	111.5	0.65	0.68		3.2	2.8	
14/7/2023	16:41:11		Middle	5.0	24.3	34.5 34.5	34.5	5.92	5.88	0.00	86.1 85.0	85.5	1.12	1.14	1.02	4.6	3.5	3.0
		/ Fine	Bottom	10.0	23.6	35.4	35.4	5.60	5.57	5.57	80.9	80.4	1.22	1.24	-	2.4	2.7	1
			Surface	1.0	28.2	35.4 30.5	20.5	5.54 8.24	8.00		79.9 125.2	104.9	1.25 1.43	1.41		2.9 5.3	5.0	<u> </u>
		29	Surface	1.0	20.2	30.4	30.5	8.19	0.22	8.12	124.3	124.0	1.39	1.41		4.6	5.0	-
18/7/2023	18:40:16		Middle	5.1	28.2	30.7	30.7	8.03	8.02		121.7	121.9	1.52	1.52	1.50	3.7	3.4	4.2
		/ Fine	Bottom	10.3	28.1	30.8 30.9	30.9	7.82 7.79	7.81	7.81	118.8 118.4	118.6	1.56 1.58	1.57		4.3	4.2	
		28	Surface	1.0	26.9	33.8	33.8	5.76	5.77		87.2	87.3	0.62	0.62		2.2	1.6	
20/7/2023	9:15:08	20	Middle	5.1	26.9	33.9	33.9	5.73	5.73	5.75	86.8	86.7	0.62	0.79	0.76	1.0	1.7	1.8
		/ Fine				34.0 34.0		5.72 5.69			86.5 86.3		0.80		-	1.7		-
			Bottom	10.2	26.9	34.0	34.0	5.69	5.69	5.69	86.3	86.3	0.89	0.87		2.4	2.1	
		28	Surface	1.0	27.1	32.9 32.9	32.9	6.26 6.26	6.26		94.6 94.5	94.6	0.77	0.77		5.4 4.3	4.9	
22/7/2023	9:03:03		Middle	5.4	26.9	34.6	34.6	6.30	6.26	6.26	95.8	95.2	0.82	0.83	0.85	2.3	2.2	3.5
		/ Fine	D	10.7	00.5	34.7 35.3	05.0	6.22 5.92	5.01	5.04	94.5 89.8		0.84	0.04	-	2.0 3.6		
			Bottom	10.7	26.5	35.3	35.3	5.89	5.91	5.91	89.3	89.6	0.91	0.94		3.5	3.6	
		28	Surface	1.0	27.6	33.7	33.7	7.13	7.16	7.07	1109.2	109.7	1.58	1.57		2.0	2.7	
24/7/2023	9:41:12		Middle	4.4	27.8	33.8	33.8	7.41	7.38	1.21	113.9	113.3	1.46	1.47	1.66	1.9	1.7	2.9
		/ Fine	Bottom	8.9	25.8	35.0	34.9	5.47	5.46	5.46	81.9	81.7	1.94	1.94	-	3.4	4.4	
			Quiters	1.0	07.7	34.9 33.3	00.0	5.45 6.45	0.45		81.5 98.7	00.7	1.93 2.36	0.00		5.4 1.0	1.0	
		27	Surface	1.0	27.7	33.3	33.3	6.45	6.45	6.31	98.7	98.7	2.35	2.36		1.0	1.0	
26/7/2023	11:02:58		Middle	4.9	25.3	35.1	35.1	6.14	6.18		92.2	91.7	2.18	2.16	2.18	1.3	1.5	1.2
		/ Fine	Bottom	9.9	25.1	35.2 35.3	35.3	5.60 5.58	5.59	5.59	82.9 82.5	82.7	1.99	2.02		1.2	1.2	
		00	Surface	1.0	28.2	33.0	33.0	6.83	6.82		105.2	105.0	0.57	0.57		1.5	1.3	
28/7/2023	15:37:05	29	Middle	47	27.8	33.1	33.3	6.39	6.39	6.60	97.9	97.9	1.44	1.45	1 39	1.1	22	1.8
2011/2020	10.07.00	/ Fine	windle	7.7	£1.0	33.3 34 1	00.0	6.38 5.82	0.00		97.8 87.8	51.5	1.46	1.10	1.00	2.8	£.£	1.0
			Bottom	9.4	26.6	34.1	34.1	5.79	5.81	5.81	87.4	87.6	2.18	2.17		2.1	1.9	
		27	Surface	1.0	26.9	33.4 33.4	33.4	5.86 5.79	5.83		88.5 87.5	88.0	0.51	0.51		3.7 5.6	4.7	
31/7/2023	10:11:58		Middle	4.6	26.7	33.6	33.7	6.09	6.07	5.95	91.8	91.3	0.63	0.66	0.89	5.2	3.6	3.5
		/ Fine				33.8 35.3		6.04 5.62			90.7 82.4		0.68		-	2.0		
			Bottom	9.3	24.5	35.3	35.3	5.55	5.59	5.59	81.4	81.9	1.54	1.52		2.8	2.1	

Monitoring Station : TKO-C1



	-	Ambient Temp	Monitori	na Depth	Temp	Salini	ty (ppt)	Dissolv	red Oxyger	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Tu	urbidity (NT	Ū)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	(r	n)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
		05	Surface	1.0	26.0	30.8	30.8	6.14	6.12		90.0	89.8	0.58	0.59		2.1	2.1	
3/7/2023	10:34:18	25	Middle	9.8	23.2	30.8	35.7	5.59	5.57	5.85	89.5	80.1	1.74	1 77	1 75	3.3	31	26
0/1/2020	10.04.10	/ Fine	- Mildule	0.0	20.2	35.7 35.9	00.7	5.55 5.55	0.07		79.8 79.7		1.79 2.88		1.70	2.9	0.1	2.0
			Bottom	19.5	23.1	35.9	35.9	5.53	5.54	5.54	79.5	79.6	2.91	2.90		2.3	2.5	
		26	Surface	1.0	26.0	30.3 30.3	30.3	6.68 6.62	6.65	6.01	97.7 96.8	97.2	1.46 1.43	1.45		2.0	2.2	
5/7/2023	13:11:14		Middle	10.0	24.5	33.4 33.4	33.4	5.79 5.76	5.78	0.21	84.0 83.6	83.8	2.36	2.35	2.35	1.4	1.6	1.7
		/ Fine	Bottom	20.0	23.9	34.5	34.5	5.57	5.55	5.55	80.5	80.1	3.24	3.27		1.6	1.4	
			Surface	1.0	0F 4	34.6 32.8	22.0	5.53 6.46	6.46		79.8 94.9	04.9	3.29 0.80	0.81		1.2 1.0	1.0	
		25	Sunace	1.0	23.4	32.9 35.1	32.5	6.46 5.72	0.40	6.09	94.8 82.4	54.0	0.82	0.01		1.6	1.5	
7/7/2023	14:05:09		Middle	10.5	23.5	35.4	35.2	5.70	5.71		82.2	82.3	1.25	1.26	1.19	3.3	2.7	2.1
		/ Fine	Bottom	21.1	23.3	35.6 35.7	35.7	5.34 5.28	5.31	5.31	76.8 75.9	76.4	1.47 1.53	1.50		3.0 1.7	2.4	
		25	Surface	1.0	25.3	33.4	33.4	7.94	7.97		116.8	117.2	0.73	0.74		3.6	4.7	
10/7/2023	16:42:12	23	Middle	8.5	22.9	35.9	35.9	6.00	5.96	6.96	85.9	85.3	0.99	1.03	1.01	5.7	4.8	4.8
		/ Fine				36.0 36.0		5.92 5.66			84.8 80.9		1.07 1.28			3.8 4.5		
			Bottom	17.1	22.8	36.1	36.0	5.59	5.63	5.63	80.0	80.4	1.26	1.27		5.4	5.0	
		25	Surface	1.0	26.8	31.4 31.4	31.4	8.41 8.48	8.45	7 19	125.4	125.9	1.38	1.39		2.8	2.6	
12/7/2023	8:12:16		Middle	9.8	23.2	35.6 35.8	35.7	5.97 5.90	5.94	7.15	85.8 84.7	85.2	2.21	2.23	2.03	2.7	2.3	2.7
		/ Fine	Bottom	19.6	22.9	36.0	36.0	5.53	5.52	5.52	79.2	79.1	2.45	2.46		3.9	3.3	
			Surface	1.0	26.9	36.0 31.8	01.7	5.51 7.28	7.00		78.9 108.8	108.0	2.47 0.34	0.22		2.7 4.3	2.4	
		25	Surface	1.0	20.0	31.7	31.7	7.30	7.29	6.50	109.1	106.9	0.31	0.33		2.5	3.4	
14/7/2023	9:01:34		Middle	9.8	23.2	35.6	35.6	5.68	5.71		81.6	82.0	1.42	1.43	1.13	1.7	2.0	2.7
		/ Fine	Bottom	19.6	22.8	36.0 36.0	36.0	5.46 5.45	5.46	5.46	78.1 77.9	78.0	1.61 1.64	1.63		3.3 1.9	2.6	
		20	Surface	1.0	28.1	30.5	30.5	8.07	8.08		122.5	122.7	1.32	1.34		3.7	4.8	
18/7/2023	11:00:39		Middle	10.3	28.0	30.6	30.7	7.83	7.84	7.96	118.6	118.8	1.41	1.40	1.39	2.6	2.9	3.6
		/ Fine				30.7 30.8		7.85 7.61		= = /	118.9 115.0		1.38 1.44	=		3.1 2.7		
			Bottom	20.5	27.8	30.9	30.9	7.60	7.61	7.61	115.0	115.0	1.45	1.45		3.5	3.1	
		28	Surface	1.0	26.9	33.8	33.8	5.76	5.76	5 73	87.2	87.2	0.64	0.65		4.6	4.1	
20/7/2023	13:11:19		Middle	10.0	26.9	34.0 34.0	34.0	5.70 5.69	5.70		86.4 86.3	86.3	0.93	0.93	0.96	2.8 2.0	2.4	2.5
		/ Fine	Bottom	20.1	26.8	34.1	34.1	5.67	5.66	5.66	85.8	85.7	1.27	1.31		1.0	1.0	
			Surface	10	27.1	34.1	33.1	6.00	5.99		90.8	90.6	0.97	0.98		2.1	31	
		28	Gundoo			33.1 34.5		5.97 5.95	0.00	5.95	90.3 90.5		0.98	0.00		4.1 3.5		
22/7/2023	13:30:24	15	Middle	10.2	26.9	34.5	34.5	5.88	5.92		89.4	89.9	1.05	1.04	1.29	5.5	4.5	4.4
		/ Fine	Bottom	20.3	26.6	35.6	35.7	5.49 5.44	5.47	5.47	83.6	83.2	1.88	1.87		5.2	5.5	
		27	Surface	1.0	27.4	33.4 33.4	33.4	6.38 6.35	6.37		97.2 96.9	97.0	1.52 1.48	1.50		1.9 2.8	2.4	
24/7/2023	14:01:22		Middle	10.7	25.8	34.9	34.9	5.83	5.82	6.09	87.2	87.0	1.46	1.46	1.67	1.7	2.7	2.4
		/ Fine	Bottom	21.3	25.0	34.9 35.4	35.4	5.80 5.26	5.26	5.26	86.8 77.8	77.8	2.02	2.05		2.1	23	
			Dottom	21.5	20.0	35.4 33.2	55.4	5.26 6.50	5.20	5.20	77.7 99.6	77.0	2.07	2.00		2.4	2.5	
		27	Surface	1.0	27.8	33.2	33.2	6.52	6.51	6.40	99.9	99.7	2.31	2.32		4.6	4.2	
26/7/2023	17:00:09		Middle	9.9	24.9	35.4 35.4	35.4	6.34 6.24	6.29		93.7 92.0	92.9	2.13	2.10	2.22	1.6	1.4	2.4
		/ Fine	Bottom	19.9	24.0	35.8	35.8	5.37	5.36	5.36	78.3	78.2	2.25	2.24		2.0	1.7	
			Surface	1.0	28.2	33.0	33.0	6.25	6.24		96.3	96.0	0.77	0.77		2.2	2.1	
00/7/0000	0,00,10	27	Mala	10.0	047	33.0 35.4	05.4	6.22 5.88	E 07	6.05	95.8 86.6	00.4	0.76 3.36	0.00	0.07	1.9 1.7		
28/7/2023	9:33:12	/ Fine	iviladle	10.6	24./	35.4	35.4	5.86	5.8/		86.3	86.4	3.39	3.38	2.67	1.7	1./	2.4
		/ 1 1110	Bottom	21.2	24.4	35.6	35.5	5.29	5.28	5.28	77.1	77.3	3.86	3.86		4.3	3.4	
		26	Surface	1.0	27.1	32.7 32.8	32.7	6.25 6.15	6.20	F 0 1	94.4 92.9	93.6	0.46	0.48		1.0 1.8	1.4	
31/7/2023	16:01:01		Middle	10.5	24.5	35.2	35.3	5.73	5.69	5.94	84.0	83.4	1.08	1.09	1.31	3.8	3.7	3.0
		/ Fine	Bottom	21.0	24.2	35.3 35.5	35.5	5.29	5 29	5 29	62.7 77.3	77 0	2.34	2 37		3.0 4.2	30	
			DOLIOIII	21.0	24.2	35.6	33.5	5.29	5.29	5.29	77.2	11.2	2.39	2.37		3.6	3.9	

Monitoring Station : TKO-M4



_	_	Ambient Temp			Temp	Salinit	y (ppt)	Dissolv	ed Oxyger	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Т	urbidity (NT	TU)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	Monitoring	Depth (m)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
		26	Surface	1.0	25.9	31.0 31.0	31.0	5.96 5.94	5.95		87.3 87.1	87.2	0.58	0.60		3.3	2.9	
3/7/2023	11:44:54		Middle	4.0	25.7	31.3	31.3	5.44	5.44	5.69	79.6	79.5	0.72	0.73	0.97	3.0	2.8	2.9
		/ Fine	Bottom	7.9	23.2	35.8	35.8	5.37	5.36	5.36	73.3	77.0	1.55	1.57	-	2.0	3.0	-
			Surface	1.0	25.7	35.8	31.3	6.35	6.37		93.0	93.3	1.60	1.59		3.7 1.9	1.7	
5/7/2023	14:12:07	26	Middle	4.9	25.0	31.2 32.7	32.9	6.39 5.83	5.82	6.10	93.6 85.0	84.7	1.58 2.03	2.03	2.07	1.4 1.7	1.9	1.8
		/ Fine	Bottom	9.8	24.3	33.1 33.9	33.9	5.81 5.61	5.61	5.61	84.4 81.3	81.2	2.02 2.65	2.60	-	2.0 1.8	19	-
			Surface	1.0	25.2	33.9 33.1	22.1	5.60 6.20	6.00	0.01	81.1 90.9	01.1	2.54 0.90	0.80		1.9 1.7	1.0	
7/7/0000	15:10:00	25	Middle	1.0	23.2	33.1 34.3	04.4	6.24 5.76	0.22	5.99	91.4 83.1	91.1	0.87	0.09		2.0 1.5	1.5	
1/1/2023	15:12:08	/ Fine	Widdle	5.3	23.9	34.5 35.0	34.4	5.74 5.44	5.75		83.1 78.7	83.1	1.17 1.38	1.18	1.15	1.5 4.0	1.5	2.2
			Bottom	10.7	23.8	35.2	35.1	5.41	5.43	5.43	78.1	78.4	1.39	1.39		2.2	3.1	
		26	Surface	1.0	25.4	33.4	33.4	8.40	8.38	8.00	123.7	123.4	0.65	0.64		4.0	3.7	
10/7/2023	17:45:10		Middle	4.5	25.2	33.6 34.0	33.8	7.71	7.62		113.4	111.8	0.65	0.61	0.71	5.8	6.3	4.6
		/ Fine	Bottom	8.9	23.0	35.7 35.8	35.8	6.21 6.18	6.20	6.20	89.0 88.4	88.7	0.85 0.91	0.88		3.0 4.9	4.0	
		25	Surface	1.0	26.7	31.4 31.5	31.4	8.32 8.39	8.36	7 44	123.9 125.0	124.4	1.66 1.62	1.64		3.4 3.7	3.6	
12/7/2023	9:15:09		Middle	4.6	23.5	34.6 35.2	34.9	6.52 6.51	6.52	7.44	93.6 93.8	93.7	2.04 2.09	2.07	2.02	2.0 2.4	2.2	2.8
		/ Fine	Bottom	9.1	23.2	35.7 35.8	35.7	5.73 5.66	5.70	5.70	82.4 81.3	81.8	2.35	2.35		2.9	2.7	
		26	Surface	1.0	27.1	31.2	31.2	7.42	7.44		111.1	111.5	0.28	0.29		1.1	1.1	
14/7/2023	10:13:21		Middle	4.1	25.0	33.3	33.4	6.23	6.15	6.79	91.1	89.9	0.71	0.76	0.76	2.1	2.4	2.2
		/ Fine	Bottom	8.2	23.6	33.6	35.1	5.53	5.51	5.51	88.8 79.7	79.4	1.21	1.23		3.5	3.1	
			Surface	1.0	28.2	35.2 30.4	30.4	5.48 7.93	7.95		79.1 120.3	120.6	1.25	1.28		2.6	1.9	
18/7/2023	12:12:25	29	Middle	49	28.1	30.4 30.5	30.6	7.96 7.57	7 59	7.77	120.8 114.9	115.2	1.27 1.34	1.33	1.33	1.5 3.7	3.9	3.1
10,772020	12.12.20	/ Fine	Pottom	0.9	28.0	30.6 30.7	20.7	7.61 7.39	7.29	7 29	115.5 112.0	111.0	1.31 1.38	1.00		4.1 3.5	2.5	0.1
			Bollom	9.0	20.0	30.7 33.9	30.7	7.37 5.73	7.30	7.30	111.7 86.8	111.9	1.38 0.75	1.30		3.5 3.9	3.5	
		28	Surface	1.0	26.9	33.9 33.9	33.9	5.73 5.72	5.73	5.72	86.8 86.7	86.8	0.75	0.75		3.7 1.3	3.8	
20/7/2023	14:16:11	/ Fine	Middle	4.6	26.9	34.0 34.0	33.9	5.70	5.71		86.4 86.0	86.5	0.86	0.87	0.89	3.2	2.3	2.7
		71110	Bottom	9.1	26.8	34.0	34.0	5.67	5.68	5.68	85.8	85.9	1.00	1.04		2.1	2.1	
		28	Surface	1.0	27.1	33.2	33.1	6.29	6.30	6.26	95.5 95.1	95.3	0.83	0.84		4.5 3.4	4.0	
22/7/2023	14:35:14		Middle	4.6	26.9	34.0 34.1	34.0	6.24 6.20	6.22		94.6 94.0	94.3	0.95	0.95	0.97	5.5 6.1	5.8	4.3
		/ Fine	Bottom	9.1	26.6	35.0 35.0	35.0	5.83 5.82	5.83	5.83	88.4 88.1	88.3	1.11 1.12	1.12		3.5 2.6	3.1	
		28	Surface	1.0	27.7	33.8 33.7	33.7	7.38 7.37	7.38	7 22	113.2 113.2	113.2	1.41 1.44	1.43		1.2 2.5	1.9	
24/7/2023	15:13:11		Middle	4.4	27.5	33.9 33.9	33.9	7.08 7.05	7.07	1.22	108.3 107.7	108.0	1.52 1.53	1.53	1.66	2.0 1.3	1.7	1.7
		/ Fine	Bottom	8.9	26.1	34.7 34.7	34.7	5.66 5.62	5.64	5.64	85.0 84.4	84.7	2.02 2.01	2.02		1.5 1.9	1.7	
		27	Surface	1.0	27.3	33.6 33.6	33.6	6.18 6.17	6.18		94.1 93.9	94.0	2.01	2.01		3.1	3.5	
26/7/2023	18:05:58		Middle	4.9	25.6	34.9	34.9	6.14	6.16	6.17	91.5	91.8	1.91	1.88	1.89	1.4	1.5	2.6
		/ Fine	Bottom	9.8	25.1	35.2	35.2	5.58	5.57	5.57	92.1 82.6	82.4	1.76	1.78	-	2.9	2.9	
			Surface	1.0	28.4	35.3 32.9	32.9	5.56 7.06	7.04		82.2	108.7	0.39	0.40		2.8	1.8	
28/7/2023	10:42:02	29	Middle	4.5	28.3	32.9 33.0	33.0	7.02 6.67	6.67	6.86	108.4 102.9	102.9	0.41 0.42	0.43	0.42	1.6 2.4	24	25
20/1/2020		/ Fine	Bottom	0.0	20.0	33.0 32.9	22.0	6.67 6.42	6.41	E 41	102.9 99.1	000	0.43 0.44	0.44	5.72	2.3 2.3	2† 0.F	2.0
			BULLOTT	0.9	20.4	32.9 33.1	32.9	6.39 5.82	0.41	0.41	98.7 88.1	90.9	0.44 0.45	0.44		4.7 1.3	3.5	
		27	Surface	1.0	27.1	33.2 33.5	33.1	5.74	5.78	6.04	86.9 95.5	87.5	0.47	0.46		2.6	2.0	
31/7/2023	17:10:59	/ Ein-	Middle	4.2	26.8	33.6	33.6	6.28	6.31		94.5	95.0	0.61	0.60	0.79	2.2	2.8	2.7
		/ Fine	Bottom	8.3	24.8	35.2 35.2	35.2	5.62	5.65	5.65	83.7	83.2	1.31	1.32		4.0 2.6	3.3	



Appendix D3

Graphical Plots of Impact Marine Water Quality Monitoring Data





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







Dissolved Oxygen (Bottom) at Mid-Flood 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 D4

Impact Marine Water Quality Monitoring Results (3RS Project)

東業德勤測試顧問有限公司 ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-C1a

D .	-	Ambient Temp	Monitori	na Depth	Temp	Salinit	y (ppt)	Dissolv	ed Oxyger	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Τι	urbidity (NT	ſU)	Susper	nded Solids	s (mg/L)
Date	Time	(^o C) / Weather Condition	(r	n)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
			Surface	1.0	25.8	31.3	31.3	6.28	6.27	are age	92.0	91.8	0.59	0.60	a. e. age	2.6	3.1	
2/7/2022	17:50:54	25	Middlo	° 6	22.1	31.3 35.9	25.0	6.25 5.63	5.62	5.94	91.6 80.9	90.7	1.66	1.69	1 70	2.8	24	2.0
3/1/2023	17.52.54	/ Fine	wildule	0.0	23.1	35.9	33.9	5.61	5.02		80.6	00.7	1.70	1.00	1.70	2.0	2.4	2.5
		/11110	Bottom	17.3	23.0	36.0	36.0	5.40	5.39	5.39	77.0	77.2	2.82	2.83		3.0	3.3	
		26	Surface	1.0	25.8	31.3	31.2	6.45	6.47		94.5 94.9	94.7	1.56	1.56		1.6	1.5	
5/7/2023	18:55:23		Middle	8.4	24.3	33.8	33.8	5.85	5.81	6.14	84.8	84.1	2.41	2.43	2.22	1.3	2.1	1.8
		/ Fine				33.8 34.6		5.76 5.48			83.5 79.4		2.45 2.68			2.9		
			Bottom	16.9	24.0	35.1	34.8	5.41	5.45	5.45	78.1	78.8	2.64	2.66		1.5	1.8	
		25	Surface	1.0	25.4	32.8 32.8	32.8	6.39 6.42	6.41	c 00	93.8 94.3	94.0	0.83	0.84		2.2	2.1	
7/7/2023	9:18:58		Middle	9.4	23.5	34.7	34.9	5.68	5.65	0.03	81.6	81.2	1.09	1.10	1.14	4.1	3.1	2.5
		/ Fine	Bottom	18.9	23.2	35.7	35.8	5.46	5 4 4	5 44	78.5	78.1	1.48	1.48	-	2.1	24	
			Dottom	10.0	20.2	35.8	00.0	5.41	0.44	0.44	77.7	70.1	1.47	1.40		2.3	2.7	
		25	Surface	1.0	25.2	33.2	33.2	7.10	7.10	6.63	104.1	104.0	0.96	0.96	_	4.1	3.4	-
10/7/2023	9:55:09		Middle	8.6	23.6	35.0 35.1	35.0	6.23 6.11	6.17		89.8 88.1	89.0	0.90	0.86	1.22	4.1 3.8	4.0	4.1
		/ Fine	Bottom	17.2	22.9	35.9	36.0	5.42	5.34	5.34	77.6	76.4	1.73	1.85		4.9	5.0	
			Quinte e e	1.0	00.7	36.0 31.5	01.0	5.26 8.43	0.07		75.2 125.6	101.0	1.96 1.90	1.01		5.1 5.2		
		25	Surface	1.0	20.7	31.7	31.6	8.31	8.37	7.14	123.5	124.6	1.91	1.91		2.0	3.0	
12/7/2023	13:26:13		Middle	9.0	23.0	35.9	35.9	5.89	5.90		84.7	84.6	2.48	2.46	2.37	3.9	5.6	4.6
		/ Fine	Bottom	18.1	22.9	36.0	36.0	5.45	5.44	5.44	78.1	77.9	2.76	2.75		4.0	4.8	
			Surface	1.0	26.2	32.4	32.4	7.06	7.07		104.8	105.0	0.37	0.40		1.6	1.7	
		25				32.4 35.2		7.07 6.52		6.79	105.1 94.1		0.43		-	1.7 4.4		
14/7/2023	15:48:26		Middle	10.1	23.6	35.4	35.3	6.50	6.51		93.9	94.0	0.50	0.52	1.12	4.6	4.5	2.9
		/ Fine	Bottom	20.2	22.6	36.2 36.2	36.2	5.67 5.63	5.65	5.65	80.9 80.3	80.6	2.45 2.43	2.44		1.7 3.4	2.6	
		20	Surface	1.0	28.2	30.4	30.4	8.17	8.16		124.0	123.8	1.46	1.46		4.9	4.5	
18/7/2023	17:47:30	29	Middle	9.7	28.1	30.4	30.5	7.89	7.01	8.03	123.5	120.0	1.45	1.57	1.54	4.0 5.6	5.1	14
10/7/2023	17.47.30	/ Fine	Widdle	5.7	20.1	30.5 30.7	30.5	7.92	7.51		120.2	120.0	1.58	1.57	1.54	4.5	5.1	
		,	Bottom	19.3	27.9	30.8	30.8	7.74	7.75	7.75	117.3	117.4	1.62	1.61		2.7	3.7	
		28	Surface	1.0	26.9	33.7 33.7	33.7	5.79 5.79	5.79		87.6 87.6	87.6	0.62	0.64		4.4 3.4	3.9	
20/7/2023	8:26:11		Middle	9.6	26.8	34.0	34.0	5.71	5.71	5.75	86.4	86.4	0.79	0.81	0.77	2.4	2.9	2.8
		/ Fine	Pottom	10.2	26.9	34.0 34.0	24.0	5.71	5 70	5 70	86.4 86.3	96.2	0.82	0.97		3.4	1.5	
			Dottom	13.2	20.0	34.0	34.0	5.69	5.70	5.70	86.1 95.1	00.2	0.88	0.07		1.8	1.5	
		28	Surface	1.0	27.1	33.9	33.4	6.26	6.28	6.15	95.2	95.1	0.79	0.78		2.5	2.5	-
22/7/2023	8:14:06		Middle	9.8	26.8	34.4 34.4	34.4	6.05 6.01	6.03		91.8 91.2	91.5	0.97	0.98	1.10	6.8 4.8	5.8	4.3
		/ Fine	Bottom	19.6	26.6	35.4	35.4	5.58	5.57	5.57	84.8	84.5	1.52	1.55		3.1	4.5	
			Quinte e e	1.0	07.4	35.4 33.4	00.4	5.55 6.78	0.70		84.2 103.3	100.1	1.57 2.38	0.07		5.9 3.7		
		27	Surface	1.0	27.4	33.4	33.4	6.74	6.76	6.59	102.8	103.1	2.36	2.37		2.9	3.3	
24/7/2023	8:21:26		Middle	10.9	26.4	34.5	34.6	6.44	6.42		97.1	96.7	2.03	2.01	2.35	1.5	1.4	2.3
		/ Fine	Bottom	21.8	25.4	35.1 35.2	35.2	5.53 5.52	5.53	5.53	82.3 81.9	82.1	2.58	2.69		1.8	2.2	
			Surface	1.0	27.8	33.2	33.2	6.47	6.48		99.1	99.2	2.50	2.50		2.8	2.1	
00/7/0000	10.10.00	27		0.5	047	33.2 35.5	05.5	6.48 6.23	0.00	6.35	99.3 91.8		2.49 2.51	0.54	0.50	1.3 1.5		
26/7/2023	10:13:09	/ F ine	IVIIddie	9.5	24.7	35.5	35.5	6.21	6.22		91.5	91.6	2.50	2.51	2.50	3.0	2.3	2.3
		/ Fine	Bottom	19.0	24.2	35.7	35.7	5.46	5.44	5.44	79.8 79.1	79.5	2.49	2.49		2.1	2.5	
		27	Surface	1.0	28.4	32.8	32.8	6.53	6.52		100.8	100.6	0.94	0.95		2.3	2.2	
28/7/2023	14:53:06		Middle	11.1	25.3	35.1	35.1	5.70	5.69	6.10	84.6	84.4	2.28	2.28	1.69	2.1	3.3	3.6
		/ Fine				35.1 35.4		5.67 5.28			84.2 78.0		2.28 1.83		-	4.4 5.7		
		-	Bottom	22.1	24.9	35.4	35.4	5.24	5.26	5.26	77.4	77.7	1.85	1.84		4.8	5.3	
		26	Surface	1.0	26.9	33.3 33.3	33.3	6.30 6.20	6.25	E 00	95.1 93.6	94.4	0.37	0.36		3.9 4.8	4.4	
31/7/2023	9:18:59		Middle	10.4	24.5	35.3	35.4	5.65	5.62	5.93	82.9	82.4	1.35	1.36	1.42	2.1	3.7	4.0
		/ Fine	Bottom	20.9	23.0	35.7	35.7	5.46	5.46	5.46	79.4	79.1	2.56	2 55	1	4.2	41	
			201000	20.0	20.0	35.7	00.7	5.46	0.40	0.40	79.4		2.53	2.00		3.9		

Monitoring Station : TKO-M4a



Data	T	Ambient Temp	Monitorin	ng Depth	Temp	Salinit	ty (ppt)	Dissolv	ed Oxyger	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Tu	urbidity (NT	"U)	Susper	nded Solids	s (mg/L)
Date	Lime	(°C) / Weather Condition	(n	n)	(°C)	Value	Average	Value	Average	Depth-	Value	Average	Value	Average	Depth-	Value	Average	Depth-
			Surface	1.0	25.9	31.0	31.0	6.33	6.32	average	92.8	92.6	0.56	0.57	average	3.4	2.6	average
		25		-		31.0 35.9		6.30 5.65		5.98	92.4 81.2		0.57		-	1.8		
3/7/2023	18:05:55		Middle	8.8	23.1	35.9	35.9	5.63	5.64		80.9	81.0	1.52	1.51	1.61	3.0	3.4	2.8
		/ Fine	Bottom	17.6	23.0	36.0	36.0	5.37	5.36	5.36	77.0	76.8	2.75	2.76		2.3	2.3	
			Surface	1.0	25.4	32.0	22.0	6.36	6.26		93.0	02.0	1.66	1.67		1.8	2.0	
		26	Sunace	1.0	20.4	32.1	32.0	6.36	0.30	6.15	93.0	93.0	1.68	1.07	-	2.2	2.0	
5/7/2023	19:06:24		Middle	7.5	25.0	32.9	33.2	5.96	5.94		87.0	86.5	2.45	2.44	2.24	1.8	1.8	1.6
		/ Fine	Bottom	15.1	23.3	35.1	35.1	5.59	5.56	5.56	80.2	79.9	2.63	2.62		1.2	1.1	
-						35.1 32.8		5.52 6.42			79.6 94.3		2.60 0.80			1.0 3.9		
		25	Surface	1.0	25.4	32.8	32.8	6.45	6.44	6.01	94.7	94.5	0.80	0.80		3.8	3.9	
7/7/2023	9:33:08		Middle	7.6	23.6	34.9 35.2	35.0	5.61 5.57	5.59		80.8 80.4	80.6	1.12	1.13	1.09	2.9	3.5	3.1
		/ Fine	Bottom	15.3	23.4	35.5	35.6	5.41	5.38	5.38	77.9	77 4	1.34	1.35		2.1	19	
			Dottoin		20.1	35.7	00.0	5.35	0.00	0.00	76.9		1.35			1.7		
		25	Surface	1.0	25.2	33.3	33.3	7.16	7.16	6 76	105.1	105.1	0.86	0.87		5.1	4.2	
10/7/2023	10:06:17		Middle	7.6	23.7	35.0	35.0	6.36	6.36	0.70	91.9	91.8	0.85	0.85	0.94	4.4	4.9	4.5
		/ Fine	Duni	15.0		35.0		5.51	- 17	5.47	91.7 78.9	70.0	1.09			4.0		
			Bottom	15.2	22.9	36.0	36.0	5.43	5.47	5.47	77.8	/8.3	1.12	1.11		4.7	4.4	
		25	Surface	1.0	26.5	31.6 31.7	31.7	8.06 8.01	8.04		119.8 119.0	119.4	2.01	2.04		1.8 3.2	2.5	
12/7/2023	13:37:09		Middle	7.1	23.1	35.2	35.5	6.06	6.04	7.04	86.7	86.5	2.33	2.35	2.40	4.8	4.9	4.2
		/ Fine				35.8 36.0		6.01 5.58			86.3 79.8		2.36			4.9		
		, T iiic	Bottom	14.2	22.8	36.0	36.0	5.53	5.56	5.56	79.1	79.4	2.82	2.81		4.9	5.3	
		05	Surface	1.0	26.1	32.8	32.9	6.89	7.09		102.4	105.2	0.32	0.31		1.7	1.5	
14/7/0000	10.00.10	25	Malalla	11.0	00.0	35.7	05.0	5.88	5.04	6.46	84.7	00.0	0.56	0.55	1.01	1.3	15	17
14/7/2023	16:06:19	15.1	widdie	11.6	23.3	35.9	35.8	5.79	5.84		83.0	83.8	0.54	0.55	1.01	1.1	1.5	1.7
		/ Fine	Bottom	23.2	22.8	36.0	36.0	5.44	5.40	5.40	76.7	77.2	2.13	2.16		2.1	2.2	
-			Surface	1.0	28.1	30.4	30.4	7.99	7.98		121.1	121.0	1.46	1.48		3.9	4.2	
		29				30.4 30.6		7.97 7.70		7.85	120.8 116.7		1.49 1.57			4.5 3.5		
18/7/2023	18:05:22		Middle	7.6	28.0	30.6	30.6	7.72	7.71		117.0	116.9	1.55	1.56	1.56	3.6	3.6	4.2
		/ Fine	Bottom	15.2	27.9	30.7 30.7	30.7	7.54	7.56	7.56	114.1	114.3	1.62	1.64		4.1	4.9	
-			Surface	1.0	26.9	33.7	33.7	5.78	5 78		87.5	87.5	0.62	0.62		3.8	36	
		28	Ganade	1.0	20.0	33.7	00.7	5.78	0.70	5.75	87.5	07.0	0.62	0.02	-	3.4	0.0	
20/7/2023	8:38:19		Middle	7.6	26.8	34.0	34.0	5.71	5.71		86.4	86.4	0.80	0.79	0.77	2.7	2.1	2.6
		/ Fine	Bottom	15.2	26.9	34.0	34.0	5.70	5.70	5.70	86.4	86.4	0.88	0.90		2.1	2.3	
-			Ountees	1.0	07.1	34.0	00.0	6.26	0.00		94.7	04.7	0.91	0.05		2.4	0.4	
		28	Surface	1.0	27.1	33.0	33.0	6.25	6.26	6.13	94.7	94.7	0.86	0.85		4.4	3.4	
22/7/2023	8:26:16		Middle	7.6	26.8	35.1 35.1	35.1	6.02	6.01		91.7 91.4	91.5	0.93	0.94	1.14	6.2 6.1	6.2	4.2
		/ Fine	Bottom	15.3	26.6	35.6	35.6	5.47	5.46	5.46	83.3	83.1	1.63	1.64		2.9	3.0	
-						35.6 33.8		5.45 6.80			83.0 104.1		1.64 2.28			3.1 2.9		
		27	Surface	1.0	27.6	33.7	33.7	6.86	6.83	6.60	105.0	104.6	2.28	2.28		2.5	2.7	
24/7/2023	8:37:18		Middle	10.2	25.9	34.9 34.9	34.9	6.38	6.38		95.6 95.5	95.5	1.57	1.59	2.16	1.6	2.5	2.6
		/ Fine	Bottom	20.3	24.9	35.4	35.4	5.58	5.56	5 56	82.5	82.2	2.61	2.61		3.2	27	
			Dottom	20.0	24.0	35.4	00.4	5.54	0.00	0.00	81.9	UL.L	2.61	2.01		2.2	2.7	
		27	Surface	1.0	27.9	33.0	33.0	6.68	6.67	6.49	102.4	102.2	2.40	2.41		1.0	1.8	
26/7/2023	10:28:07		Middle	7.3	25.0	35.3	35.3	6.34	6.31	0.49	93.8	93.3	2.31	2.29	2.34	1.2	1.5	1.6
		/ Fine	Dettern	14.5	04.0	35.3	05.7	5.37	F 07	F 07	92.9 78.6	70.5	2.27	0.00		1.8	15	
			Bollom	14.5	24.3	35.7	35.7	5.37	5.37	5.37	78.4	/8.5	2.35	2.33		1.8	1.5	
		27	Surface	1.0	28.4	32.9	32.9	6.61 6.58	6.60		102.1	101.9	0.75	0.77		3.8	4.3	
28/7/2023	15:07:03		Middle	10.4	25.3	35.1	35.1	5.73	5.73	6.16	85.1	85.0	2.32	2.34	1.88	3.5	4.2	3.8
		/ Fine				35.1 35.1		5.72 5.34			84.9 79.2		2.36		-	4.9 2.8		
			Bottom	20.7	25.2	35.1	35.1	5.29	5.32	5.32	78.4	78.8	2.53	2.52		3.1	3.0	
		26	Surface	1.0	26.7	33.4	33.4	6.30 5.73	6.02		94.9 86.6	90.7	0.47	0.46		2.6	3.1	
31/7/2023	9.32.28		Middle	Q 1	24 5	35.3	35.3	5.41	5 30	5.70	79.4	70,1	1.55	1 55	1 45	2.3	20	26
01/1/2020	0.00.00	/ Fino	muule	3.1	27.0	35.3	55.5	5.36	5.55		78.7	73.1	1.55	1.00	15	1.7	2.0	2.0
		/1118	Bottom	18.2	24.1	35.5	35.6	5.29	5.30	5.30	76.9	77.2	2.31	2.34		3.2 2.2	2.7	

Monitoring Station : TKO-M5



		Ambient Temp			-	Salinit	y (ppt)	Dissolv	ed Oxyger	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Tu	urbidity (NT	ſU)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	Monitorir (r	ng Depth n)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
		25	Surface	1.0	25.7	31.4 31.5	31.4	6.26 6.22	6.24	5.06	91.6 91.1	91.4	0.55 0.59	0.57		2.2 3.2	2.7	
3/7/2023	18:20:49		Middle	8.1	23.1	35.8 35.9	35.8	5.69 5.66	5.68	5.50	81.7 81.3	81.5	1.40 1.43	1.42	1.51	1.4 2.7	2.1	3.1
		/ Fine	Bottom	16.2	23.0	35.9 36.0	36.0	5.38 5.34	5.36	5.36	77.2	76.9	2.52	2.55		5.3	4.4	
		26	Surface	1.0	25.4	32.4 32.4	32.4	6.64 6.72	6.68		97.3 98.5	97.9	1.30	1.28		2.2	2.2	
5/7/2023	19:25:09		Middle	7.5	25.0	33.2 33.6	33.4	6.18 6.09	6.14	6.41	90.3 88.8	89.5	1.99 2.03	2.01	1.91	4.1	4.2	2.8
		/ Fine	Bottom	15.1	23.2	35.3 35.5	35.4	5.64 5.56	5.60	5.60	80.9 79.8	80.4	2.43	2.45		1.3	2.0	
		25	Surface	1.0	25.5	32.7 32.6	32.6	6.49 6.49	6.49		95.4 95.3	95.4	0.86	0.86		3.6	2.7	
7/7/2023	09:49:59		Middle	7.5	24.1	34.4 34.4	34.4	5.84 5.79	5.82	6.15	84.6 83.8	84.2	0.99	1.04	1.06	2.3	3.3	2.9
		/ Fine	Bottom	15.0	23.6	35.2 35.4	35.3	5.60 5.59	5.60	5.60	80.8 80.5	80.7	1.26	1.28		2.3	2.6	
		25	Surface	1.0	25.2	33.3 33.3	33.3	7.22 7.25	7.24		106.0 106.4	106.2	0.86 0.84	0.85		3.8 3.7	3.8	
10/7/2023	10:24:09		Middle	7.5	23.1	35.4 35.7	35.5	6.15 5.84	6.00	6.62	88.1 83.8	85.9	0.85	0.89	0.93	5.0 5.0	5.0	4.2
		/ Fine	Bottom	14.9	23.0	35.9 36.0	35.9	5.58 5.47	5.53	5.53	80.0 78.3	79.2	1.06	1.06		3.4	3.8	
		25	Surface	1.0	26.5	31.7	31.7	7.98	8.00		118.6	118.9	2.03	2.01		4.3	3.7	
12/7/2023	13:56:10		Middle	7.0	23.1	35.3	35.5	5.92	5.93	6.96	84.7	84.9	2.40	2.43	2.39	5.6	3.9	4.0
		/ Fine	Bottom	14.0	22.8	36.0	36.0	5.53	5.52	5.52	79.1	78.9	2.75	2.73	-	3.7	4.4	
		25	Surface	1.0	26.7	31.4 31.1	31.3	7.55	7.56		70.0 112.4	113.0	0.26	0.27		5.1 1.1	1.3	
14/7/2023	16:21:09	23	Middle	8.3	23.3	35.2	35.4	6.03	5.99	6.77	86.6	86.0	0.69	0.70	1.03	1.4	1.6	1.5
		/ Fine	Bottom	16.7	23.1	35.8	35.8	5.61	5.57	5.57	80.5	79.9	2.11	2.13		1.7	1.7	
		29	Surface	1.0	28.2	30.3	30.4	7.87	7.89		119.4	119.7	1.36	1.37		4.3	4.3	
18/7/2023	18:20:13		Middle	7.5	28.1	30.4 30.5	30.5	7.64	7.65	7.77	115.9	116.0	1.45	1.47	1.46	3.5	3.8	4.4
		/ Fine	Bottom	14.9	28.0	30.7	30.8	7.53	7.55	7.55	114.1	114.4	1.52	1.53	-	4.1	5.0	
		28	Surface	1.0	26.9	33.8	33.8	5.77	5.77		87.4	87.4	0.70	0.71		3.5	2.4	
20/7/2023	08:56:20		Middle	7.5	26.9	34.0	34.0	5.71	5.71	5.74	86.5 86.5	86.5	0.86	0.85	0.82	2.1	2.2	2.3
		/ Fine	Bottom	15.0	26.9	34.0 34.0	34.0	5.69	5.69	5.69	86.3 86.1	86.2	0.89	0.91		2.0	2.3	
		28	Surface	1.0	27.1	33.1	33.1	6.37	6.36		96.4	96.3	0.74	0.75		3.2	3.0	
22/7/2023	08:44:17	20	Middle	7.9	26.9	34.3	34.3	6.09	6.08	6.22	92.5	92.3	0.92	0.92	0.97	6.1	5.7	4.6
		/ Fine	Bottom	15.8	26.6	34.4 35.2	35.3	5.85	5.85	5.85	92.1 88.9	88.8	1.23	1.25		5.2	5.1	
		07	Surface	1.0	27.5	33.8	33.7	6.94	6.95		106.1	106.3	1.48	1.47		2.8	3.0	
24/7/2023	08:53:13	21	Middle	7.7	26.1	33.7	34.8	6.21	6.19	6.57	93.3	93.0	1.46	1.53	1.74	3.1	3.3	3.3
		/ Fine	Bottom	15.4	25.2	34.8 35.2	35.3	5.70	5.67	5.67	92.7 84.6	84.1	2.21	2.24		3.4	3.8	
		07	Surface	1.0	27.8	35.3 33.2	33.2	5.64 6.52	6.52		99.9	99.8	2.26	2.24		4.2 2.2	2.1	
26/7/2023	10:46:08	21	Middle	7.4	25.0	35.3	35.3	6.54	6.53	6.52	99.7 96.7	96.5	2.23	2.22	2.25	2.0	3.6	3.1
		/ Fine	Bottom	14.8	24.3	35.3	35.7	5.53	5.53	5.53	96.3 81.0	80.8	2.21	2.30		4.4	3.7	
		20	Surface	1.0	28.1	35.7 33.1	33.1	5.52 6.77	6.76		80.6 104.1	103.9	0.71	0.72		3.0 4.5	4.5	
28/7/2023	15:22:02	28	Middle	7.3	27.1	33.1 33.8	33.8	6.28	6.26	6.51	103.7 95.4	95.1	0.73	2.03	1.63	4.4	4.9	4.3
		/ Fine	Bottom	14.5	25.4	33.8 35.0	35.0	6.24 5.65	5.64	5.64	94.8 84.0	83.8	2.04	2.15	-	5.0 4.2	3.7	
			Surface	1.0	27.2	35.1 32.9	33.0	5.62	5.72		83.6 86.8	86.5	2.16 0.51	0.53		3.1	4.3	
31/7/2023	09:55:10	26	Middle	7.5	24.7	33.0 35.2	35.2	5.70 5.89	5.84	5.78	86.2 86.6	85.8	0.55	0.97	1.22	5.3 3.8	3.0	3.9
		/ Fine	Bottom	15.0	24.2	35.2 35.5	35.5	5.79 5.55 5.53	5.54	5.54	85.0 81.1	80.9	1.02 2.12 2.19	2.16	-	2.2 5.0	4.5	

Monitoring Station : TKO-C1a



		Ambient Temp	Monitorir	na Depth	Temp	Salini	ty (ppt)	Dissolv	ed Oxygei	n (mg/L)	Dissolve Satura	d Oxygen tion (%)	Τι	irbidity (NT	U)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	(n	n)	(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
		05	Surface	1.0	26.4	30.5	30.5	6.23	6.22	a. c. age	91.8	91.5	0.43	0.45		2.0	2.2	a. e. age
2/7/2022	10:40:50	25	Middlo	0.1	22.2	30.5 35.8	25.9	6.21 5.96	5.04	6.08	91.2 85.7	95.4	0.47	1 71	1.61	2.4	10	2.0
3/1/2023	10.49.59	/ Fine	wildule	9.1	23.2	35.8	35.0	5.92	5.94		85.2 81.2	03.4	1.72	1.71	1.01	2.4	1.9	2.9
		, 1 110	Bottom	18.2	23.1	35.9	35.9	5.60	5.63	5.63	80.5	80.8	2.67	2.66		3.9	4.6	
		26	Surface	1.0	26.1	30.7 30.8	30.7	6.71 6.69	6.70	0.01	98.5 98.3	98.4	1.63	1.62		3.3 1.4	2.4	
5/7/2023	13:25:31		Middle	8.9	24.5	33.4	33.4	5.95	5.92	6.31	86.3	85.9	2.38	2.42	2.43	4.1	3.5	3.0
		/ Fine	Bottom	17.8	23.8	34.6	34.9	5.47	5.48	5.48	79.0	79.1	3.28	3.26		3.8	3.1	
			Currénese	1.0	05.5	35.1 32.5	00.5	5.49 6.38	0.00		79.2 93.7	00.7	3.24 0.88	0.00		2.4 1.5	15	
		25	Surface	1.0	25.5	32.5	32.5	6.39 5.76	0.39	6.07	93.8 83.1	93.7	0.88	0.00		1.5	1.5	-
7/7/2023	14:23:04		Middle	9.2	23.7	35.0	34.9	5.76	5.76		83.2	83.1	1.36	1.38	1.22	3.3	4.4	2.7
		/ Fine	Bottom	18.4	23.5	35.3 35.5	35.4	5.33 5.29	5.31	5.31	76.8 76.2	76.5	1.40 1.38	1.39		1.8 2.3	2.1	
		25	Surface	1.0	25.3	33.5	33.5	8.04	7.98		118.3	117.4	0.70	0.69		4.8	5.0	
10/7/2023	16:56:07	23	Middle	8.4	22.9	35.7	35.8	6.27	6.24	7.11	89.6	89.3	0.84	0.84	1.06	2.5	3.9	4.2
		/ Fine				35.9 35.8		6.21 5.80			88.9 82.8		0.83			5.3 4.1		
			Bottom	16.8	22.8	35.8	35.8	5.71	5.76	5.76	81.5	82.2	1.66	1.67		3.5	3.8	
		25	Surface	1.0	26.7	31.5	31.5	8.22	8.25	7 10	122.5	122.8	1.64	1.63		6.1	5.6	
12/7/2023	8:26:09		Middle	8.9	23.1	35.3 35.8	35.5	5.99 5.92	5.96		85.7 85.0	85.4	2.33 2.34	2.34	2.13	2.7 2.5	2.6	4.3
		/ Fine	Bottom	17.8	22.9	36.0	36.0	5.51	5.50	5.50	78.9	78.7	2.42	2.42		4.5	4.8	
			Surface	1.0	26.9	36.0 31.8	31.9	5.49 7.27	7 25		108.8	108.2	0.36	0.37		5.1 3.4	4.4	
		25	Gundoo		20.0	32.0 35.4	01.0	7.22 5.78	7.20	6.50	107.5 83.1	100.2	0.38	0.07		5.3 1.3		-
14/7/2023	9:21:11	(Fire	Middle	9.9	23.3	35.6	35.5	5.74	5.76		82.6	82.8	1.27	1.26	1.07	1.7	1.5	2.8
		/ Fine	Bottom	19.7	22.9	35.9 36.1	36.0	5.42 5.37	5.40	5.40	77.6	77.1	1.58	1.57		2.6	2.6	
		29	Surface	1.0	28.1	30.4 30.4	30.4	7.64	7.66		115.8 116.2	116.0	1.32	1.33		4.9	3.6	
18/7/2023	11:20:15		Middle	9.4	28.0	30.6	30.6	7.41	7.41	7.53	112.3	112.2	1.43	1.42	1.41	3.8	3.8	4.2
		/ Fine	Bottom	18.8	27.8	30.6 30.7	30.8	7.40	7 10	7 10	107.4	107.3	1.41	1 49		3.8 5.1	5.4	-
			Dottoini	10.0	27.0	30.8 33.8	00.0	7.09 5.75		7.10	107.1 87.1	107.0	1.50 0.74	1.40		5.6 2.9	0.4	
		28	Surface	1.0	26.9	33.9	33.8	5.74	5.75	5.72	86.9	87.0	0.76	0.75		2.7	2.8	-
20/7/2023	13:26:12		Middle	8.9	26.9	34.0 34.0	34.0	5.69	5.70		86.5	86.3	1.05	1.04	0.99	2.8 3.5	3.2	3.5
		/ Fine	Bottom	17.9	26.8	34.2 34.3	34.2	5.65 5.64	5.65	5.65	85.6 85.5	85.5	1.19	1.19		4.9 4.4	4.7	
		29	Surface	1.0	27.2	32.8	32.8	6.25	6.25		94.6	94.5	0.76	0.78		5.0	4.5	
22/7/2023	13:45:16	20	Middle	9.0	26.9	32.8	35.0	5.95	5.95	6.10	94.4 90.7	90.6	1.09	1.09	1.07	4.0	4.1	4.5
		/ Fine				35.1 35.3		5.94 5.67			90.4 86.2		1.08 1.34			3.6 5.2		-
			Bottom	18.0	26.6	35.4	35.4	5.64	5.66	5.66	85.7	86.0	1.35	1.35		4.4	4.8	
		27	Surface	1.0	27.6	33.5	33.5	6.76	6.78	6.38	104.0	103.7	1.69	1.69		3.3	3.5	
24/7/2023	14:21:23		Middle	10.4	25.9	34.9 34.9	34.9	5.98 5.98	5.98		89.6 89.6	89.6	1.78 1.75	1.77	1.95	2.1 3.5	2.8	3.6
		/ Fine	Bottom	20.9	25.4	35.1	35.1	5.49	5.49	5.49	81.7	81.6	2.40	2.41		3.8	4.4	
			Surface	1.0	28.0	33.0	33.0	6.78	6.79		104.1	104.2	2.41	2.05		1.3	1.5	
00/7/0000	17 15 00	27	MC L II.		05.0	33.0 35.3	05.0	6.79 6.05	0.00	6.40	104.3 89.5		2.07 1.92	4.00		1.7 3.5		
26/7/2023	17:15:08	/ Fine	Middle	9.2	25.0	35.3	35.3	5.98	6.02		88.4	89.0	1.88	1.90	2.02	2.9	3.2	2.4
		/11110	Bottom	18.4	24.1	35.7	35.8	5.43	5.41	5.41	79.5	78.9	2.08	2.11		3.4	2.4	
		27	Surface	1.0	28.3	32.9 32.9	32.9	6.58 6.56	6.57		101.5 101.2	101.3	0.67	0.68		1.3 3.9	2.6	
28/7/2023	9:49:06		Middle	10.5	25.0	35.2	35.2	6.06	6.06	6.31	89.6	89.5	2.54	2.56	1.77	5.0	5.5	4.2
		/ Fine	Bottom	21.0	24.8	35.4	35.5	5.43	5.42	5.42	80.1	79.9	2.05	2.07	ł	5.0	4.6	1
			Q	10	-	35.5 33.4	00.4	5.40 6.02	5.07		79.7 90.8	00.1	2.09 0.44	0.47		4.2 2.8	0.7	
		26	SULIACE	1.0	20.8	33.4	33.4	5.92	5.97	5.91	89.5 85.9	90.1	0.49	0.47		4.6	3./	-
31/7/2023	16:17:59		Middle	10.0	24.4	35.5	35.4	5.83	5.85		85.3	85.6	1.30	1.28	1.43	4.7	4.8	4.3
		/ Fine	Bottom	20.1	23.8	35.7 35.8	35.7	5.53 5.51	5.52	5.52	80.3 80.1	80.2	2.53 2.54	2.54		4.4 4.6	4.5	

Monitoring Station : TKO-M4a



		Ambient Temp			Temp	Salinit	ty (ppt)	Dissolv	ved Oxygei	n (mg/L)	Dissolve	d Oxygen	Τι	urbidity (NT	TU)	Susper	nded Solids	s (mg/L)
Date	Time	(°C) / Weather Condition	Monitoring I	Depth (m)	(°C)	Value	Average	Value	Average	Depth-	Value	Average	Value	Average	Depth-	Value	Average	Depth-
			Surface	1.0	26.3	30.3	30.4	6.19	6.18	average	91.0	90.8	0.40	0.41	average	2.8	3.3	average
3/7/2023	11:02:55	25	Middle	9.4	23.2	30.4 35.8	35.8	6.16	6.03	6.10	90.6 87.1	86.7	0.41 1.23	1.24	1.40	3.8	20	33
3/1/2023	11.02.55	/ Fine	Widdle	5.4	23.2	35.8	35.0	6.00 5.54	0.03		86.3 79.6	00.7	1.25	1.24	1.40	2.2	2.5	- 3.5
		, , , , , , , , , , , , , , , , , , , ,	Bottom	18.7	23.1	35.9	35.9	5.51	5.53	5.53	79.2	79.4	2.57	2.56		3.5	3.8	
		26	Surface	1.0	26.1	30.7 30.7	30.7	6.64 6.66	6.65		97.5 97.8	97.6	1.50 1.51	1.51		3.6 3.3	3.5	
5/7/2023	13:36:09		Middle	7.0	25.2	32.2	32.5	6.00	5.98	6.31	87.5	87.1	1.95	2.03	2.19	1.2	2.1	2.4
		/ Fine	Bottom	13.9	23.8	34.6	34.8	5.54	5.54	5.54	80.0	79.8	3.02	3.04		1.5	1.6	-
			0 (10.0	20.0	34.9 32.8	01.0	5.53 6.40	0.01	0.01	79.7 94.0		3.05 0.86	0.01		1.7 1.7		
		25	Surface	1.0	25.4	32.8	32.8	6.40	6.40	6.10	94.0	94.0	0.91	0.89	-	2.7	2.2	-
7/7/2023	14:38:11		Middle	7.2	23.5	34.9 35.2	35.0	5.82	5.80		83.7	83.4	1.24	1.23	1.20	2.8	2.4	2.7
		/ Fine	Bottom	14.4	23.3	35.5 35.6	35.6	5.35 5.31	5.33	5.33	77.0 76.4	76.7	1.52	1.48		4.6	3.6	
		05	Surface	1.0	25.4	33.4	33.4	8.26	8.28		121.7	121.9	0.68	0.68		3.4	3.7	
10/7/2022	17:07:09	25	Middlo	7 1	22.0	33.4 35.8	25.0	8.29 6.14	6 1 2	7.20	122.1 88.0	97.0	0.67	0.06	1.06	4.0	4.4	4.5
10/7/2023	17.07.00	/ Fine	Widdle	7.1	23.0	35.9	35.9	6.12 5.75	0.13		87.8 82.5	07.9	0.96	0.90	1.00	4.3	4.4	4.5
		71110	Bottom	14.2	23.0	36.0	35.9	5.71	5.73	5.73	81.8	82.1	1.57	1.56		5.9	5.5	
		25	Surface	1.0	26.9	31.2 31.3	31.2	8.64 8.69	8.67	7.50	129.0 129.7	129.3	1.61 1.58	1.60		5.2 5.8	5.5	
12/7/2023	8:38:08		Middle	7.0	23.2	35.7	35.7	6.38	6.37	7.52	91.7	91.6	2.22	2.25	2.17	4.7	4.3	4.7
		/ Fine	Bottom	14.0	23.0	35.7	35.9	5.77	5.76	5 76	91.4 82.7	82.5	2.28	2 65		3.0 4.7	44	-
			Bottom		20.0	35.9 32.5	00.0	5.74 7.06	0.70	0.70	82.2 104.9	02.0	2.63 0.36	2.00		4.0		
		25	Surface	1.0	26.2	32.4	32.4	7.08	7.07	6.37	105.3	105.1	0.37	0.37		1.4	1.3	_
14/7/2023	9:37:14		Middle	8.7	23.5	35.5 35.6	35.5	5.66 5.67	5.67		81.7 81.9	81.8	1.39	1.38	1.10	4.1 3.4	3.8	2.9
		/ Fine	Bottom	17.5	22.6	36.2 36.2	36.2	5.37 5.34	5.36	5.36	76.6 76.2	76.4	1.58	1.56		4.4	3.7	
			Surface	1.0	28.1	30.5	30.5	7.95	7.94		120.6	120.3	1.38	1.37		4.7	5.1	
19/7/0000	11.26.10	29	Middle	7.0	28.0	30.4 30.7	20.7	7.92	7.71	7.82	120.0 117.0	116.9	1.36 1.44	1.45	1 4 4	5.4 3.6	2.6	4.2
10/7/2023	11.50.19	/ Fine	Widdle	7.5	20.0	30.7 30.9	30.7	7.69	7.71		116.5 113.2	110.0	1.46	1.45	1.44	3.6	3.0	4.5
		, , , , , , , , , , , , , , , , , , , ,	Bottom	14.6	27.9	30.9	30.9	7.46	7.47	7.47	113.0	113.1	1.51	1.50		4.5	4.3	
		28	Surface	1.0	26.9	33.9 33.9	33.9	5.70 5.70	5.70	5.00	86.4 86.4	86.4	0.92	0.93		3.9 4.6	4.3	
20/7/2023	13:37:13		Middle	6.9	26.9	34.0	34.0	5.69	5.69	5.69	86.2 86.0	86.1	0.94	0.95	0.94	3.1	2.8	3.9
		/ Fine	Bottom	13.8	26.8	34.0	34.1	5.67	5.67	5.67	85.8	85.8	0.95	0.95	-	4.7	4.8	-
			0.1		07.0	34.1 32.9		5.67 6.09	0.00		85.8 92.2	00.4	0.94 0.74	0.75		4.8 4.6	10	-
		28	Surface	1.0	21.2	33.0 34.4	33.0	6.07	6.08	6.03	92.0 91.0	92.1	0.75	0.75	-	4.0	4.3	-
22/7/2023	13:56:17		Middle	7.1	26.9	34.4	34.4	5.95	5.97		90.3	90.6	1.04	1.06	1.09	3.6	4.0	4.5
		/ Fine	Bottom	14.2	26.6	35.4 35.4	35.4	5.53 5.52	5.53	5.53	84.1 83.9	84.0	1.49 1.45	1.47		5.2 5.2	5.2	
		27	Surface	1.0	27.5	33.7	33.7	7.15	7.19		109.3	109.9	1.58	1.59		2.9	2.7	
24/7/2023	14:37:11	21	Middle	9.8	26.0	34.9	34.9	6.32	6.27	6.73	94.9	94.0	1.65	1.67	1.88	4.8	35	3.3
2 11/2020		/ Fine		0.0	20.0	34.9 35.2	01.0	6.21 5.53	5.50		93.2 82.2	0.1.0	1.68 2.39			2.2 4.2	0.0	-
			Bottom	19.6	25.3	35.3	35.2	5.52	5.53	5.53	81.8	82.0	2.40	2.40		3.2	3.7	
		27	Surface	1.0	27.4	33.5 33.5	33.5	6.24	6.23	6 24	95.1 94.8	95.0	2.04	2.05		2.0	1.5	
26/7/2023	17:31:09		Middle	7.7	25.3	35.2 35.2	35.2	6.27 6.21	6.24	0.24	93.1 92.2	92.7	1.75 1.67	1.71	1.89	2.3	2.3	2.4
		/ Fine	Bottom	15.4	24.1	35.9	35.9	5.57	5.56	5.56	81.4	81.2	1.88	1.91		2.8	3.3	-
			Surface	1.0	20.2	35.9 32.9	22.0	5.54 6.78	6.74		80.9 104.6	104.0	1.94 0.57	0.59		3.8 5.6	6.2	
		28	Surface	1.0	20.3	33.0 33.5	33.0	6.70	0.74	6.42	103.4 93.1	104.0	0.59	0.56	-	6.9	0.5	-
28/7/2023	10:06:07		Middle	9.8	27.4	33.6	33.5	6.08	6.10		92.7	92.9	2.37	2.36	1.62	2.7	2.8	4.3
		/ Fine	Bottom	19.7	24.9	35.4 35.4	35.4	5.59 5.55	5.57	5.57	82.6 82.0	82.3	1.92 1.94	1.93		3.1 4.8	4.0	
		26	Surface	1.0	27.2	33.0	33.1	5.79	5.79		87.7 87.5	87.6	0.33	0.36		4.0	3.5	
31/7/2023	16:33:59		Middle	8.9	24.5	35.3	35.3	5.56	5.53	5.66	81.5	81.1	1.24	1.25	1.27	3.4	3.2	3.6
		/ Fine	D.r.	4= 0		35.3 35.5	05.5	5.50 5.30			80.7 77.4		1.25 2.20			3.0 4.4		
			Bottom	17.8	24.2	35.6	35.5	5.28	5.29	5.29	77.0	77.2	2.24	2.22		4.0	4.2	

Monitoring Station : TKO-M5



Date	Time	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)		s (mg/L)
					(°C)	Value	Average	Value	Average	Depth- average	Value	Average	Value	Average	Depth- average	Value	Average	Depth- average
3/7/2023	11:22:56	05	Surface	1.0	25.9	30.9	30.9	6.02	6.00		88.2	87.9	0.51	0.53		4.5	3.5	u. e. uge
		25	Middle	7.5	23.2	30.9	35.7	5.98	5.98	5.99	86.1	85.9	1.16	1 17	1.27	3.4	28	31
		/ Fine	Wildule	7.0	20.2	35.8 35.8	00.7	5.96 5.70	0.00		85.7 81.8	00.0	1.17	1.07	2.2	2.0	0.1	
			Bottom	15.0	23.1	35.9	35.9	5.70	5.70	5.70	81.9	81.9	2.42	2.41		2.5	3.2	
5/7/2023	13:54:08	26	Surface	1.0	25.6	31.5 31.6	31.6	6.21 6.20	6.21	5.07	90.8 90.6	90.8 90.6 90.7	1.66 1.67	1.67	2.26	1.5 1.5	1.5	1.9
		/ Fine	Middle	7.3	24.9	32.8	33.0	5.75	5.74	5.56	83.7	83.4	2.25	2.25		1.4	2.5	
			Bottom	14.6	24 1	33.3	34.3	5.59	5.56		80.9	80.4	2.23	2 85		2.1	16	
7/7/2023	14:56:09		-			34.5 32.6	01.0	5.53 6.36	0.00	0.00	79.9 93.4		2.86 0.91	2.00		1.1 2.5		
		25	Surface	1.0	25.5	32.7	32.6	6.39	6.38	6.12	93.9	93.7	0.89	0.90	1.19	2.6	2.6	3.0
		/ Fine	Middle	7.5	23.6	34.5 34.9	34.7	5.90	5.86	5.46	84.8 83.8	84.3	1.14	1.17		4.0 3.8	3.9	
			Bottom	15.1	23.3	35.6 35.7	35.6	5.48 5.43	5.46		78.9 78.0	78.4	1.49	1.52		2.9	2.6	
10/7/2023	17:27:08		Surface	1.0	25.5	33.4	33.4	8.44	8.46		124.5	124.8	0.63	63 0.64		5.9	5.8	4.6
		25 / Fine		7.0		33.4 35.4	05.4	8.48 6.72	0.74	7.58	125.1 96.4		0.65 0.84	0.00	0.98	5.7 3.5	4.0	
			Middle	7.0	23.2	35.5	35.4	6.69	6./1		96.1	96.2	0.82	0.83		4.4	4.0	
			Bottom	14.0	22.9	36.0	36.0	5.78	5.76	5.76	76 <u>82.8</u> 82 81.9 82	82.4	1.45	1.46		4.8 3.5	4.2	
12/7/2023	8:56:09	25	Surface	1.0	26.8	31.4 31.4	31.4	8.43 8.51	8.47		125.7 126.9	126.3	1.80	1.79		4.1 5.8	5.0	
		23	Middle	6.9	23.3	35.4	35.5	6.02	6.00	7.23	86.5	86.2	2.16	2.17	2.19	2.7	2.6	4.0
		/ Fine	Dettern	10.0	00.0	35.7 35.8	05.0	5.97 5.62	5.00	5.00	85.8 80.6	00.0	2.18	0.00		2.5 4.9	4.5	
			Bottom	13.9	23.0	35.9	35.9	5.58	5.60	5.60	80.0	80.3	2.65	2.63		4.0	4.5	
14/7/2023	9:53:17	26 / Fine	Surface	1.0	27.2	31.2	31.2	7.40	7.54	- 6.65 5.39	112.2	113.1	0.25	0.26		3.2	3.1	3.1
			Middle	7.2	23.9	34.9 34.8	34.9	5.79 5.71	5.75		83.9 82.8	83.3	1.45	1.44	1.10	2.8	2.2	
			Bottom	14.4	22.9	35.9	35.9	5.41	5.39		77.4	77.2	1.59	1.60		3.8	4.0	
18/7/2023	11:52:22	29	Surface	1.0	<u> </u>	36.0 30.4	20.4	5.37 8.09	9.07		76.9 122.8	102.5	1.61	1.27		4.1 3.9	4.0	3.3
			Surface	1.0	20.2	30.4 30.6	30.4	8.05	0.07	7.96	122.2	122.5	1.38	1.37		4.0	4.0	
		/ Fine	Middle	7.2	28.0	30.7	30.7	7.83	7.85	7.66	118.6	118.9	1.43	1.43	1.42	3.9	4.6	
			Bottom	14.4	27.9	30.8 30.8	30.8	7.64 7.67	7.66		115.8 116.2	116.0	1.46 1.49	1.48		1.3 1.5	1.4	
20/7/2023	13:56:19	28	Surface	1.0	26.9	33.8	33.8	5.75	5.75	_	87.1	87.1	0.71	0.71	0.92	4.6	4.3	3.7
		20	Middle	7.0	26.9	33.9	34.0	5.72	5.71	5.73	86.7	86.5	0.92	0.94		3.9	3.8	
		/ Fine				34.0 34.1		5.70 5.66			86.4 85.7		0.95			3.7 2.5		
			Bottom	14.0	26.8	34.2	34.1	5.65	5.66	5.66	85.6	85.6	1.08	1.12		3.5	3.0	
22/7/2023	14:15:23	28	Surface	1.0	27.1	33.0 33.0	33.0	6.23	6.23	6.15	94.2 93.9	94.1	0.75	0.75	1.06	4.5 3.4	4.0	4.7
			Middle	7.0	26.9	34.3 34.3	34.3	6.10	6.08		92.6 92.0	92.3	1.03	1.05		4.5	4.8	
		/ Fine	Bottom	14.0	26.5	35.4	35.4	5.61	5.60	5.60	85.1	84.9	1.36	1.38		5.7	5.3	
			Surface	1.0	28.0	35.4 33.7	22.7	5.58 7.55	7.54		84.7 116.3	115 7	1.39 1.35	1.07		4.8 1.9	2.5	$\left - \right $
24/7/2023	14:56:06	28	Surface	1.0	20.0	33.8	33.7	7.52	7.54	7.43	115.0	115.7	1.38	1.37	1.67	3.0	2.5	2.7
		/ Fine	Middle	7.3	27.3	34.0	34.0	7.30	7.33		111.3	111.8	1.49	1.52		5.2	4.1	
			Bottom	14.6	25.2	35.3 35.0	35.2	6.26 6.23	6.25	6.25 <u>92.9</u> 92.9	92.9	2.15 2.12	2.14		1.5 1.7	1.6		
26/7/2023		27	Surface	1.0	27.3	33.6	33.6	5.96	5.97	7 6.08 9 2 5.52	90.8	90.9	2.07	2.06	1.87	1.6	1.4	2.6
	17:48:28		Middle	7.6	25.3	33.7 35.2	35.2	5.98 6.21	6 1 9		90.9 92.3	92.0	2.05	1.61		2.9	3.2	
	17.40.20	/ Fine	Middle	7.0	20.0	35.2	33.2	6.17 5.53	0.19		91.7 80.8	92.0	1.56	1.01		3.5	3.2	
			Bottom	15.2	24.1	35.8	35.8	5.51	5.52		80.5	80.6	1.97	1.93		2.9	3.2	
28/7/2023	10:21:02	28	Surface	1.0	28.4	32.8 32.9	32.9	6.96 6.92	6.94	6.94 6.72	107.5 106.9	107.2	0.45	0.46	0.97	5.5 5.1	5.3	4.5
			Middle	7.6	28.2	32.9	33.0	6.53	6.50		100.5	100.0	1.52	1.53		2.9	3.5	
		/ Fine	Bottom	15.0	25.2	33.0 35.1	35.1	6.31	630	6.30	99.5 93.7	03.5	0.93	0 02		4.1 5.2	16	
			Douon	10.2	20.0	35.2 33.0	33.1	6.28 5.88	0.00		93.3 89.1	53.3	0.92	0.93		4.0	4.0	
31/7/2023	16:52:59	26	Surface	1.0	27.2	33.2	33.1	5.86	5.87	5.79	88.7	88.9	0.54	0.53	1.17	3.4	4.0	4.0
		/ Fine	Middle	7.0	24.8	35.1 35.1	35.1	5.74 5.67	5.71	5.39	84.5 83.5	84.0	1.04 1.04	1.04		3.5 4.2	3.9	
			Bottom	14.0	24.4	35.4	35.4	5.40 5.38	5.39		79.1 78.7	78.9	1.93	1.94		3.3 5.2	4.3	



Appendix D5

Graphical Plots of Impact Marine Water Quality Monitoring Data (3RS Project)







Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide (3RS project)





Dissolved Oxygen (Bottom) at Mid-Flood Tide (3RS project)







Turbidity (Depth-average) at Mid-Flood Tide (3RS project)



Turbidity(Depth-average) at Mid-Ebb Tide (3RS project)








Appendix E

Weather Condition

	-		0			/ /		0	
	Mean				Mean	Mean	Total	Prevailing	Mean
	Pressure	Ai	ir Temperatı	ıre	Dew	Relative	Rainfall	Wind	Wind
	(hPa)				Point	Humidity	(mm)	Direction	Speed
Day		Absolute	Mean	Absolute	(deg C)	(%)		(degrees)	(km/h)
		mosorute	Mean		(ucg. c)	(70)		(uegi ces)	
		Daily	(deg.C)	Daily					
		Max		Min					
		(deg. C)		(deg. C)					
1	1006.6	30.9	28.9	26.2	25.6	82	4.7	200	16.2
2	1007.9	29.3	27.5	26.2	25.5	89	15.6	240	11.6
3	1008.8	32.4	28.9	27	25.7	83	3.6	200	19.5
4	1008.7	32	29.3	26.7	25.8	82	10.6	230	25.5
5	1008.4	33	30.4	28.9	25.9	77	Trace	230	25.5
6	1008.9	32.8	30.3	28.4	25.7	77	Trace	230	26.7
7	1009.7	33.4	30.4	29	25.7	76	0.3	220	24.7
8	1010.4	33.2	30.4	28.8	25.6	76	-	240	18.7
9	1009.8	33.7	30.5	28.7	26	77	Trace	240	21.5
10	1008.5	33.7	30.7	28.9	25.7	75	-	240	21.5
11	1008.4	33.6	30.7	28.9	25.8	76	-	240	18
12	1008.2	34.5	30.7	28.9	25.4	74	-	180	11
13	1006.8	34.8	30.9	28.6	24.8	71	-	90	6.5
14	1004.4	33.8	31.3	28.5	25.2	71	-	240	9.1
15	1000.8	34.5	31.1	28.2	25.8	74	2.5	270	11.7
16	997.7	33.3	29.7	27.2	24.8	75	4.9	50	45.5
17	997.5	29.4	28.4	27.2	25.7	85	29	100	61.4
18	1004.5	31.1	29.2	27.5	26.6	86	10.9	120	35.3
19	1007.5	30.3	28.7	27.3	26.5	88	3.9	120	19.8
20	1008.5	33.6	29.6	26.8	25.6	80	4.8	120	10.6
21	1009.7	32.4	29.7	27.7	25.6	79	Trace	160	5.4
22	1010.8	34	30.6	28.3	25.7	76	-	120	4.6
23	1009.5	34.1	30.6	28.6	26	77	Trace	110	8
24	1007.7	34.6	30.7	28.4	26	76	-	130	5.5
25	1006.3	33.4	30.7	28.4	25.3	73	-	240	14.3
26	1002.3	35.5	32	29.3	26.1	72	-	10	8.7
27	997.7	36.1	32.2	28.4	25.1	67	6.9	360	16.6
28	996.8	34.7	31.5	28.9	25.7	72	-	230	16.6
29	1002.3	31.5	29.8	27.2	26.8	84	21	220	18
30	1005.4	32.1	29.2	27.5	26.7	87	10	140	17.3
31	1006.3	32.5	29.1	26.5	26.1	84	46.5	80	21.9

Daily Extract of Meteorological Observations , July 2023 - Tseung Kwan O

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



Appendix F

Event-Action Plans

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

EVENT			EVENT/ACTION PLAN FOR AIR	r qual	ITY EXCEEDANCE			<u>.</u>
			ACTIO	z				
		ET Leader	I (C(E)		ER		Contractor	-
Exceedance	Ŀ	Identify source, investigate the causes	1. Discuss amondst ER. ET and Contra-	ctor on	 Confirm receipt of notificati 	ion I	 Take Immediate action to 	
for two or		of exceedance and propose remedial	the potential remedial actions		of failure in writing		avoid further exceedances	<u> </u>
more		measures	2. Review Contractor's remedial actions		2. Notify Contractor		2. Submit proposals for remediat	
consecutive	~	Notify IC(E), ER, EPD and Contractor	whenever necessary to assure their		In consultation with the IC(<u>ل</u>	actions to IC(E) within 3	
samples	có.	Repeat measurement to confirm	effectiveness and advise the ER acco	ordingly	agree with the Contractor (n N	working days of notification	
		finding	3. Supervise the implementation of rem	ediat	the remedial measures to I	<u>e</u>	Implement the agreed	
	4	Increase monitoring frequency to daily	measures		implemented		proposais	
	ιc.	Carry out analysis of contractor's		•	 Ensure remedial measures 	~	 Resubmit proposals if 	
	; 	working procedures to determine			are property implemented		problem still not under control	_
		possible mitigation to be implemented			If exceedances continues,		Stop the relevant activity of	
	g	Arrange meeting with IC(E) and ER to			consider what portion of th	e	works as determined by the	
	;	discuss the remedial actions to be			work is responsible and		ER until the exceedance is	
		taken			instruct the Contractor to s	top D	abated	
	~	Assess effectiveness of Contractor's			that portion of work until th	Ð	,	
		remedial actions and keep IC(E), EPD	•		exceedance is abated			
		and ER informed of the results						
	ŵ	If exceedance stops, cease additional						
		monitoring						Ē

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Contractor		Submit noise mitigation proposals to IC(E). Implement noise mitigation	proposals.		Take immediate action to avoid further exceedance	Submit proposals for remedial artime to IC/E) within 3	working days of notification.	Implement the agreed	Resubmit proposals if problem	still not under control. Stop the relevant activity of	works as determined by the ER	unul the exceedances is abated.					
	ŀ	~-			÷	<u>vi</u>			4.	വ്							
IOISE EXCEEDANCE		Confirm receipt of notification of failure in writing. Notify the Contractor.	Require the Contractor to propose remedial measures for the analysed noise problem.	Ensure remediar measures are properly implemented.	Confirm receipt of notification of failure in writing.	Notify the Contractor.	remedial measures for the	analysed noise problem. Ecoury remedial measures are	properly implemented.	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.				
		<u>- </u>	ი, კ	4.	<u>-</u>	<u> </u>	i .	-	ŕ	പ്						·	
EVENT/ACTION PLAN FC ACTI		 Review the analysed results submitted by the ET. Review the proposed remedial 	measures by the Contractor and advise the ER accordingly. 3. Supervise the implementation of	remedial measures.	 Discuss amongst the ER, the ET Leader and the Contractor on the 	potential remedial actions.	 Review the Contractor's remained actions whenever necessary to 	assure their effectiveness and	3. Supervise the Implementation of	remedial measures.							
		 Notify the IC(E) and the Contractor. Carry out investigation. Report the results of investigation to 	 the IC(E) and the Contractor. Discuss with the Contractor and formulate remedial measures. 	 Increase monitoring frequency to check mitigation effectiveness 	 Notify the IC(E), the ER, the EPD and the Contractor. 	. Identify source.	 Repeat measurement to continuation findings. 	1. Increase monitoring frequency.	 Carry out analysis of contractor s working procedures to determine 	possible mitigation to be implemented	3. Inform the IC(E), the ER and the	EPD the causes & actions taken for the exceedances.	7. Assess effectiveness of Contractoric remedial actions and	keep the IC(E), the EPD and the	ER informed of the results	3. If exceedance due to the	construction works stups, cease additional monitoring
L E		(v (v) -	V.	····	•					<u> </u>	<u> </u>					<u> </u>	
EVEN		Action Level			Limit I evel	2											

		IEC	Check monitoring data	submitted by E1	Confirm ET assessment if	exceedance is due / not due	to the works	Discuss with ET, ER and	Contractor on the mitigation	measures	Review contractor's	mitigation measures	whenever necessary to	ensure their effectiveness	and advise the ER	accordingly	Supervise the	implementation of mitigation	measures						
щ			. :		4			ല്			4						ດ່								
ER QUALITY EXCEEDANC		ER	Notify EPD and other relevant	governmental agencies in writing	within 24 hours of the	identification of the exceedance	Discuss with IEC, ET and	Contractor on the proposed	mitigation measures;	Require contractor to propose	remedial measures for the	analysed problem if related to the	construction works	Ensure remedial measures are	property implemented	Assess the effectiveness of the	mitigation measure								
IAT	×		÷.				r,			с,				4		ഗ്									_
ND ACTION PLAN FOR V	ACTIC	Contractor	Notify the ER and IEC in writing	within 24 hours of identification of	exceedance	Rectify unacceptable practice;	Check all plant and equipment;	Submit investigation report to IEC	and ER within 3 working days of	the identification of an	exceedance	Consider changes of working	method if exceedance is due to	the construction works	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	Implement the agreed mitigation	measures within reasonable time	scale		
T A						2	ന്	4				ശ്			ဖ						~				_
EVEN		ET Leader	 Identify source(s) of impact; 	Repeat in-situ measurement to	confirm findings:	Notify Contractor in writing within	24 hours of Identification of the	exceedance	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	davs of identification of	exceedance and advise	contractor if exceedance is due to	contractor's construction works	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
		E		þ	 }																				
Event			Action level	heing exceede	by one	sampling day																			

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Event				EVENT AND ACTION PLAN	I FC	IR WATER QUALITY		
				ACTIO	Ň			
	Ŀ	ET Leader		Contractor		ER		IEC
Action level	÷	Identify source(s) of impact;	-	Notify IEC and ER in writing	~ :	Notify EPD and other relevant	,	Check monitoring data
being	R	Repeat in-situ measurement		within 24 hours of		governmental agencies in		submitted by ET
exceeded by		to confirm findings		identification of exceedance		writing within 24 hours of the	<u>~i</u>	Confirm ET assessment
more than one	က်	Notify Contractor in writing	2	Rectify unacceptable practice;		identification of the		If exceedance is due /
consecutive		within 24 hours of	ကဲ	Check all plant and		exceedance		not due to the works
sampling days		identification		equipment;	<u>~</u> ;	Discuss with IEC, ET and	ભં	Discuss with ET, ER and
	4.	Check monitoring data, all	4	Consider changes of working	-	Contractor on the proposed		Contractor on the
		plant, equipment and		methods;		mitigation measures;		mitigation measures.
		Contractor's working methods;	ഗ	Submit the results of the	က်	Require contractor to propose	4	Review contractor's
	ມີ	Carry out investigation		investigation to IEC and ER		remedial measures for the	_	mitigation measures
	ശ	Report the results of		within 3 working days of the		analysed problem if related to		whenever necessary to
		investigation to the Contractor		identification of an		the construction works		ensure their
		within 3 working days of		exceedance	4	Ensure remedial measures		effectiveness and advise
		identification of exceedance	ö	Discuss with ET, IEC and ER		are properly implemented		the ER accordingly
		and advise contractor if		and propose mitigation	ທ່	Assess the effectiveness of	ഗ്	Assess the effectiveness
		exceedance is due to		measures to IEC and ER		the mitigation measure		of the implemented
		contractor's construction		within 4 working days of				mitigation measures.
		works		identification of an				
	~	Discuss mitigation measures		exceedance				
		with IEC and Contractor within	~	Implement the agreed				
		4 working of identification of		mitigation measures within				
		an exceedance		reasonable time scale				
	æ	Ensure mitigation measures						
		are implemented;						
	တ်	Prepare to increase the						
		monitoring frequency to daily;						
	0). Repeat measurement on next						
		day of exceedance.						

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Event		EVENI	L L	ND ACTION PLAN FOR W	ATE	ER QUALITY EXCEEDANC	Щ	
				ACTIO	N		ļ	
1		ET Leader		Contractor		ER		IEC
Limit level	-	Repeat in-situ measurement	<u> </u>	Notify IEC and ER in writing;	.	Notify EPD and other relevant		Check monitoring data
being		to confirm findings;		within 24 hours of the		governmental agencies in		submitted by EI
exceeded by	ų	Identify source(s) of impact;		identification of the		writing within 24 hours of	N	
one sampling	с,	Notify Contractor in writing		exceedance		identification of exceedance		it exceedance is due /
dav		within 24 hours of	2 N	Rectify unacceptable practice;	N	Discuss with IEC, ET and		not due to the works
•		identification of the	т.	Check all plant and		Contractor on the proposed	ຕ່	Discuss with ET, ER and
		exceedance		equipment;		mitigation measures;		
	4	Check monitoring data, all	4	Consider changes of working	<u>က်</u>	Request Contractor to critically		mitigation measures.
		plant, equipment and		methods;		review the working methods;	4	Review proposals on
		Contractor's working methods;	ഗ	Submit the results of the	4	Ensure remedial measures		
	ທີ	Carry out investigation		investigation to IEC and ER		are properly implemented		submitted by Contractor
	<u>ن</u>	Report the results of		within 3 working days of the	ъ,	Assess the effectiveness of		and advise the ER
		investigation to the Contractor		identification of an		the implemented mitigation		accordingly.
		within 3 working days of		exceedance		measures.	റ്	Assess the effectiveness
		identification of exceedance	ம்	Discuss with ET, IEC and ER				of the implemented
		and advise contractor if		and propose mitigation				mingauon measures
		exceedance is due to		measures to IEC and ER				
		contractor's construction		within 4 working days of the			-	
		works		identification of an				
	~	Discuss mitigation measures		exceedance				
		with IEC, ER and Contractor	<u>~</u>	implement the agreed				
		within 4 working of		mitigation measures within				
		identification of an		reasonable time scale				
		exceedance						
	တ်	Ensure mitigation measures						
		are implemented;						
	റ്	Increase the monitoring						
		frequency to daily until no						
		exceedance of Limit Level.			ļ			

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Event		EVEN	Ě	AND ACTION PLAN FOR W	ATE	R QUALITY EXCEEDANC	Щ	
				ACTIO	N.			
· ••••••••••••••••••••••••••••••••••••		ET Leader		Contractor		ER		IEC
Limit Level	F	. Repeat in-situ measurement	-	Notify ER and IEC in writing	÷	Notify EPD and other relevant	÷	Check monitoring data
beina		to confirm findings;		within 24 hours of the		governmental agencies in		submitted by ET
exceeded by	2	Identify source(s) of impact		Identification of the		writing within 24 hours of	N	Confirm ET assessment
more than one	i ei	Notify Contractor in writing		exceedance and		identification of exceedance		if exceedance is due /
	;	within 24 hours of	ц.	Rectify unacceptable practice;	r,	Discuss with IEC, ET and		not due to the works
samoling days		identification of the	က်	Check all plant and		Contractor on the proposed	က်	Discuss with ER, ET and
a faa Ruuduura		exceedance		equipment;		mitigation measures;		Contractor on the
	4	Check monitoring data, all	4	Consider changes of working	ń	Request Contractor to critically		mitigation measures.
		plant equipment and		methods:		review the working methods;	4	Review proposals on
		Contractor's working methods:	<u></u>	Submit the results of the	ശ്	Ensure remedial measures		mitigation measures
	<u>ي</u>	Carry out investigation		investigation to IEC and ER		are properly implemented		submitted by Contractor
- 1	Ó	Report the results of		within 3 working days of the	4	Assess the effectiveness of		and advise the ER
	,	investigation to the Contractor		identification of an		the implemented mitigation		accordingly.
		within 3 working days of		exceedance		measures;	ശ്	Assess the effectiveness
		identification of exceedance	ပ်	Discuss with ET, IEC and ER	ശ്	Consider and instruct, if		of the implemented
		and advise contractor if	-	and propose mitigation		necessary, the Contractor to		mitigation measures.
		exceedance is due to		measures to IEC and ER		slow down or to stop all or part		
		contractor's construction		within 4 working days;		of the marine work until no		
		works	ن ف	. Implement the agreed		exceedance of Limit Level.		
	~	. Discuss mitigation measures		mitigation measures within				
		with IEC, ER and Contractor,		reasonable time scale				
-	ထံ	 Ensure mitigation measures 	~	. As directed by the Engineer,				
_		are implemented;		to slow down or to stop all or				
	Ø	 Increase the monitoring 		part of the marine work or				
		frequency to daily until no		construction actives.				
		exceedance of Limit Level for						
		two consecutive days.						



Appendix G

Works Programme

	ID	0	Task Name	Baseline Start	Baseline Finish	Duration	n Prec	decetime risk allow	ra	Ι.		1	Jul '23	3	1		.		1		Aug '2	3	
-	1		Contract duration of Contract CV/2021/9	Sat 1/1/22	Sun 31/12/23	730 days			26	1/7/02	3	10)	17		24	1	31		7	14	1	21
-	2		Contract date , Date of the Letter of Acceptance (assumed)	Mon 20/12/21	Mon 20/12/21	0 days																	
1	3		Starting Date of the Works	Sat 1/1/22	Sat 1/1/22	0 days																	
F	4		Starting Date of Section 1 of the Works	Sat 1/1/22	Sat 1/1/22	0 days	-																
F	5	H	Starting Date of Section 2 of the Works	Sat 1/1/22	Sat 1/1/22	0 days			-														
T	6		Starting Date of Section 3 of the Works	Sat 1/1/22	Sat 1/1/22	0 days	1		-														
F	7		Date for Completion of the Works	Sun 31/12/23	Sun 31/12/23	0 days			-	-													
F	8		Completion Date of Section 1 of the Works	Sun 31/12/23	Sun 31/12/23	0 days	-		-														
Γ	9	H	Completion Date of Section 2 of the Works	Sun 31/12/23	Sun 31/12/23	0 days																	
	10	H	Completion Date of Section 3 of the Works	Sun 31/12/23	Sun 31/12/23	0 days																	
	11		Planned completion dates	Sun 31/12/23	Sun 31/12/23	0 days																	
	12	HE	Planned competion date of Section 1	Sun 31/12/23	Sun 31/12/23	0 days																	
	13	H	Planned competion date of Section 2	Sun 31/12/23	Sun 31/12/23	0 days						-											
	14	H	Planned competion date of Section 3	Sun 31/12/23	Sun 31/12/23	0 days																	
	15	H	Access Date of the Site	Sat 1/1/22	Sat 1/1/22	0 days																	
	16	<u>~</u> 2	Portion A2, A3a, A3b, A3c, A4, A5a, A5b, A7c2, A10 and A1 (within 60 days after starting date)	1 Sat 1/1/22	Sat 1/1/22	0 days													*				
	17		Portion B1, B3, B6a, B6b and B7 (within 60 days after startin date)	g Sat 1/1/22	Sat 1/1/22	0 days																	
	18	~P	Portion A1. A7a, A7b, A7c1, A9, A9a and B6c (7 day's advance notice after starting date)	Sat 1/1/22	Sat 1/1/22	0 days																	
Γ	19	~	Portion B6c (7 day's advance notice after starting date)	Sat 1/1/22	Sat 1/1/22	0 days																	
	20		Hand back of the Site	Sun 31/12/23	Sun 31/12/23	0 days																	
	21		Portion A2, A3a, A3b, A3c, A4, A5a, A7c2, A10 and A11 (or at an earlier date notified by the Project Manager with 30 days' advance notice)	Sun 31/12/23	Sun 31/12/23	0 days																	
	22	 2	Portion A1, A7b, A7c1, A9 and A9a (or at an earlier date as notified by the Project Manager with 30 days' advance notice	Sun 31/12/23	Sun 31/12/23	0 days																	
	23		Portion B1, B3, B6a, B6b and B7 (or at an earlier date as notified by the Project Manager with 30 days' advance notice	Sun 31/12/23	Sun 31/12/23	0 days																	
ſ	24	11 2	Portion B6c (or at an earlier date as notified by the Project Manager with 30 days' advance notice)	Sun 31/12/23	Sun 31/12/23	0 days			-														
	25		Section 1 of the Works - Tseung Kwan O Area 137 Fill Bank	Sat 1/1/22	Sun 31/12/23	730 days	455										-						
	26	~	Taking over the existing facilities at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sat 1/1/22	Sat 1/1/22	1 day	4SS	0									and a state						
	27	H	Operation of the the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sat 1/1/22	Sun 31/12/23	730 days	2655	6 0	-	-	an seala		and a	121.50		19-19-19-19-19-19-19-19-19-19-19-19-19-1	SISE	No. of A	Bard Sarah				
	28	<u>.</u> C	Operation and maintenance of the surveillance system within Portion A of the Site	Sat 1/1/22	Sun 31/12/23	730 days	2655	5 0	-					01-01		in Ser		-	- Hereit				and the second
	29	. 4	Operation and maintenance of the existing tipping halls at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sat 1/1/22	Sun 31/12/23	730 days	26SS	5 0			U VOIC -		EE 40			de bou							
	30	P	Provision, operation and maintenance of the Crushing Plant at the Tseung Kwan O Area 137 Fill Bank within Portion A of the Site	Sat 1/1/22	Sun 31/12/23	730 days	26SS	5 0				4 0/8-	o All Contraction	C-S-IN-		o Sale		由 为444	7 - 1			and the second se	
	31	P	Operation and maintenance of the dewatering plant at the Tseung Kwan O Area 137 Fill Bank within portion A of the Site	Sat 1/1/22	Sun 31/12/23	730 days	26SS	5 0	-	-			e sunte										
	32	. 2	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	Sat 1/1/22	Sun 31/12/23	730 days	2655	5 0															
Γ			Task		Carry etc.		Fy	ternal Ta	sks		No.	AND COMPANY	2.4.2	Dur	ation-	only						Evt	ernal
							EA EA	townal Mt	lastere		~			M		Siny		-11				E AL	cinal
	Project:	3 montl	h rolling Programme July23- Sept23 CV/2021/09				· EX	ternal MI	lestone		\lor			iviar	iual Si	umma	ary Ro	Jilup	-			Ext	ernal
	Date: [2	2/07/20	23] Milest	one	*		Ina	active Mil	estone					Man	nual Si	Jmma	ary		•			Pro	gress
			Summ	ary			Ina	active Sur	mmary					Star	t-only	1			-	the set	-	De	adline
			Projec	t Summary	\bigtriangledown	6	Ma	anual Tas	k		\$			Finis	sh-onl	У					~		
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Tasks		0						
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ID		Task Name		Baseline Start	Baseline Finish	Duratio	n Prede	ecetime risk		${\cal L}^{*}$					- 2 -					1829
	0	D.			· · · · ·			allowa	26		3	Jul '	23		24	31	1	Aug	23	21
33		Construction of Gabion wall		NA	NA	681 days	;			<i>П</i> [23]	5	10	17		24	51		/ 1	.4	21
34	~	Preparing and submitting a method stateme approval	ent for	Sat 19/2/22	Fri 4/3/22	12 days		2												
35	~	Preparing and submitting the material subm	nission	Sat 5/3/22	Fri 18/3/22	12 days		2								1.1				
36	~	Obtaining approval from the Project Manage	er	Sat 19/3/22	Fri 1/4/22	1 day	35,34	2												
37	Pil	Construction of Gabion wall		Sat 2/4/22	Sun 31/12/23	546 days		7		-						-				
38	~	Re-surfacing of the access road at A11 TKO	FB	Mon 21/3/22	Fri 22/4/22	33 days		1.5.5.5.7.7		1		in starts	1		1.00	1.15	- 1	1 1 2 3		1
39	~	Submission of method statement of re-surf access road	facing the	Mon 21/3/22	Fri 25/3/22	5 days		0												
40	1	Obtaining approval from the Project Manage	er	Thu 7/4/22	Thu 7/4/22	1 day	39	2		1.0	1.0			2.4		1963				
41	~	Milling off the existing pavement, overlaying pavement on the access road	g new	Fri 15/4/22	Fri 22/4/22	8 days	40	1												
42	~	PMI no.3 Trial Production of blanket layer m recycled from public fill	naterial	Tue 28/6/22	Wed 24/8/22	156 days	•													
43	~	Submission of method statement		Tue 28/6/22	Fri 29/7/22	32 days		1												
44	~	Obtaining approval from the Project Manage	er	Sat 30/7/22	Sat 20/8/22	1 day		2												
45	1	Manufacturing and delivery of screening ma	achine	Fri 22/7/22	Thu 11/8/22	21 days		2								1.1				
46	V.,	Trial Production of blanket layer material		Mon 22/8/22	Wed 24/8/22	45 days		1												
47		PMI no.24 Implementation of C easy system	at TKOFB	Mon 22/8/22	Tue 27/12/22	94 days														
48	V	Submission of method statement for approv	/al	Mon 22/8/22	Sun 28/8/22	1 day														
49	~	Obtaining approval from the Project Manage	er	Mon 29/8/22	Sun 18/9/22	1 day	48	2												
50	~	Ordering and delivery of C easy system hare site	dware to	Mon 19/9/22	Wed 2/11/22	8 days	49	3												
51	\checkmark	Installation of the C Easy system		Thu 3/11/22	Wed 16/11/22	19 days	50	2	×.											
52	~	Trail run of the system		Thu 17/11/22	Wed 30/11/22	9 days	51	2												
53		Parallel run with the old system		Thu 1/12/22	Mon 26/12/22	0 days	52	2												
54		Operation with C easy system individually		Tue 27/12/22	Tue 27/12/22	1 day	53	0								-				
55		Handing over the facilities at the Tseung Kwan Fill Bank within Portion A of the Site to the Emp	O Area 137 ployer	Sun 31/12/23	Sun 31/12/23	0 days	8SS	0												
56		Planned Completion Date (Section 1)		Sun 31/12/23	Sun 31/12/23	0 days														
57		Section 2 of the Works - Tuen Mun Area 38 Fill	Bank	Sat 1/1/22	Sun 31/12/23	730 days		-				all the state								
58	~	Fill Bank within Portion B of the Site	iun Area 38	Sat 1/1/22	Sat 1/1/22	1 day	555	0												
29	LE L	B of the Site	Athin Portion	1 Sat 1/ 1/22	Sull 31/12/23	750 days	222	0		No. Contained					- Property of the	Contain Contain			1000	an a
60	-	Operation and maintenance of the surveillance within Portion B of the Site	system	Sat 1/1/22	Sun 31/12/23	730 days	5SS	0					ke We	Here a						
61	P.	Operation and maintenance of the existing tippi the Tuen Mun Area 38 Fill Bank within Portion B	ing halls at B of the Site	Sat 1/1/22	Sun 31/12/23	730 days	5SS	0												
62	-	Operation and Maintenance of the Crushing Pla Tuen Mun Area 38 Fill Bank within Portion B of	ant at the the Site	Sat 1/1/22	Sun 31/12/23	730 days	5SS	0						9. N. 2017		2066.55		PERMIT	SALE S	
63		Operation and maintemnance of glass cullet sto compartment at the Tuen Mun Area 38 Fill Ban Portion B of the Site	orage Ik within	Sat 1/1/22	Sun 31/12/23	730 days	5SS	0	Sin Harrison		-150054		9.200							
64	~	PMI no.05 Construction of vehicle washing I facilities	house	Wed 6/4/22	Fri 2/9/22	180 days														
65	~	Submission of method statement of vehicle house facilities	washing	Wed 6/4/22	Wed 6/4/22	1 day		1												
			Task		a contra		Exte	ernal Task	s	1	ACR. 18-18		Dur	ation-o	only				. Ext	terna
			Split				. Evte	ernal Miles	stone	0	>		Mar	nual Cu	mman	Rollun	•		Eve	torna
Project:	3 mon	th rolling Programme July23- Sept23 CV/2021/09		222			. LAR		stone	V	55 		ivial	iuai su	innary	Rollup			EX	enna
Date: [2	2/07/20	023]	ivillesto	ne	•		Inac	ctive Miles	stone	_			Mar	nual Su	immary	1	•		Pro	ogres
			Summa	iry	V	-	Inad	ctive Sumr	mary	3.1			Star	t-only					De	adlin
			Project	Summary	\bigtriangledown	6	Mai	nual Task		0	5		Finis	sh-only	/					
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ID		Task Name	Baseline Start	Baseline Finish	Duratio	nPredece	time risk	X #	a 26						5 B		Sec.		-
	6		6.	1.1.8		1 2	allowa	26	2	1	Jul '23	3	1	~		1	_	Aug '2	3
66	~	Obtaning approval from the Project Manager	Mon 25/4/22	Mon 25/4/22	1 day	65	2	1/1/23	3	1	0	1/		24	31		7	14	21
67	1	Fabrication and delivery of the vehicle washing house facilities materials on site	Fri 10/6/22	Mon 8/8/22	70 days		5												
68	~	Installation of the vehicle washing house facilities	Tue 9/8/22	Thu 1/9/22	17 days	67	2								10	*			
69	~	Trial run of vehicle washing house facilities	Fri 2/9/22	Fri 2/9/22	1 day	68	0												
70		PMI no.20 Implementation of C easy system at TMFB	Mon 22/8/22	Tue 27/12/22	118 days										120				
71	~	Submission of method statement for approval	Mon 22/8/22	Sun 28/8/22	1 day		1								1				1
72	1	Obtaining approval from the Project Manager	Mon 29/8/22	Sun 18/9/22	1 day	71	2												
73	~	Ordering and delivery of C easy system hardware to site	Mon 19/9/22	Wed 2/11/22	5 days	72	3												
74	1	Installation of the C Easy system	Thu 3/11/22	Wed 16/11/22	18 days	73	2												
75	1	Trail run of the system	Thu 17/11/22	Wed 30/11/22	0 days	74	2												
76		Parallel run with the old system	Thu 1/12/22	Mon 26/12/22	26 days	75	2												
77		Operation with C easy system individually	Tue 27/12/22	Tue 27/12/22	1 day	76	0												
78		Handing over the facilities at the Tuen Mun Area 38 Fill Bank within Portion B of the Site to the Employer	Sun 31/12/23	Sun 31/12/23	1 day	9SS	0												
79		Planned Completion Date (Section 2)	Sun 31/12/23	Sun 31/12/23	0 days														
80		Section 3 of the Works - Designated Reclamation Sites in the Mainland	Mon 20/12/21	Sun 31/12/23	755 days	C	-		a contra la contra c										
81		Collection and delivery of 2 million tonnes of Public Fill by vessels from Tseung Kwan O Area 137 Fill Bank and the Tuen Mun Area 38 Fill Bank to the Desiognated Reclamation Sites in the Mainland	Mon 20/12/21	Sun 31/12/23	744 days										-			-	
82	~	1st and 2nd quarter of first year	Mon 20/12/21	Thu 31/3/22	190 days		Sec.			÷.,					5				
83	~	Installing Front End Mobile Unit (FEMU) onto the proposed vessels	Mon 20/12/21	Sun 26/12/21	1 day		2												
84	~	Submitting application documents to EPD for application of dumping permits	Mon 20/12/21	Mon 20/12/21	1 day		0										±.		
85	V.	Obtaining the dumping permit from EPD	Tue 21/12/21	Fri 31/12/21	1 day	84	2					. 1							
86	~	for the application of the dumping permit of waste at the sea	Mon 20/12/21	Mon 20/12/21	1 day														
87	~	Obtaining the dumping permits from Ministry of Ecology and environment of the People's Republic of China through the Employer	Tue 21/12/21	Fri 31/12/21	1 day		14												
88	~	Obtaining all necessary permits, licenses, approvals and concents	Mon 20/12/21	Fri 31/12/21	1 day		14								1				
89	~	Collection and delivery of 166666 tonnes of Public Fi	Sat 1/1/22	Thu 31/3/22	21 days		10								8 0				
90	~	3rd quarter of first year	Fri 20/5/22	Fri 30/9/22	168 days														
91	~	Submitting application documents to EPD for application of dumping permits	Fri 17/6/22	Fri 17/6/22	1 day		0		1.1						1.1				
92	1	Obtaining the dumping permit from EPD	Sat 18/6/22	Thu 30/6/22	1 day	91	14								1				
93	~	Submitting Application documents to the Employer for the application of the dumping permit of waste at	Fri 20/5/22	Fri 20/5/22	1 day		0												
94	~	the sea Obtaining the dumping permits from Ministry of Ecology and environment of the People's Republic	Sat 21/5/22	Thu 30/6/22	1 day	93	14												
95	~	Obtaining all necessary permits, licenses, approvals and concents	Fri 17/6/22	Thu 30/6/22	1 day		0					-							
96	~	Collection and delivery of 499998 tonnes of Public Fi	Fri 1/7/22	Fri 30/9/22	1 day	95,92,94	14		2 - 2										
97	1	4th quarter of first year	Sat 20/8/22	Sat 31/12/22	71 days														

				Page 3			
	Project Summary	○	Manual Task	\diamond	Finish-only	~	
	Summary	÷	Inactive Summary		Start-only		Deadline
Date: [22/07/2023]	Milestone	*	Inactive Milestone	[]	Manual Summary	•	Progress
Project: 3 month rolling Programme July 23, Sent 23 (1)//2021/09	Split		External Milestone	\diamond	Manual Summary Rollup	•	External
	Task	and the second	External Tasks		Duration-only		External



ID		Task Name	Baseline Start	Baseline Finish	Duration	n Prede	cetime risk	а 1. разв			é ana		2 	5. OK - #				
	A		0 0	1.1			allowa	26	1	2	Jul	'23		24			Aug '2	23
98	~	Submitting application documents to EPI	D for Sat 17/9/22	Sat 17/9/22	14 days		0	26	<i>П</i> [23]	3	10	1,		24	31	1 /	12	1 21
99	~	Obtaining the dumping permits Obtaining the dumping permit from EPD	(assumed Sun 18/9/22	Fri 30/9/22	5 days	98	2											
100	~	Submiting Application documents to the I for the application of the dumping permit	Employer Sat 20/8/22 of waste at	Sat 20/8/22	1 day		0											
101	~	Obtaining the dumping permits from Mir Ecology and environment of the People's of China through the Employer (assumed	nistry of Sun 21/8/22 Republic	Fri 30/9/22	1 day	100	14		1000						i - Sagara			
102	~	Obtaining all necessary permits, licenses	s,approvals Sat 17/9/22	Fri 30/9/22	1 day		2											
103	~	Collection and delivery of 333332 tonnes	of Public Fil Sat 1/10/22	Sat 31/12/22	15 days	96,102	,1:14		1.4.1		2.2		1383		100			
104	~	1st quarter of second year	Sun 20/11/22	Fri 31/3/23	76 days													
105	~	Submitting application documents to EPE application of dumping permits	D for Sun 18/12/22	Sun 18/12/22	1 day		0								0.0			
106	~	Obtaining the dumping permit from EPD on 31/12/22)	(assumed Mon 19/12/22	Sat 31/12/22	1 day	105	2											18 A.
107	~	Submiting Application documents to the t for the application of the dumping permit the sea	Employer Sun 20/11/22 of waste at	Sun 20/11/22	1 day		0											
108	~	Obtaining the dumping permits from Mir Ecology and environment of the People's of China through the Employer	nistry of Mon 21/11/22 Republic	Sat 31/12/22	1 day	107	14						2					
109	v	Obtaining all necessary permits, licenses and concents	approvals Sun 18/12/22	Sat 31/12/22	1 day		2											
110	V ·	Collection and delivery of 250000 tonnes	s of Public F Sun 1/1/23	Fri 31/3/23	14 days	103,10	9, 14											
111	111	2nd quarter of second year	Sat 18/2/23	Fri 30/6/23	133 days													
112	H	Submitting application documents to EPE application of dumping permits	D for Sat 18/3/23	Sat 18/3/23	1 day		0											
113		Obtaining the dumping permit from EPD on 31/3/23)	(assumed Sun 19/3/23	Fri 31/3/23	13 days	112	2											
114		Submiting Application documents to the I for the application of the dumping permit the sea	Employer Sat 18/2/23 of waste at	Sat 18/2/23	1 day		0											
115		Obtaining the dumping permits from Mir Ecology and environment of the People's of China through the Employer (assumed	nistry of Sun 19/2/23 Republic d on	Fri 31/3/23	41 days	114	14											
116		Obtaining all necessary permits, licenses and concents	approvals Sat 18/3/23	Fri 31/3/23	14 days		2											
117		Collection and delivery of 250000 tonnes	s of Public F Sat 1/4/23	Fri 30/6/23	91 days	110,113	3, 14		1									
118		3rd quarter of second year	Sat 20/5/23	Sat 30/9/23	134 days			-		at Summer		antipers a				-		and the second second
119	~	Submitting application documents to EPD application of dumping permits	D for Sat 17/6/23	Sat 17/6/23	1 day		0											
120		Obtaining the dumping permit from EPD on 30/6/23)	(assumed Sun 18/6/23	Fri 30/6/23	13 days	119	14						n ^S ei z					
121		Submiting Application documents to the E for the application of the dumping permit the sea	Employer Sat 20/5/23 of waste at	Sat 20/5/23	1 day		0											
122		Obtaining the dumping permits from Mir Ecology and environment of the People's of China through the Employer (assumed	nistry of Sun 21/5/23 Republic d on	Fri 30/6/23	41 days	121	14											
123		Obtaining all necessary permits, licenses and concents	approvals Sat 17/6/23	Fri 30/6/23	14 days		2											
124	n	Collection and delivery of 250000 tonnes	s of Public F Sat 1/7/23	Sat 30/9/23	92 days	117,123	3, 14					Sec.			CARACTER IN		all address of	and the second second
125		4th quarter of second year	Sun 20/8/23	Sun 31/12/23	123 days								-					
126		Submitting application documents to EPD	D for Sun 17/9/23	Sun 17/9/23	1 day		0											
127	-	Obtaining the dumping permit from EPD on 30/9/23)	(assumed Mon 18/9/23	Sat 30/9/23	13 days	126	2											
			Task			Exte	rnal Task	s	10			Du	iration-	only				Externa
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128 Submits qualitation documents in the Employment 60.20023 98.20023 94.94 0 100<		0						anov	26	6	3	Jui 10	23	< E	24	21	1 7	Aug	1 23
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100 100	129		Obtaining the dumping permits from Ministry Ecology and environment of the People's Rep of China through the Employer(assumed on 30	of Mon 21/8/23	3 Sat 30/9/23	41 days	128	14											
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132 Image: Second Control of Control of Intercepted Product Of Inter	131		Collection and delivery of 250000 tonnes of P	ublic F Sun 1/10/23	Sun 31/12/23	80 days	124,13	30, 14	- 1 C -							1			
133 113 113 114 1	132	HB	Removal, excavation and deposition of stockpile and/or deposited Public Fill within the Designate Reclamation Sites in the Mainland	d Sat 1/1/22 d	Sun 31/12/23	3 730 days	6SS												E og mal
134 Image: Second maintenance of the soluting monigation second monitory of the Designate manual second monitory of the	133		Removal, excavation and deposition of stockpiled and/or deposited public fill	Sat 1/1/22	Sun 31/12/23	730 days	;	14	CENSOR	NE TURI		and a Merce				-	LT IC: TANKIN		
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137 13 14 13 13 14 13 13 14 13 15 15 15 15 15 15 15 15 13 14 14 14 15 15 15 15 15 15 16 16 16 17 17 17 14 14 14 15 15 16 17 17 16 <	136		Design, construction, operation and maintenance the new navigation channel and turning basins ir association with the new berthing facility at Zone the Designated Reclamation Sites in the Mainlane (subject to Project's Manager's instruction)	e of Sat 12/12/09 B of	9 Sat 12/12/09	564 days	5					а Сести с ,							
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142 III Operation and maintenance of navigation channel and Mon 29/8/22 Sun 31/12/23 321 days 141 14 143 III Design, construction, operation and maintenance of mev berthing facilities at Zone B of the Designation for Ministry of China through the Employer for Zone A & B (assumed of China throug	141		Obtaining the construction completion certificate	Sat 30/7/22	Sun 28/8/22	30 days	140	7											
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150 Image: Design and construction of seawalls (approximate B of the Designated Reclamation Sites in the Mainland Finite Designated Reclamation Sites Republic of China through the Employer for Zone A & B Sati 1/1/22 Sati 1/1/22 I day 0 152 Image: Preparation of design submission (PMI no18) Sun 2/1/22 Mon 31/1/22 30 days 151 7 Programme July23- Sept23 CV/2021/09 Task External Tasks Duration-only External Milestone Manual Summary Progres <td colspan="4</td> <td>149</td> <td></td> <td>Operation and maintenance of new berthing facilit</td> <td>ies Wed 28/9/22</td> <td>Sun 31/12/23</td> <td>293 days</td> <td>148</td> <td>14</td> <td>100000</td> <td>Designed and</td> <td>14.00 M</td> <td></td> <td>and the second second</td> <td></td> <td></td> <td>Contractory of</td> <td>State August</td> <td></td> <td></td>	149		Operation and maintenance of new berthing facilit	ies Wed 28/9/22	Sun 31/12/23	293 days	148	14	100000	Designed and	14.00 M		and the second second			Contractory of	State August		
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Project: 3 month rolling Programme July23- Sept23 CV/2021/09 Date: [22/07/2023] Milestone Milestone Manual Summary Progree Summary Project Summary Project Summary Manual Task Progree Project Summary Project Summary Manual Task Page 5			Sn	lit			. Exte	ernal M	ilestone		\diamond		Ma	nual Su	mman	Rollun	•		Externa
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ID	0	Task Name	Baseline Start	Baseline Finish	Duration	Predec	etime risk allowa	26		3	Ji 10	23' ונ	17	2	a	21	7	Aug	'23 14	21
153		Obtaining all necessary design approvals and concents	Tue 1/2/22	Wed 2/3/22	30 days	152	7	[]	<u>пі23</u>		10		1/	2	4	51			14	
154		instruction) Obtaining the construction completion certificate	Wed 1/6/22	Thu 30/6/22	30 days	153	7													
156		(subject to Project's Manager's instruction) Planned Completion Date (Section 3)	Sun 31/12/23	Sun 31/12/23	0 days	104														
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	Project Summary		Manual Task	\$	Finish-only	~	
	Summary	~	Inactive Summary		Start-only		Deadline
Date: [22/07/2023]	Milestone	•	Inactive Milestone		Manual Summary	٠	Progress
Project: 3 month rolling Programme July 23, Sont 23, CV/2021/00	Split		External Milestone	\diamond	Manual Summary Rollup	•	External
-	Task	No. 1 Contraction of the	External Tasks		Duration-only		External





Appendix H

Weekly ET's Site Inspection Record

Handling of Surplus Public Fill (2022-2023) - Tseung Kwan O Area 137 Fill Bank



Inspection Date f + f + f + fTime f + f + f + fWeather f + f + f + f + fWeather f + f + f + f + fWind f + f + f + f + fTemperature f + f + f + fHumidity f + f + f + fHigh f + f + fModerate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:	Jeronic	d-i	Ś
Name:	ZARNE YON KINC	Kwok winth LAM	chen Uppen Com
Title	ALON/AS	EO	Technician



For Brids No NA Fugitive Dust Emission Second 100 mitigation measures shall be provided to prevent dust nuisance. Second 100 mitigation measures shall be provided to prevent dust nuisance. Second 100 mitigation measures shall be provided and used to dampen materials. Second 100 mitigation measures shall be provided and used to dampen materials. Second 100 mitigation measures shall be provided to minimize the fugitle dust emissions. Second 100 mitigation measures shall be provided to minimize the fugitle dust emissions. Second 100 mitigation measures shall be provided to minimize the fugitle dust emissions. Second 100 mitigation measures dust for moving materials which has the potential to create dust shall have property fitting add and tail boards, and shall be provided and to a lead higher than the side and tail boards, and shall be covered by a clean targation. Second 100 mitigation measures where destand the measure dust shall have property fitting add and tail boards, and shall be covered by a clean targation. Second 100 mitigation measures material which has the potential to create dust shall have property fitting add and tail boards, and shall be covered by a clean targation. Second 100 mitigation measure material shall be provided to measure material shall be provi		Environmental Checklist	Impl	emen Stage:	tation s*	Remark
Fugitive Dust Emission V V • Dut control / migation measures shall be provided to revent dust nuisance. V V • A turb cont of a last of toom shall be maritained between the edge of the stockping area and the nearest ASRs at the TKO Industrial V V • Water spress shall be provided and used to dampen materials. V V V • Water spress shall be provided and used to dampen materials. V V V • Al vehicles shall be restrict to a maximum speed of 10 km per hour. V V V V • Al vehicles shall be restrict to a maximum speed of 10 km per hour. V V V V • Any vehicles shall be restrict to a maximum speed of 10 km per hour. V V V V • The designated stama haul road shall be paved or regular vatering. V V V V • The designated stama haul road shall be paved or regular vatering. V V V V V • Wheel washing facilities including high-pressure water jet shall be alreading on wheels of romova any dusty materials from its body and wheels before leaving the fill bank. V V V V V V V V V V V V V		•••	Yes	No	N/A	
• Dust control / mitigation measures shall be provided to prevent dust nuisance. vi • A buffer zone of tablest 100m shall be maintained between the edge of the stockpling area and the nearest ASRs at the TKO Industing vi • Water sprays shall be provided and used to dampen materials. vi vi • Water sprays shall be provided and used to dampen materials. vi vi • A luvehices shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per hour. vi vi • Any vehicles shall be restrict to a maximum speed of 10 km per note. vi vi • The designate maximum speed of 10 km per metalist. vi vi vi • Vehicle washing facilities including hip-pressure water (e shall be provided to restrict maxima stock athere instranono water stock watering. vi<	Fug	itive Dust Emission				
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• Water sprays shall be provided and used to damper materials. √ ✓ • Regular cleaning and watering the site shall be provided to minimize the fugBive dust emissions. √ ✓ • All vehicles shall be restrict to a maximum speed of 10 km per hour. √ ✓ • Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and it boards, and shall be covered by a clean targating. √ ✓ • The designated site main haul road shall be paved or regular watering. √ ✓ ✓ • Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site. √ ✓ ✓ • Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site. √ ✓ ✓ • Open burning should be prohibited. √ ✓ ✓ ✓ ✓ • Open burning should be proved by CEDD. ✓		A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	1			
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	Environmental Checklist	Impl	ement Stages	ation	Remark
		Yes	No	N/A	
Wat	er Quality		1200		
	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	1			
	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	V			
	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.	7			
	Manholes should be covered and sealed.	V			
	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	1			
•	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	1			
	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	V			
•	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	V			
	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	V			
•	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.	V			
•	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 property at all times.	4			
•	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.	V			
	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.	V			
2.	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.	1			
	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	1			
2701	Oil interceptor shall be provided at work shop.	\neg			
	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	\checkmark			
<u>)</u>	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.	4			
•	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	7			
3	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	V			
	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.	1			
. .	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.	1			
	Existing silt curtain at the outward side of the basin near the Barging Handling Area (BHA) throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	V			
•	A waste collection vessel shall be deployed to remove floating debris.	V			



Environmental Checklist	ImpI	emen Stage:	tation s*	Remark
	Yes	No	N/A	
Landscape and Visual				
 The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided. 	1			
 The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD. 	V			
 Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed. 	1			
 The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare. 	1			
Other Environmental Factors				
 C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal. 	1			
 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	V			
 Any unused materials or those with remaining functional capacity should be recycled and stored property. 	1			
All generators, fuei and oil storage are within bundle areas.	1			
Oil leakage from machinery, vehicle and plant is prevented.	V			
The Environmental Permit should be displaced conspicuously on site.	1			
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.	7			
 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. 	7			



Summary of the Weekly Site Inspection:

Iten	n Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Follow up Date

Remark

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative	- no	05 July 2023
			U I	

Handling of Surplus Public Fill (2022-2023) - Tseung Kwan O Area 137 Fill Bank



Inspection Date:12 - 3 - 33Time:14'3Weather:Sunny / Éine / Cloudy / Overcast / Drizzle / Rain / Storm / HazyWind:Calm / Light / Breeze / StrongTemperature:31' \dot{c}

Humidity

🗄 👷 High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:	Arrand	4	Z
Name:	TEANG YOU LE LIST	KWOK WINH LAM	chan Hon Can
Title	Acon/12	EO	Technician



Stages* Yes No N/A Fugitive Dust Emission V Image: Colspan="2">Stages* • Dust control / mitigation measures shall be provided to prevent dust nuisance. V Image: Colspan="2">Stages* • Dust control / mitigation measures shall be provided to prevent dust nuisance. V Image: Colspan="2">Stages* • Dust control / mitigation measures shall be provided to prevent dust nuisance. V Image: Colspan="2">Stages* • Dust control / mitigation measures shall be provided to prevent dust nuisance. V Image: Colspan="2">Stages* • Dust control / mitigation measures shall be provided to prevent dust nuisance. V Image: Colspan="2">Stages* • A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Least Nuithin the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed. V Image: Colspan="2">Stages* • Water sprays shall be provided and used to dampen materials. V Image: Colspan="2">Image: Colspan="2">Stages* • Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions. V Image: Colspan="2">Image: Colspan="2">Image: Colspan= 2" • <
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Fugitive Dust Emission Image: Control / mitigation measures shall be provided to prevent dust nuisance. Image: Control / mitigation measures shall be provided to prevent dust nuisance. • Dust control / mitigation measures shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed. Image: Control / mitigation measures shall be maintained between the edge of the stockpiled and set unloading / unloading and similar activities should be allowed. • Water sprays shall be provided and used to dampen materials. Image: Control / mitigation and watering the site shall be provided to minimize the fugitive dust emissions. Image: Control / mitigation and watering the site shall be provided to minimize the fugitive dust emissions. Image: Control / mitigation and tail boards. Material having ine 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. Image: Control / mitigation and tail boards, and shall be provided at the entrance of work site. Image: Control / mitigation and tail boards and shall be provided at the entrance of work site. Image: Control / mitigation and tail boards and shall be provided at the entrance of work site. Image: Control / mitigation and tail boards and shall be provided at the entrance of work site. Image: Control / mitigation and tail boards and shall be provided at the entrance of work site. Image: Control / mitigation and tail boards and shall be provided at the entrance of work site. Image: Control / mitigation and t
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Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank
 All plant and equipment should be well maintained e.g. without black smoke emission.
Open burning should be prohibited.
 The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.
 Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.
■ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.
 The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.
 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).
Noise Impact
The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.
 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.
* 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.





Environmental Checklist		Implementation Stages*		Remark
	Ye	s No	N/A	
Water Quality				
Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	1			
 The permanent drainage channels should have sediment basin, traps and baffles and maintain properly. 	V			
 Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Ea and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels. 	rth bunds 🚽			
 Manholes should be covered and sealed. 	1			
 Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding. 	1			
A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpilling area and the sea front.	4	-		
A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	1	-		
The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	2			
 The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed v or protected by other method approved by CEDD. 	with water 🚽			
 Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, v planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. 	regetation 🗸			
 Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the 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 are functioning properly at all times. 	deposited √ e facilities			
 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 di into storm drains. 	ischarged 🗸			
 The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous ma hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. 	aterials or 🚽			
 Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be by a licensed contractor, who will be responsible for disposal and maintenance of these facilities. 	provided $$			
 Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas. 	1			
 Oil interceptor shall be provided at work shop. 	1			
 Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water. 	7			
 The barges shall be in right size such that adequate clearance in maintained between the vessels and the seabed at all states of tensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash. 	the tide to $$			
 All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of mater transport. 	rial during 🚽		1	
 Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the trans 	sfer. √			
8 Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be collected and treated before disposal.	e properly 🗸			
 The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the wavicinity of the barging facilities. 	ater in the 🚽			
 Existing silt curtain at the outward side of the basin near the Barging Handling Area (BHA) throughout the period shall be repair, and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the sil shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly m such that it can also serve the function of refuse containment boom to confine floating refuse. 	, maintain 🛛 √ It curtains laintained			
 A waste collection vessel shall be deployed to remove floating debris. 	1			



Environmental Checklist		Implementation Stages*		Remark
		No	N/A	
Landscape and Visual				
 The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided. 	V			
The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	\checkmark			
 Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed. 	1			
 The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare. 	4			
Other Environmental Factors				
 C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal. 	1			
 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	1			
 Any unused materials or those with remaining functional capacity should be recycled and stored properly. 	V			
 All generators, fuel and oil storage are within bundle areas. 	V			
Oil leakage from machinery, vehicle and plant is prevented.	V			
The Environmental Permit should be displaced conspicuously on site.	1			
 Good site practices should be adopted to clean the rubbish and littler on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment. 	1			
 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. 	V			



Summary of the Weekly Site Inspection:

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

Remark

13	Contractive	
	1	
1		

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative	The	12 July 2023
			V	

Handling of Surplus Public Fill (2022-2023) - Tseung Kwan O Area 137 Fill Bank



Inspection Date (19 - 3) - 3Time $(4 \cdot 3) = 3$ Weather Sunny/(Fine) Cloudy / Overcast / Drizzie / Rain / Storm / HazyWind Calm / Light / Breeze / StrongTemperature 30

Humidity 10 - High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:	Asoah	d-z-	Ś
Name:	75002 YAN WINT	KWOK WING LAM	chan Hon Lu
Title	Alow /P5	EO	Technician



	Environmental Checklist		ement Stages	tation s*	Remark
		Yes	No	N/A	
Fug	Fugitive Dust Emission				
	Dust control / mitigation measures shall be provided to prevent dust nuisance.	V			
	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	V			
	Water sprays shall be provided and used to dampen materials.	1			
(18 5)	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	1			
	All vehicles shall be restrict to a maximum speed of 10 km per hour,	1			
2 9 00	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.	4			
	The designated site main haul road shall be paved or regular watering.	7			
•	Frequent watering of work site shall be at least three times per day.	V			
	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	1			
•	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	1			
	All plant and equipment should be well maintained e.g. without black smoke emission.	1			
125	Open burning should be prohibited.	V			
	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	V			
	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 shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	V			
•	When fill material is transfer by bett conveyor systems, the conveyors shall be enclosed on top and 2 sides.	V			
10	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	V			
•	The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	1			
	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).	V			
Noi	se Impact	Call Call			
3 8 8	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	V			
	Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	1			
	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	1		-	
	Air compressors and hand held breakers should have noise labels.	V			
	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	1			
	Noisy equipment and mobile plant shall always be site away from NSRs.	V			
0.000	······································	<u> </u>	<u> </u>		





	Environmental Checklist		ement Stages	tation *	Remark
		Yes	No	N/A	
Water Quality					
•	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	V			
	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	1			
*	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.	4			
	Manholes should be covered and sealed.	1			
	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	1		1	
	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	V			
•	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	V			
	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	1			
×	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	1			
	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.	1			
	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.	4			
*	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.	V			
•	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.	1			
*	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.	V			
•	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	1			
	Oil interceptor shall be provided at work shop.	1			
•	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	1			
*	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.	4			
•	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	4			
	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	1			
•	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.	1			
•	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.	1			
	Existing silt curtain at the outward side of the basin near the Barging Handling Area (BHA) throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	V			
1.	A waste collection vessel shall be deployed to remove floating debris.	V			



Environmental Checklist		Implementation Stages*		Remark
	Yes	No	N/A	
Landscape and Visual				
 The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided. 	7			
The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	1			
 Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed. 	1			
 The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare. 	1			
Other Environmental Factors				
 C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal. 	7			
 Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	V			
 Any unused materials or those with remaining functional capacity should be recycled and stored properly. 	V			
All generators, fuel and oil storage are within bundle areas.	1			
Oil leakage from machinery, vehicle and plant is prevented.	V			
The Environmental Permit should be displaced conspicuously on site.	7			
 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. 	1			
 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. 	1			



Summary of the Weekly Site Inspection:

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

Remark

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	Name	Title	Signature	Date
Checked by	June Lau	ET Representative	Ju	19 July 2023



Inspection Date	:	2817	123
The second second			1

Time 14=30

100

- Weather Sunny / Fine / Coudy / Overcast / Drizzle / Rain / Storm / Hazy
- Wind

: Calm / (ight) Breeze / Strong

33°(

Temperature

Humidity

High / Moderate / 🕡

Inspected by	CEDD	Contractor / Sub-Contactor	ET
Signature:	Asiand	dz.	Hak
Name:	ZOONZ YOU IS LOT	KWOK WING LAM	Make Der War
Title	Arow/PS	ED	EJT



	Environmental Checklist		ement Stages	tation s*	Remark
			No	N/A	
Fug					
3 9 0 - 390	Dust control / mitigation measures shall be provided to prevent dust nuisance.	V			
•	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	7			
	Water sprays shall be provided and used to dampen materials.	1			
3.82	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	1			
•	All vehicles shall be restrict to a maximum speed of 10 km per hour.	V			
	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.	4			
	The designated site main haul road shall be paved or regular watering.	V			
	Frequent watering of work site shall be at least three times per day.	1			
	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	V			
	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	V			
	All plant and equipment should be well maintained e.g. without black smoke emission.	1]		
	Open burning should be prohibited.	V			
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Noi	se Impact				
3. 9 .2	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	1			
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200	Noisy equipment and mobile plant shall always be site away from NSRs.	1			
No.				4	





Environmental Checklist		Implementation Stages*		Remark
	Yes	No	N/A	
Water Quality				
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A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	1			
The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	1			
 The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with wate or protected by other method approved by CEDD. 	r V			
 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. 	ı √			
 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. 	1 1			
 The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials o hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. 	r V			
 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. 	1 1			
 Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas. 				
 Oil interceptor shall be provided at work shop. 	1			
 Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water. 	1			
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.	1			
 All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport. 	1 1			
Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	1			
 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. 	1			
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.	1			
Existing silt curtain at the outward side of the basin near the Barging Handling Area (BHA) throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	1			
A waste collection vessel shall be deployed to remove floating debris.	1			




	Environmental Checklist	Impl	ement Stages	tation s*	Remark
		Yes	No	N/A	
Lai	Idscape and Visual				
•	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	V			
	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	V			
•	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	V			
٠	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare:	V			
Otl	ner Environmental Factors				
•	C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	1			
•	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	~			
	Any unused materials or those with remaining functional capacity should be recycled and stored property.	V			
*	All generators, fuel and oil storage are within bundle areas.	~			
	Oil leakage from machinery, vehicle and plant is prevented.	V			
	The Environmental Permit should be displaced conspicuously on site.	V			
٠	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.	V			
•	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.	4			



Summary of the Weekly Site Inspection:

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

Remark

Cillan				

	Name	Title	Signature	Date
Checked by	June Lau	ET Representative	And	28 July 2023
			. U	



Appendix I

Implementation Schedule of Mitigation Measures



Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O Area 137 Fill Bank Contract No.: CV/2021/09

Environmental Mitigation Implementation Schedule

	Environmental Protection Measures	Location	Implemented	Partially implemented	Not implemented	Not Applicable
Ai	r Quality					
-	Dust control / mitigation measures shall be provided to prevent dust nuisance.	All areas		\checkmark		
•	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	Northern Site Boundary	\checkmark			
-	Water sprays shall be provided and used to dampen materials.	All areas	\checkmark			
•	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	All areas	\checkmark			
•	All vehicles shall be restrict to a maximum speed of 10 km per hour.	All areas	\checkmark			
•	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.	Site Egress				
•	The designated site main haul rout shall be paved or regular watering.	All haul roads	\checkmark			
•	Frequent watering of work site shall be at least three times per day.	All areas	\checkmark			
•	Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site.	Site Egress	\checkmark			
-	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	Site Egress	\checkmark			
•	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	All areas	\checkmark			
•	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.	All areas	\checkmark			
-	When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	C&DMSF				
•	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	C&DMFS	\checkmark			
•	The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	C&DMFS	\checkmark			
-	All plant and equipment should be well maintained e.g. without black smoke emission.	All areas	\checkmark			
•	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		\checkmark		
No	pise Impact					
•	Approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	All areas	\checkmark			
-	Only well maintained plant should be operated on-site and plant should be serviced regularly during the site works.	All areas	\checkmark			
•	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	All areas	\checkmark			
•	Air compressors and hand held breakers should have noise labels.	All areas	\checkmark			
•	Machines and plants that may be in intermittent use should be shut down between work months or should be throttled down to a minimum.	All areas	\checkmark			
•	Noisy equipment and mobile plant shall always be site away from NSRs.	All areas				



Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O Area 137 Fill Bank Contract No.: CV/2021/09

			Implementation Status				
	Environmental Protection Measures	Location	Implemented	Partially implemented	Not implemented	Not Applicable	
W	ater Quality						
•	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	All areas	\checkmark				
-	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	All areas	\checkmark				
•	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	\checkmark				
•	Manholes should be covered and sealed.	All areas	\checkmark				
•	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	All areas		\checkmark			
•	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	Public fill stockpiling area	\checkmark				
•	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	C&DMFS	\checkmark				
•	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	All areas	\checkmark				
•	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	Temporary Slopes	\checkmark				
•	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.	Temporary Slopes	\checkmark				
•	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	\checkmark				
•	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	\checkmark				
•	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.	Wheel Washing facility	\checkmark				
•	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.	All areas	\checkmark				
•	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas and work shop.	All areas	\checkmark				
•	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	Barge Handling Area (BHA)	\checkmark				
•	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.	Barge Handling Area (BHA)	\checkmark				
•	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	Barge Handling Area (BHA)	\checkmark				
•	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	Along the seafront	\checkmark				
•	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.	Barge Handling Area (BHA)	\checkmark				
•	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.	Along the seafront	\checkmark				
•	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	Along the seafront					
•	A waste collection vessel shall be deployed to remove floating debris.	Along the seafront	\checkmark				



Handling of Surplus Public Fill (2022-2023) – Tseung Kwan O Area 137 Fill Bank Contract No.: CV/2021/09

			Implementation Status				
	Environmental Protection Measures	Location	Implemented	Partially implemented	Not implemented	Not Applicable	
Lá	ndscape and Visual						
•	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	All areas	\checkmark				
•	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	Completed slopes	\checkmark				
•	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	Site boundary	\checkmark				
•	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	All areas	\checkmark				
0	her Environmental Factors						
•	C&D waste sorted from mixed C&D material shall be transfer to SENT landfill for disposal.	All areas	\checkmark				
٠	Plan and stock construction materials carefully to minimise generation of waste.	All areas	\checkmark				
٠	Any unused materials or those with remaining functional capacity should be recycled.	All areas	\checkmark				
٠	All generators, fuel and oil storage are within bunded areas.	All areas	\checkmark				
٠	Oil leakage from machinery, vehicle and plant is prevented.	All areas		\checkmark			
٠	The Environmental Permit should be displaced conspicuously on site.	All areas	\checkmark				
•	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	\checkmark				
•	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					



Appendix J

Site General Layout plan







Appendix K

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for 2023

	Actual Quantities of Inert C&D Materials Generated Monthly							Actual Quantities of C&D Wastes Generated Monthly				
Month	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	0	0	0	0	0	0	158.46	0	0	0.071	100.72	
Feb	0	0	0	0	0	0	267.41	0	0	0	470.82	
Mar	0	0	0	0	0	0	264.10	0	0	0	1339.48	
Apr	0	0	0	0	0	0	140.31	0	0	0	89.08	
May	0	0	0	0	0	0	153.19	0	0	0	87.17	
Jun	0	0	0	0	0	0	145.63	0	0	0	118.30	
Sub-total	0	0	0	0	0	0	1129.10	0	0	0	2205.57	
Jul	0	0	0	0	0	0	182.88	0	0	0	140.63	
Aug												
Sep												
Oct												
Nov												
Dec												
Total												

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 m³.



Appendix L

Monitoring Schedule for the Coming Month



Time Schedule for Impact Water Quality Monitoring (WQM), Impact Air Monitoring (1-hrTSP, 24-hr TSP and 24-hr RSP), Weekly Site Inspection (Weekly SI) and Impact Noise Monitoring July 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25-Jun	26-Ju	n 27-Jun	28-Jun	29-Jun	30-Jun	1-Jul
	1-hr TSP x 1 Set 24 hr (27/6)	24 hr TSP 24-hr RSP	1-hr TSP x 2 Weekly SI (am)		1-hr TSP x 1	
	Mid-flood (09:00-11:00) Mid-ebb		Mid-ebb (08:00-10:00) Mid-flood		Mid-ebb (10:00-12:00) Mid-flood	
	(15:00-17:00)		(13:00-15:00)		(15:00-17:00)	
2-Jul	3-J	I 4-Jul	5-Jul	6-Jul	7-Jul	8-Jul
	24 hr TSP 24-hr RSP NM		1-hr TSP x 2 Weekly SI (pm)		1-hr TSP x 1 Set 24 hr (8/7)	24 hr TSP 24-hr RSP
	Mid-ebb (10:00-12:00) Mid-flood (17:00-19:00)		Mid-ebb (13:00-15:00) Mid-flood (18:30-20:30)		Mid-flood (09:00-11:00) Mid-ebb (14:00-16:00)	
9-Jul	10-J	ıl 11-Jul	12-Jul	13-Jul	14-Jul	15-Jul
	1-hr TSP x 2		1-hr TSP x 1 Weekly SI (pm)		24 hr TSP 24-hr RSP	
	Mid-flood (09:30-11:30) Mid-ebb (16:30-18:30)		Mid-ebb (08:00-10:00) Mid-flood (13:00-15:00)		Mid-ebb (09:00-11:00) Mid-flood (15:30-17:30)	
16-Jul	(17-J	ıl 18-Jul	(19-Jul	20-Jul	21-Jul	22-Jul
			1-hr TSP x 3 Weekly SI (pm)	24 hr TSP 24-hr RSP	1-hr TSP x 2	
		Mid-ebb (11:00-13:00) Mid-flood (17:30-19:30)		Mid-flood (08:00-10:00) Mid-ebb (12:00-14:00)		Mid-flood (08:00-10:00) Mid-ebb (13:00-15:00)
23-Jul	24-J	ıl 25-Jul	26-Jul	27-Jul	28-Jul	29-Jul
	1-hr TSP x 1		24 hr TSP 24-hr RSP		1-hr TSP x 2 Weekly SI (pm)	
	Mid-flood (08:00-10:00) Mid-ebb (14:00-16:00)		Mid-flood (10:00-12:00) Mid-ebb (17:00-19:00)		Mid-ebb (08:00-10:00) Mid-flood (14:00-16:00)	
30-Jul	31-J	ıl 1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
	1-hr TSP x 1 Set 24 hr (1/8)	24 hr TSP 24-hr RSP	1-hr TSP x 2 Weekly SI (pm)		1-hr TSP x 1	
	Mid-flood (09:00-11:00) Mid-ebb (16:00-18:00)		Mid-ebb (10:00-12:00) Mid-flood (17:00-19:00)		Mid-flood (08:00-10:00) Mid-ebb (13:00-15:00)	
Remark: 1 RSP mea	asurement is not require	d in the EM&A manual ar	nd RSP would not preser	ted in EM&A report.	(10.00 10.00)	

1. RSP measurement is not required in the EM&A manual and RSP would not presented in EM&A report.

2. TKO 137 Fill Bank is closed on General Holidays.



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



August 2023





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



August 2023





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



August 2023



Appendix M

Reporting Month Monitoring Schedule



Time Schedule for Impact Water Quality Monitoring (WQM), Impact Air Monitoring (1-hrTSP, 24-hr TSP and 24-hr RSP), Weekly Site Inspection (Weekly SI) and Impact Noise Monitoring August 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30-Jul	31-Ju	1-Aug	2-Aug	3-Aug	4-Aug	5-Aug
	1-hr TSP x 1 Set 24 hr (1/8)	24 hr TSP 24-hr RSP	1-hr TSP x 2 Weekly SI (pm)	Aug	1-hr TSP x 1	o Adg
	Mid-flood (09:00-11:00) Mid-ebb (16:00-1 <u>8:00)</u>		Mid-ebb (10:00-12:00) Mid-flood (17:00-1 <u>9:00)</u>		Mid-flood (08:00-10:00) Mid-ebb (13:00-1 <u>5:00)</u>	
6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug	12-Aug
	24 hr TSP 24-hr RSP NM		1-hr TSP x 2 Weekly SI (pm)		1-hr TSP x 1 Set 24 hr (12/8)	24 hr TSP 24-hr RSP
	Mid-flood (09:00-11:00) Mid-ebb (15:00-17:00)		Mid-flood (11:00-13:00) Mid-ebb (17:30-19:30)		Mid-ebb (09:00-11:00) Mid-flood (15:30-17:30)	
13-Aug	14-Aug	, 15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
	1-hr TSP x 2		1-hr TSP x 1 Weekly SI (pm)		24 hr TSP 24-hr RSP	
	Mid-ebb (10:00-12:00) Mid-flood (16:30-1 <u>8:30)</u>		Mid-ebb (11:00-13:00) Mid-flood (17:00-1 <u>9:00)</u>		Mid-flood (08:00-09:00) Mid-ebb (13:00-1 <u>5:00)</u>	
20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
	1-hr TSP x 2		1-hr TSP x 1 Set 24 hr (24/8) Weekly SI (pm)	24 hr TSP 24-hr RSP	1-hr TSP x 2	
	Mid-flood (08:00-10:00) Mid-ebb (1 <u>4:00-16:00)</u>		Mid-flood (09:00-11:00) Mid-ebb (1 <u>5:30-17:30)</u>		Mid-ebb (07:30-09:30) Mid-flood (1 <u>3:00-15:00)</u>	
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	1-Sep	2-Sep
	1-hr TSP x 1		24 hr TSP 24-hr RSP Weekly SI (pm)		1-hr TSP x 2	
	Mid-ebb (09:00-11:00) Mid-flood (15:30-17:30)		Mid-ebb (09:00-11:00) Mid-flood (16:30-18:30)		Mid-flood (07:30-09:30) Mid-ebb (13:00-15:00)	

 Image: Instant Structure
 Image: Remark:



Appendix N

Complaint Log



Complaint Logs

Log Ref.	Location	Received Date	Details of Complaint	Investigation / Mitigation Action	Status
001	Barge handling area (BHA) at Tseung Kwan O 137	15 May 2017	One complaint received on 15 May 2017, which was forwarded to ET on 11 August 2017, from CEDD (Complaint NCF- N08/RE/00014875-17 Sent By CSO[RN]3 [CASE#2- 3943858817 Int.Comm. – WS170513A57354] against illegal dumping at sea without permit in TKO137 fill bank.	 Refer to the ET site investigation on 14 August 2017, the contractor clarified that the contractor conducted vessel loading test at Tseung Kwan O 137 Fill bank on 13 May 2017 and the material was then unloaded from the vessels. Follow up action to complaint by ET and contractor: Contractor under the valid dumping permit to dump fill materials and the site works shall be complied with the relevant environmental protection and pollution control ordinances. ET reminded contractor that the dump fill material under the valid dumping permit should be checked and confirmed. In addition, record should be kept for ET reference. Details of Action(s) Taken by the Contactor: The contractor started to dump fill materials from 19 May 2017 after receiving the valid dumping permit. The contractor dump fill materials were followed by the valid dumping permit and the permit was kept apply every three month The contractor kept the permit for ET reference. 	Closed
002	Tseung Kwan O 137 Fill Bank	12 Oct 2017	One complaint received on 12 October 2017, which was forwarded to ET on 18 October 2017, from public against dust emission at the fill bank and discharge of muddy water to the seafront.	 Refer to the ET weekly site inspection on 18 October 2017, no defective observation related to dust emission and discharge of water was recorded during the investigation. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Site vehicle for transporting materials are covered properly by using clean tarpaulin sheets; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; Silt curtains are provided at the outward side of the basin near the Fill Bank; Drainage systems are adequate and maintained to prevent flooding and overflow; Catchpits, sand and silt removal facilities and intercepting channels are maintained and functioning properly. 	Closed



003	Tseung Kwan O 137 Fill Bank	09 April 2018	One complaint received on 09 April 2018, which was forwarded to ET on 18 April 2018, from public against the rocks and debris deposited on the road surface along Wan Po Road near TKO137 Fill Bank. The complainant complained that waste generated caused an environmental nuisance.	 Refer to the ET site investigation on 20 April 2018, the condition of Wan Po Road near TKO137 Fill Bank was found satisfactory. (Photos on ET follow-up investigation at TKO137 Fill Bank on 20 April 2018). Details of Action(s) Taken by the Contactor: Regular cleaning on Wan Po Road and the access road at the site exit by haul road cleaning team to remove mud and gravel is arranged eight times per month; Regular water spraying by water lorries is provided for road cleaning at Wan Po Road; 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; Site vehicles for transporting materials are covered properly by using clean tarpaulin sheets; Regular cleaning at the site haul road is provided. 	Closed
004	Tseung Kwan O 137 Fill Bank	13 January 2019	One complaint received on 13 January 2019, which was forwarded to ET on 16 January 2019, from EPD (NCF-N08/RE/00001348- 19) against 將軍澳137 堆填 區內,缸車池污水,不經處 理,直接排到河道,河道係 直接流出大海,極度嚴重影 響周遭環境生態,污染程度 極為嚴重,促請政府有關部 門嚴正跟進!	 After received the details of the complaint from the Contractor on 16 January 2019, ET have performed a site investigation on 21 January 2019 to investigate this event. During the site inspection, no muddy water was observed discharged from the Fill Bank to nearby environment. Besides, refer to the marine water monitoring results during that period, no exceedance was recorded on Turbidity and Suspended Solids. This reflects that this occurrence did not affect the condition of marine water near the TKO137Fill Bank. Details of Action(s) Taken by the Contactor: Drainage system were adequate and well maintained to prevent flooding and overflow; Sand and silt removal facilities, e.g. silting screen, were provided before the discharge point; Temporary intercepting drains were used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers were used to assist the diversion of polluted stormwater to the intercepting channels were maintained, and the deposited silt and grit were 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; 	Closed



005	Tseung Kwan O 137 Fill Bank	14 May 2019	One complaint received on 14 May 2019, which was forwarded to ET on 14 May 2019, from public against 投訴將軍澳第 137 區填料 庫,有車出入沒有灑水傳出 大量沙塵,破壞環境,帶出 大量沙泥到馬路,造成污染 及嚴重滋擾,要求跟進。要 求改善,停止滋擾	 Refer to the ET site investigation on 15 May 2019, the condition of Wan Po Road near TKO137 Fill Bank was found satisfactory. (Photos on ET follow-up investigation at TKO137 Fill Bank on 15 May 2019). Details of Action(s) Taken by the Contactor: Regular cleaning on Wan Po Road and the access road at the site exit by haul road cleaning team to remove mud and gravel is arranged eight times per month; Regular water spraying by water lorries is provided for road cleaning at Wan Po Road; 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; Site vehicles for transporting materials are covered properly by using clean tarpaulin sheets; Regular cleaning at the site haul road is provided. 	Closed
006	Tseung Kwan O 137 Fill Bank	11 June 2019	One complaint received on 04 June 2019, which was forwarded to ET on 11 June 2019, from public regarding the muddy water problem at 137 fill bank.	 After received the details of the complaint from the Contractor on 11 June 2019, ET have performed a site investigation on 14 June 2019 to investigate this event. During the site inspection, no muddy water was observed discharged from the Fill Bank to nearby environment. Besides, refer to the marine water monitoring results during that period, no exceedance was recorded on Turbidity and Suspended Solids during the concerning period. This reflects that this occurrence did not affect the condition of marine water near the TKO137Fill Bank. Details of Action(s) Taken by the Contactor: Drainage system were adequate and well maintained to prevent flooding and overflow; Sand and silt removal facilities, e.g. silting screen, were provided before the discharge point; Temporary intercepting drains were used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers were used to assist the diversion of polluted stormwater to the intercepting channels; Catchpits and intercepting channels were maintained, and the deposited silt and grit were 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; 	Closed



007	Tseung Kwan O 137 Fill Bank	27 June 2019	One complaint received on 27 June 2019, which was forwarded to ET on 28 June 2019, from public against dust emission at the fill bank. The complainant complained that the dust caused an environmental nuisance.	 Refer to the ET site investigation on 02 July 2019, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 24 to 28 June 2019. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Truck speed within the site is limited within 10 km/h; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; 	Closed
008	Tseung Kwan O 137 Fill Bank	17 July 2019	One complaint received on 17 July 2019, which was forwarded to ET on 17 July 2019, from public against 投訴將軍澳堆填 137 區及收 泥頭區,於運作時產生大量 沙塵,嚴重污染問圍環境及 影響行人,情況已持續發生 了幾日	 Refer to the ET site investigation on 19 July 2019, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 2 to 17 July 2019. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Truck speed within the site is limited within 10 km/h; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; 	Closed



009	Tseung Kwan O 137 Fill Bank	26 July 2019	One complaint received on 26 July 2019, which was forwarded to ET on 26 July 2019, from public against 投訴將軍澳第 137 區填料 庫,大風吹起引致塵埃飛 揚,更吹到 TVB,造成嚴重 滋擾,要求跟進及回覆。	 Refer to the ET site investigation on 29 July 2019, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 23 to 29 July 2019. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Truck speed within the site is limited within 10 km/h; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; 	Closed
010	Tseung Kwan O 137 Fill Bank	09 September 2019	One complaint received on 09 September 2019, which was forwarded to ET on 09 September 2019, from public against 投訴將軍澳第 137 區填料庫,大風吹起引 致塵埃飛揚,更吹到日出康 城,造成嚴重滋擾,要求跟 進及回覆。	 Refer to the ET site investigation on 11 September 2019, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 1 to 13 September 2019. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Truck speed within the site is limited within 10 km/h; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; 	Closed



011	Tseung Kwan O 137 Fill Bank	10 September 2019	One complaint received on 10 September 2019, which was forwarded to ET on 10 September 2019, from public against 投訴將軍澳 137 區經常於處理建築廢料時 沒有灑水,導致沙塵滾滾,嚴 重污染環境,要求環保署跟進 及回覆。	 Refer to the ET site investigation on 11 September 2019, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 1 to 13 September 2019. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Truck speed within the site is limited within 10 km/h; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; 	Closed
012	Tseung Kwan O 137 Fill Bank	24 August 2021	One complaint received on 24 August 2021, which was forwarded to ET on 30 August 2021, from public against 投訴將軍澳第 137 區公眾填料庫,灑水不足, 泥頭車引起大量塵埃。	 Refer to the ET site investigation on 30 August 2021, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 20 August 2021 to 30 August 2021. Details of Action(s) Taken by the Contactor: Regular water spraying by water truck was conducted. Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site entrance are operated properly; 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; All dusty material is sprayed with water prior to loading, unloading or transfer so as to maintain the material wet; Truck speed within the site is limited within 10 km/h; Regular cleaning at the site haul road is provided to minimize the fugitive dust emission; 	Closed



013	Tseung Kwan O 137 Fill Bank	25 November 2021	A complaint was received on 25 November 2021, which was forwarded to ET by email on 26 November 2021, from public against 投訴將軍澳 137 公眾填料庫 地盤灑水不足,大量塵埃,吹 到 TVB 電視城一帶,問題一 直無改善,要求環保署跟進 及電郵回覆	 Refer to the ET site investigation on 29 November 2021, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 24 November 2021 to 29 November 2021. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site area are operated properly; Regular cleaning at the site haul road is provided to minimize the dust emission 	Closed
014	Tseung Kwan O 137 Fill Bank	18 July 2022	A complaint was received on 18 July 2022, which was forwarded to ET by email on 18 July 2022, from public against"投訴將軍澳 第 137 區填料庫的塵埃很 大,吹向四周,影響附近工 作的人,要求跟進及回覆"	 Refer to the ET site investigation on 20 July 2022, no defective observation related to dust emission was recorded during the investigation. No impact air quality monitoring result of 1-hr TSP and 24-hr TSP was exceeded Action and Limit Level at all monitoring stations from 15 July 2022 to 20 July 2022. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Mist spraying systems at the site area are operated properly; Regular cleaning at the site haul road is provided to minimize the dust emission 	Closed



015	Tseung Kwan O 137 Fill Bank	08 August 2022	A complaint was received on 08 August 2022, which was forwarded to ET by email on 08 August 2022, from public regarding muddy discharge near the Area 137 Fill Bank and Sorting Facility.	 Refer to the EPD inspection on 09 August 2022, a large area of exposed soil was observed next to the surface channel connecting to the outfall. Soil may be washed down the surface channel and causes muddy discharge. Refer to the ET site investigation on 12 August 2022, no defective observation related to muddy discharge was recorded during investigation. Details of Action(s) Taken by the Contactor: Filers or baffles were added to the outfall to intercept soil and other pollutants in the water before discharge. Regular cleaning, especially the drainage system, was provided to prevent the runoff of muddy water. 	Closed
016	Tseung Kwan O 137 Fill Bank	12 August 2022	A complaint was received on 12 August 2022, which was forwarded to ET by email on 15 August 2022, from public against "I recently observed yellowish water flowing out to the sea, near the shore of the Tseung Kwan O Area 137 Fill Bank after rain in this week. Looking from outside the Area 137, there are a lot of soil exposed at the site. Could that be the source of soil being washed off to the sea?"	 Refer to the EPD inspection on 09 August 2022, a large area of exposed soil was observed next to the surface channel connecting to the outfall. Soil may be washed down the surface channel and causes muddy discharge. Refer to the ET site investigation on 12 and 17 August 2022, no defective observation related to muddy discharge was recorded during investigation. Details of Action(s) Taken by the Contactor: Filers or baffles were added to the outfall to intercept soil and other pollutants in the water before discharge. Regular cleaning, especially the drainage system, was provided to prevent the runoff of muddy water. 	Closed



017	Tseung Kwan O 137 Fill Bank	25 October 2022	A complaint was received on 25 October 2022, which was forwarded to ET by email on 25 October 2022, from public against "投訴將軍澳 137 區填料庫今日早上出現小龍 捲風將泥塵吹向小西灣一 帶"	 Refer to the ET site investigation on 26 October 2022, no defective observation related to dust emission was recorded during the investigation. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Regular cleaning at the site haul road is provided to minimize the dust emission 	Closed
018	Tseung Kwan O 137 Fill Bank	14 November 2022	A complaint was received on 14 November 2022, which was forwarded to ET by email on 14 November 2022, from public against " complained the dust nuisance (the dark dust blowing around the sky and high PM 2.5) at Tseung Kwan O Area 137 Fill Bank , this has been going for a while ."	 Refer to the ET site investigation on 14 November 2022, no defective observation related to dust emission was recorded during the investigation. Details of Action(s) Taken by the Contactor: Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank; Regular cleaning at the site haul road is provided to minimize the dust emission 	Closed



Figures









