

# 東業德勤測試顧問有限公司 ETS-TESTCONSULT LTD.

8/F Block B, Veristrong Industrial Centre, 34-36 Au Pul Wan Street, Fo Tan, Hong Kong

T: +852 2695 8318 F: +852 2695 3944 E: etl@ets-testconsult.com W: www.ets-testconsult.com





**China Harbour Engineering Co Ltd** 

TEST REPORT

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

TUEN MUN AREA 38 FILL BANK

QUARTERLY EM&A SUMMARY REPORT NO.03

(FROM JULY 2022 TO SEPTEMBER 2022)

LAU, Wing Sum Assistant Environmental Officer

Prepared by:

Checked by:

LAU, Chi Leung Environmental Team Leader

Issue Date: 24 October 2022

Report No.: ENA25727

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Our Ref: PL-202301036

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

30 January 2023

Dear Mr. Lau,

# RE: Contract No. CV/2021/09 Handling of Surplus Public Fill (2022-2023) <u>Quarterly EM&A Report (No. 3) for July to September 2022 for the Tuen Mun Area 38 Fill</u> <u>Bank</u>

Reference is made to your submission of the Quarterly EM&A Report for July to September 2022 for the Tuen Mun Area 38 Fill Bank, we are pleased to inform you that we have no adverse comment on the captioned report.

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

Yours faithfully,

Toam Jan Bearg

F. C. Tsang Independent Environmental Checker

cc. CEDD – Mr. T M YEUNG



Contract No. CV/2021/09 Handling of Surplus Public Fill (2022-2023) Tuen Mun Area 38 Fill Bank

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## EXECUTIVE SUMMARY

This is Quarterly Environmental Monitoring and Audit (EM&A) Summary Report No.03 prepared by ETS-Testconsult Ltd (ET) for the "Contract No. CV/2021/09 Handling of Surplus Public Fill (2022-2023) – Tuen Mun (TM) Area 38 Fill Bank" (The Project).

This report documents the findings of EM&A Works conducted during the operation phase of Fill Bank at Tuen Mun Area 38 from 01 July 2022 to 30 September 2022.

## Site Activities

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

July 2022	<ol> <li>Operation of the Public Fill Reception Facilities at Tuen Mun Fill Bank (TMFB);</li> <li>Operation of Crushing plant at TMFB;</li> <li>Delivery of public fill to Taishan at TMFB;</li> <li>Operation and Maintenance of Artificial intelligent System for crushing plants at TMFB 5. Operation of the Integrated Public Fill Reception at TMFB;</li> <li>Operation and Maintenance of Wheel Washing Facility at TMFB;</li> <li>Personnel Position Tracking and Proximity Detection System of Moving Plant at TMFB;</li> <li>Modification and Operation a Digital Works Supervision System (DWSS) for TMFB;</li> <li>Providing input for piezometer measurement of the GI works at TMFB</li> </ol>
August 2022	<ol> <li>Operation of the Public Fill Reception Facilities at Tuen Mun Fill Bank (TMFB);</li> <li>Operation of Crushing plant at TMFB;</li> <li>Delivery of public fill to Taishan at TMFB;</li> <li>Operation and Maintenance of Artificial intelligent System for crushing plants at TMFB</li> <li>Operation of the Integrated Public Fill Reception at TMFB;</li> <li>Operation and Maintenance of Wheel Washing Facility at TMFB;</li> <li>Operation Tracking and Proximity Detection System of Moving Plant at TMFB;</li> <li>Modification and Operation a Digital Works Supervision System (DWSS) for TMFB;</li> <li>Operation of AI System for Crushing Plant at TMFB</li> </ol>
September 2022	<ol> <li>Operation of the Public Fill Reception Facilities at Tuen Mun Fill Bank (TMFB);</li> <li>Operation of Crushing plant at TMFB;</li> <li>Delivery of public fill to Taishan at TMFB;</li> <li>Operation of the Integrated Public Fill Reception at TMFB;</li> <li>Operation and Maintenance of Wheel Washing Bays and Facilities at TMFB;</li> <li>Personnel Position Tracking and Proximity Detection System of Moving Plant at TMFB;</li> <li>Modification and Operation a Digital Works Supervision System (DWSS) for TMFB;</li> <li>Operation of a New Soil Platform for Preliminary Sorting of Public Fill at TMFB;</li> <li>Operation of Concrete Slab at Wet Deposition Platform in TMFB</li> <li>Operation of Al System for Crushing Plant at TMFB;</li> </ol>

## Environmental Monitoring Works

## Air Monitoring

No exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in this quarter.

## Marine Water Quality Monitoring

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

## **Noise Monitoring**

No exceedance of Action and Limit levels for noise monitoring was recorded in this quarter.

## Environmental Complaints, Notification of summons and successful prosecutions

One complaint was received on 05 July 2022; No notification of summon and prosecution with respect to environmental issues was received in this quarter.



## 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/2022/09 –Handling of Surplus Public Fill (2022-2023) – Tuen Mun (TM) Area 38 Fill Bank" (The Project).

In accordance with the Condition 4 of Part C of Environmental Permit (No.: EP-210/2005/E) (the EP), an EM&A programme as set out in the Project Profile should be implemented. The EM&A programme requires environmental monitoring for air quality, water quality and environmental site inspections for air quality, noise quality, water quality, landscape and visual, and waste management.

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

This quarterly report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tuen Mun Area 38 from July 2022 to September 2022.

## 2.0 **PROJECT INFORMATION**

## 2.1 Work Programme in this Reporting Quarter

Details of work programme are shown in Appendix G.

#### 2.2 Project Organization and Management Structure

The project organization chart is shown in Appendix A.

## 2.3 Contact Details of Key Personnel

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

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	96266299	22474108
ET (ETL)	C. L. Lau	ET Leader	2946 7791	2695 3944

## Table 2.1 Contact Details of Key Personnel

#### 3.0 SUMMARY OF EM&A REQUIREMENTS

#### 3.1 EM&A Programme

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

- All monitoring parameters;
- Monitoring schedules for the reporting month and 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.

The advice on implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 5 of the Report.



## 3.2 Monitoring Stations and Parameters

The EM&A Manual designates several locations to monitor environmental impacts in terms of air quality, noise and water quality due to the Project. The description and detailed locations of monitoring stations for air quality, noise and marine water quality are shown in Figures 1, 2 and 3 and relevant sections of this Report.

## 3.3 Monitoring Methodology and Calibration Details

All monitoring works were conducted and monitoring equipment was calibrated in according with the EM&A Manual.

## 3.4 Environmental Quality Performance Limits (Action/Limit Levels)

The environmental quality performance limits, i.e. Action/Limit Levels (AL Levels) were derived from the baseline monitoring results. If the measured environmental quality parameters exceed the AL Levels, the respective action plan will be implemented. The AL Levels for each monitoring parameter are given in Appendix E. The event action plan is given in Appendix F.

## 3.5 Environmental Mitigation Measures

Relevant mitigation measures were recommended in the EM&A Manual for the Contractor to implement. A list of mitigation measures is given in Appendix H.

#### 4.0 MONITORING RESULTS

#### 4.1 Air Quality

In accordance with the EM&A Manual, 1-hr and 24-hr TSP air quality monitoring are to be conducted three times and one time per six days correspondingly. In the reporting quarter, no exceedances of Action and Limit levels were recorded for 1-hr and 24-hr TSP monitoring. The monitoring trend of air quality during the reporting quarter are given in Appendix B.

Major dust sources in the Fill Bank were dump truck traffic and hauling activities.

Table 4.1 presents the number of exceedances recorded in each month of the reporting quarter. The number of monitoring event included regular monitoring events and additional ones.

Monitoring Parameter	Level of Exceedance	July 2022	August 2022	September 2022
24-hr TSP	No of monitoring events	5	5	5
	Action Level	0	0	0
	Limit Level	0	0	0
1-hr TSP	No of monitoring events	15	15	17
	Action Level	0	0	0
	Limit Level	0	0	0

 Table 4.1
 Summary of Number of Exceedances for 1-hr and 24-hr TSP Monitoring

## 4.2 Noise

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

No exceedance was recorded in this reporting quarter.



## 4.3 Marine Water Quality

In accordance with the Project Profile, impact marine water quality monitoring was conducted at two control monitoring stations (TM-FC1 and TM-FC2) and two impact monitoring stations (TM-FM1and TM-FM2) in this quarter.

Impact marine water quality monitoring was conducted three days per week. Measurements were taken at both mid-ebb and mid-flood tides at three depths (i.e. 1m below surface, mid depth and 1m above seabed). The AL Levels are included in Appendix E.

According to the summary of marine water monitoring results, no exceedance of action and limit level was recorded in this quarter. Table 4.2 presents the total number of marine water quality exceedances in the reporting quarter. The trend of marine water quality in the past three months is depicted in Appendix D.

Parameter	Exceedance Level	July 2022	August 2022	September 2022
Number of monitoring day	/S	12	11	13
Dissolved Oxygen, DO	Action	0	0	0
(S&M)	Limit	0	0	0
Dissolved Oxygen, DO	Action	0	0	0
(B)	Limit	0	0	0
Turbidity	Action	0	0	0
	Limit	0	0	0
Suspended Solids, SS	Action	0	0	0
	Limit	0	0	0

Table 4.2 Total Number of Marine Water Quality Exceedances in this quarter

A comparison between the quarterly mean/median of SS and the 1.3 times of the baseline mean was made for each tide at each station. The statistical analysis results are given in Appendix I. Monitoring stations with significant difference (p<0.05) is summarized in Table 4.3.

Table 4.3Summary of Statistically Significant Results of SS

Monitoring Station		Significant difference	
		Mid-flood	Mid-ebb
Designated Control Station	FC1	X	X
Designated Control Station	FC2	X	Х
Designated Manitoring Station	FM1	X	X
Designated Monitoring Station	FM2	X	X

## 5.0 INSPECTION RESULTS

## 5.1 Implementation Status of Environmental Mitigation Measures

ET conducted weekly site inspections to monitor the Contractor's implementation of environmental mitigation measures. In this reporting period, thirteen weekly site inspections were conducted.

Air quality was the major environmental issue in the reporting quarter. The Contractor generally implemented most of the environmental mitigation measures in the reporting quarter. Dump truck traffic was the major dust source in the Fill Bank. Generally, the Contractor implemented adequate dust mitigation measures in the reporting quarter including dampening of haul roads, water spraying on the truckloads, during loading and unloading of material and for crushing plant, operation of automatic wheel washing facilities, dampening of fill material prior to handling or stockpiling, etc.

The major noise source was dump truck traffic in the Fill Bank. All site equipment and machinery were well maintained and no noise nuisance was observed during operating.

Drainage channels and wastewater treatment facilities were found maintained in good condition for merit function. The Contractor arranged site workers to clean up the silt and mud regularly.



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Although there were a few observations regarding accumulation of mud and silt inside the drainage channel and stagnant water, the Contractor rectified most of these problems. Besides, the Contractor was reminded to clear the accumulated mud and silt to avoid any blockage and clean the stagnant water properly.

Overall site area was found tidy and clean. The Contractor was reminded to collect and dispose of the general refuse and other C&D waste in a timely manner.

## 5.2 Status of Environmental Licensing and Permitting

The status of licences and permits is summarized in Table 5.1.

Description	Permit No.	0	Period	Section
Decemption		From	То	Coolion
Environmental Permit	EP- 210/2005/E	25/05/20	31/12/23	Issued
Chemical Waste Producer	5296-421- C1186-33	20/04/17		Spent battery containing heavy metals and spent lubricating oil
Effluent Discharge License	TBC	TBC	TBC	Effluent arising from vehicle washing and dust suppression activities and contaminated surface runoff treated by screening facilities and sedimentation tanks (sedimentation and chemical precipitation).
Marine Dumping Permit	EP/MD/22- 132	25/05/22	30/8/22	Approval for dumping 499,999 tons (approximately equal to 277,777 cu.m. bulked quantity) of Public Fill (Reclamation Materials) from Tseung Kwan O Area 137 Fill Bank and Tuen Mun Area 38 Fill Bank to designated dumping area at Guanghaiwan of Taishan
Billing Account for Waste Disposal	7042821	22/05/17	End of project	
Notification Pursuant to Section 3(1) of the Air Pollution Control (Construction Dust)	475208	12/04/17	End of project	

Table 5.1Summary of environmental licensing and permit status

## 5.3 Advice on Solids and Liquid Waste Management Status

Table 5.2 summarizes data on offsite waste disposal in the quarter.

Table 5.2Estimated Offsite Waste Disposal in the Reporting Quarter

Waste Type	July 2022	August 2022	September 2022
Public Fill ('000m³)	0	38.83	0
C&D Waste (general refuse) ('000kg)	38.57	41.06	36.79
Chemical Waste e.g. Waste oil (L) / Chemical Waste (kg)	0(L)	0(L)	0(L)



#### 6.0 NON-COMPLIANCE OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

#### 6.1 Summary of Non-compliance

According to the monitoring results, no action and limit level exceedance was recorded in this quarter.

#### 6.2 Review of the Reasons for and the Implications of Non-compliance

Since no non-compliance was recorded in this quarter, no review was required.

#### 6.3 Summary of Actions Taken

Since no exceedance was recorded in this quarter, no further action was required.

# 6.4 Summary of Environmental Complaint, Notification of Summon and Successful Prosecution Handling

One complaint on dust emission was received on 05 July 2022. No notification of summon and prosecution with respect to environmental issue was received in this quarter.

A summary of environmental complaints and prosecutions was given in Table 6.1.

Period	Complaints logged	Summon served	Successful Prosecution	
July 2022	1	0	0	
August 2022	0	0	0	
September2022	0	0	0	
Cumulative	6	0	0	

 Table 6.1
 Summary of Environmental Complaints and Prosecutions

## 7.0 COMMENTS, CONCLUSIONS AND RECOMMENDATION

Major activity in the Fill Bank was the import and dumping of fill materials in this quarter. Air quality was the major environmental issue in the Fill Bank. Generally, the Contractor implemented most of the mitigation measures to minimize the dust impact.

No exceedance of action and limit levels was recorded for 1-hr and 24-hr TSP monitoring in the reporting quarter.

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

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

One complaint was received on 05 July 2022; No prosecution or notification of summons was received in this quarter.

According to the ET weekly site inspection and IEC site audits carried out in this quarter, it was indicated that site practices of the Contractor were generally undertaken in an environmentally acceptable manner and the overall site environmental performance was up to standard.

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

#### Air Quality

 Ensure the frequency of water spraying on haul roads, unloading areas and stockpiles to be sufficient to suppress the dust sources;



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

## Noise

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

## Water Quality

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

#### Chemical and Waste Management

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

## Landscape and Visual

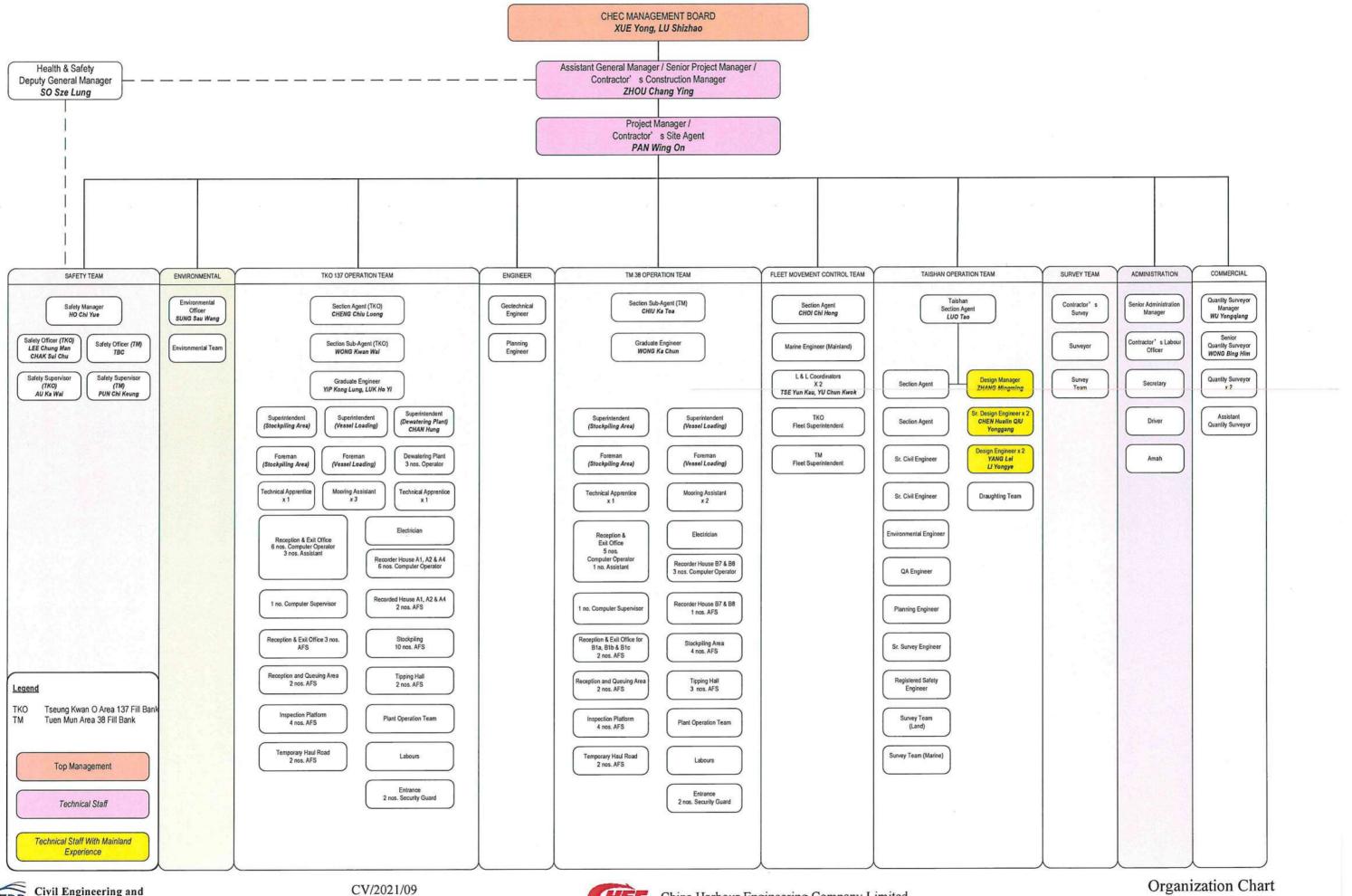
- Provide hydroseeding on the exposed slopes, on which the final profile has been formed;
- Erect all the site hoarding/chaining fences in accordance with agreed design at proper location; and
- Maintain the hydroseeding slopes in accordance with the Landscape Plan.

- END OF REPORT -



Appendix A

**Organization Chart** 





**Civil Engineering and Development Department** 

CV/2021/09 Handling of Surplus Public Fill



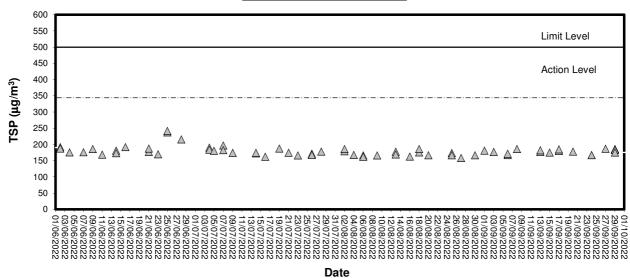
Rev. 5



Appendix B

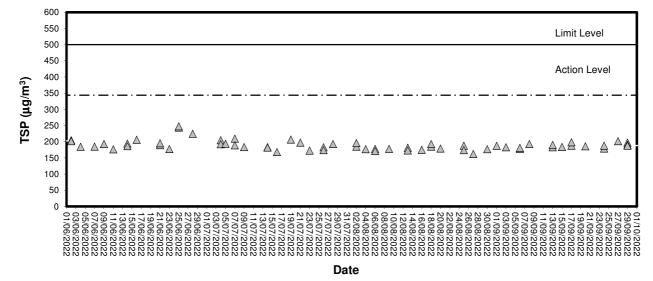
**Graphical Plots of Air Quality Monitoring Data** 



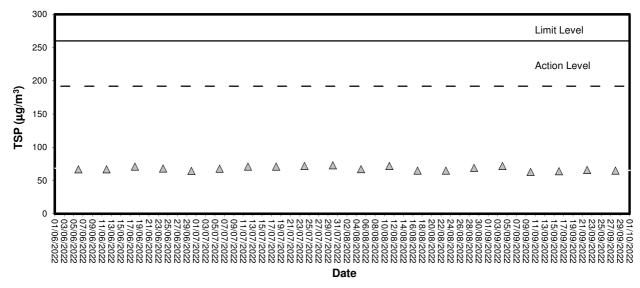


## 1-hour TSP level at TM-A1

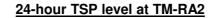


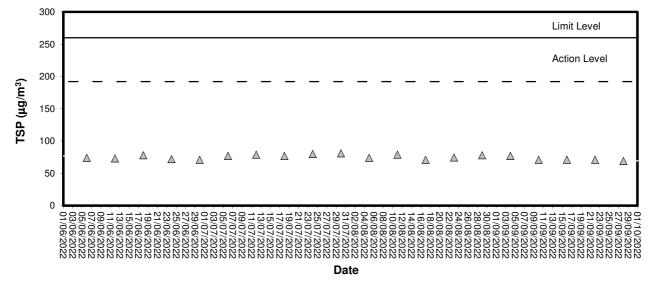






24-hour TSP level at TM-A1





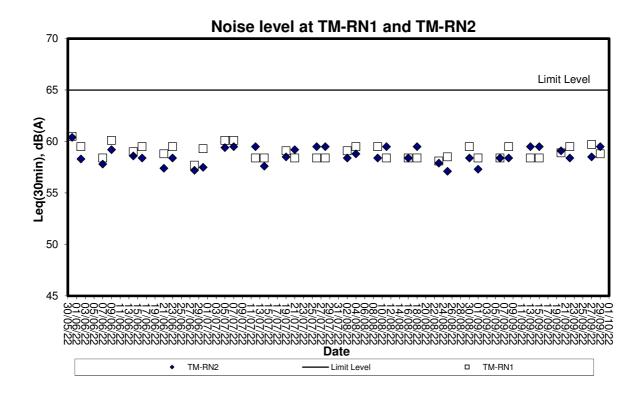


Appendix C

**Graphical Plots of Impact Noise Monitoring Data** 



# Noise Monitoring (Day-time)

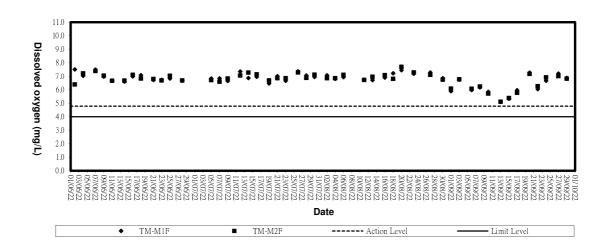




Appendix D

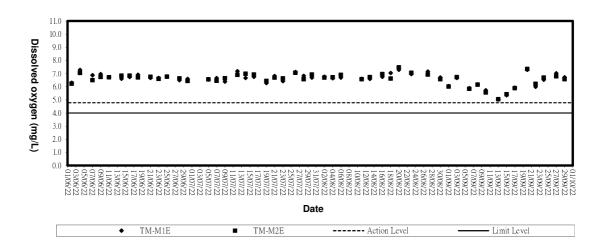
**Graphical Plots of Impact Marine Water Quality Monitoring Data** 





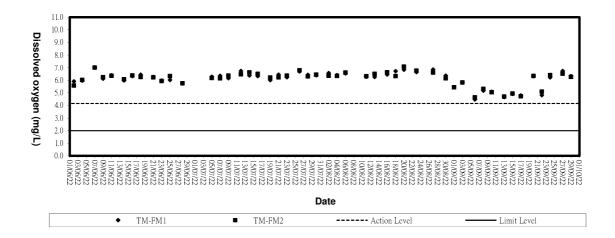
## Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide

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

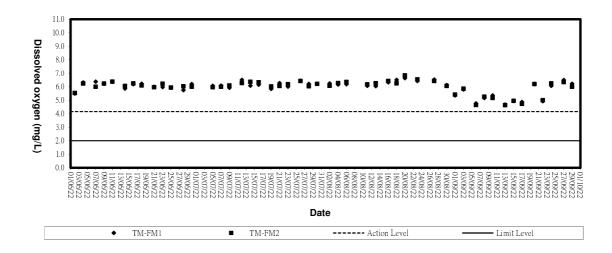




## Dissolved Oxygen (Bottom) at Mid-Flood Tide

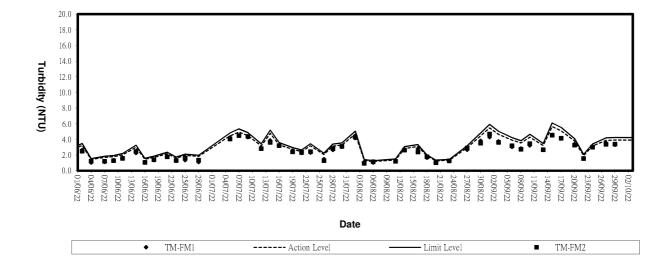


## Dissolved Oxygen (Bottom) at Mid-Ebb Tide

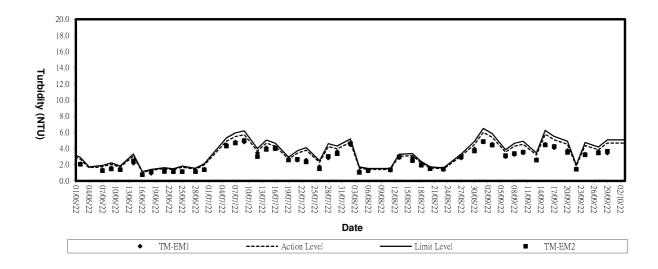




## Turbidity (Depth-average) at Mid-Flood Tide

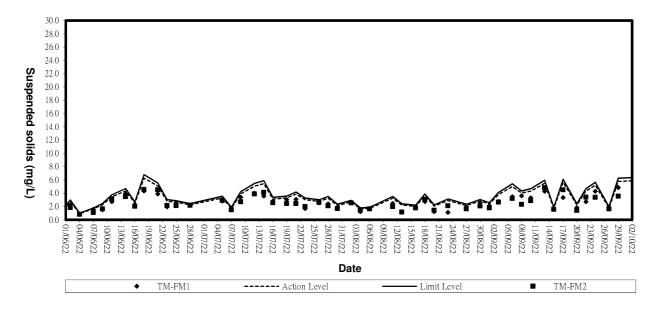


## Turbidity (Depth-average) at Mid-Ebb Tide

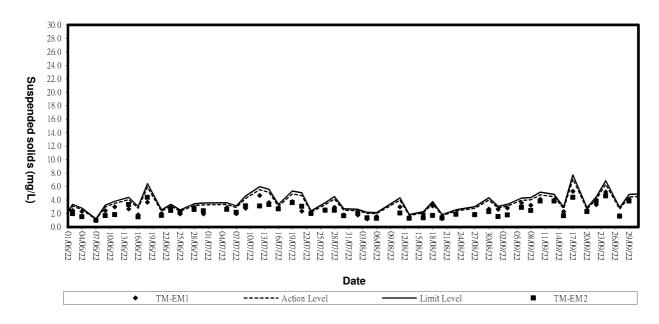




## Suspended solids (Depth-average) at Mid-Flood Tide



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





Appendix E

**Environmental Quality Performance (Action / Limit Levels)** 



## Action and Limit Levels for 1-hour TSP and 24-hour TSP Monitoring

Monitoring Location	24-hr TSP (μg/m³)		Monitoring 24-hr TSI Location		1-hr TSF	Ρ (μg/m³)
	Action Level	Limit Level	Action Level	Limit Level		
TM-A1	192	260	344	500		
TM-A2	192	260	344	500		

## Action and Limit Levels for Marine Water Quality Monitoring

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

## Action and Limit Levels for Noise Monitoring

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



Appendix F

**Event-Action Plans** 

	Contractor	<ol> <li>Rectify any unacceptable practise</li> <li>Amend working methods if appropriate</li> </ol>	<ol> <li>Submit proposals for remedial actions to IC(E) within 3 working days of notification</li> <li>Implement the agreed proposals</li> <li>Arrend proposal if appropriate</li> </ol>		- a a 4
TY EXCEEDANCE	ER	. Notify Contractor	<ol> <li>Confirm receipt of notification of failure in writing</li> <li>Notify the Contractor</li> <li>Ensure remedial measures properly implemented</li> </ol>		<ol> <li>Contain receipt on nouncation of failure in writing</li> <li>Notify the Contractor</li> <li>Ensure remedial measures properly implemented</li> </ol>
EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE ACTION	IC(E)	ACTION LEVEL 1. Check monitoring data submitted by the ET 1 2. Check contractor's working method	<ol> <li>Check monitoring data submitted by the ET Leader</li> <li>Leader</li> <li>Check the Contractor's working method</li> <li>Check the Contractor on possible remedial measures</li> <li>Advise the ER on the effectiveness of the proposed remedial measures</li> <li>Supervise implementation of remedial measures</li> </ol>		<ol> <li>Check monitoring data submitted by the ET Leader</li> <li>Check Contractor's working method</li> <li>Check Contractor's working method</li> <li>Discuss with ET and Contractor on possible remedial measures</li> <li>Advise the ER on the effectiveness of the proposed remedial measures</li> <li>Supervise implementation of remedial measures</li> </ol>
ш	ET Leader	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures</li> <li>Inform ER, IC(E) and Contractor</li> <li>Repeat measurement to confirm finding</li> <li>Increase monitoring frequency to daily</li> </ol>	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures</li> <li>Inform IC(E) and Contractor</li> <li>Repeat measurements to confirm finding</li> <li>Increase monitoring frequency to daily</li> <li>Discuss with IC(E) and Contractor on remedial actions</li> <li>If exceedance confinues, arrange meeting with IC(E) and ER.</li> <li>If exceedance stops, cease additional</li> </ol>	6 III OIII OIII	<ol> <li>Identify source, investigate the causes of exceedance and propose remedial measures</li> <li>Inform ER, Contractor and EPD</li> <li>Repeat measurement to confirm inding</li> <li>Increase monitoring frequency to daily</li> <li>Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results</li> </ol>
EVENT		1. Exceedance for one sample	<ol> <li>Exceedance for two or more consecutive samples</li> </ol>		1. Exceedance for one sample



	Contractor	<ol> <li>Take immediate action to avoid further exceedances</li> <li>Submit proposals for ramedial actions to IC(E) within 3 working days of notification</li> <li>Implement the agreed proposals</li> <li>Resubmit proposals if problem still not under control</li> <li>Stop the relevant activity of works as determined by the ER until the exceedance is abated</li> </ol>
TY EXCEEDANCE	田	<ol> <li>Confirm receipt of notification of failure in writing</li> <li>Notify Contractor</li> <li>In consultation with the IC(E), agree with the Contractor on the remedial measures to be implemented</li> <li>Ensure remedial measures</li> <li>Ensure remedial measures</li> <li>Ensure remedial measures</li> <li>consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated</li> </ol>
JALF	-	
EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE	ACTION IC(E)	<ol> <li>Discuss amongst ER, ET and Contractor on the potential remedial actions</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly</li> <li>Supervise the implementation of remedial measures</li> </ol>
	FT I earler	Identify source of exceedar measures Notify IC(E) Repeat mea finding finding norshing pro working pro working pro working pro arrange me discuss the taken Arrange me discuss the taken and Er info monitoring monitoring
		ન ગંર્ગ સંઘર છે. જે
EVENT		2. Exceedance for two or more consecutive samples

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EVENT						
		ET l'ocider		ER		Contractor
Level	in ∔ in:	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	<ol> <li>Review the analysed results submitted by the ET.</li> <li>Review the proposed remedial measures by the Contractor and advise the ER accordingly.</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor.</li> <li>Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>Ensure remedial measures are property implemented.</li> </ol>	+ ∧	Submit noise mitigation proposals to IC(E). Implement noise mitigation proposals.
Level	÷ ν. α, γ. α, γ. α, γ. α, γ. α, γ. α, γ. α, α, γ. α,	Notify the IC(E), the ER, the EPD and the Contractor. Identify source. Repeat measurement to confirm Indings. Increase monitoring frequency. Carry out analysis of Contractor's working procedures to determine possible mitigation to be inform the IC(E), the ER and the EPD the causes & actions taken for the exceedances. Assess effectiveness of contractor's remedial actions and keep the IC(E), the EPD and the ER informed of the results f exceedance due to the construction works stops, cease additional monitorino	<ol> <li>Discuss amongst the ER, the ET Leader and the Contractor on the potential remedial actions.</li> <li>Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing.</li> <li>Notify the Contractor to propose require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>Ensure remedial measures are properly implemented.</li> <li>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.</li> </ol>	ri Qi Qi Hi	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. Resubmit proposals if problem still not under control. Stop the relevant activity of works as determined by the ER until the exceedances is abated.

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EC	<ol> <li>Check monitoring data</li> </ol>	<ol> <li>Submitted by ET</li> <li>Confirm ET assessment if exceedance is due / not due to the works</li> <li>Discuss with ET, ER and Contractor on the mitigation measures</li> <li>Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly</li> <li>Supervise the implementation of mitigation measures</li> </ol>
	Notify EDD and other relevant	
EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE	Contractor	<ol> <li>Nontry the Erk and the diffication of within 24 hours of identification of within 24 hours of identification of acceedance</li> <li>Check al plant and equipment;</li> <li>Submit investigation report to IEC</li> <li>Submit investigation report to IEC</li> <li>Submit investigation of an exceedance</li> <li>Consider changes of working method if exceedance is due to the construction works</li> <li>Discuss with ET, IEC and ER and propose mitigation measures to Elect and ergy of the construction works</li> <li>IEC and ER if exceedance is due to the construction works within 4 working any of identification of an exceedance is due to the up the construction works within the sorrelation of an exceedance is due to the measures within reasonable time scale</li> </ol>
	ET Leader	<ol> <li>Identify source(s) of impact;</li> <li>Repeat in-situ measurement to</li> <li>Rotify Contractor in writing within</li> <li>Loheck monitoring data, all plant,</li> <li>Check monitoring data, all plant,</li> <li>Carry out investigation</li> <li>Carry out investigation</li> <li>Report the results of investigation</li> <li>Report the results of investigation</li> <li>Report the contractor within 3 working</li> <li>days of identification of for exceedance and advise</li> <li>contractor if exceedance is due to</li> <li>construction works within 4</li> <li>working days</li> <li>Repeat measurement on next day</li> <li>of exceedance if exceedance is due to</li> </ol>
Event	1	Action level being exceeded sampling day

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EVENT AND ACTION PLAN FOR WATER QUALITY	Contractor ER ER	in writing 1. Notify EPD and other relevant 1.	governmental agencies in	writing within 24 hours of the	le practice; dentification or the	exceedance	2. Discuss with IEC, ET and 3.	nanges of working Contractor on the proposed	mitigation measures;	e results of the 3. Require contractor to propose 4.	ER remedial measures for the	analysed problem if related to	the construction works	<ol> <li>Ensure remedial measures</li> </ol>		5. Assess the effectiveness of 5.	the mitigation measure	within 4 working days of	identification of an		Implement the agreed	mitigation measures within	reasonable time scale		 							
EVENT		. Notify I	within			-	equipment;					within	identifi	exceedance	6. Discus	and pr	meast	within	identif	-	7. Impler	mitiga	reaso									
	-				2	(n)		4		5.															 		 +-:					
A second contract of the second se	ET Lador	Identify source(s) of impact;	Repeat in-situ measurement	to confirm findings	Notify Contractor in writing	within 24 hours of	identification	Check monitoring data, all	Mant additioned and	Contractor's working methods:				within 3 working days of	identification of exceedance	and advise contractor if	exceedance is due to	contractor's construction	works		with IEC and Contractor within	4 working of identification of				monitori	10. Repeat measurement on next	day of exceedance.				
			3		က်			V	ŕ		LC.	i u	;							~			A	ထ်	 ത്		¥					
Event	 -	Action level	being	exceeded by	more than one	consecutive	campling days	san Runding	1,20 <b>-</b> 07	0.120-		1110	ances											1000 K.MO	 10.00		•					

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UEL _	_	<ul> <li>I. Check monitoring data submitted by ET</li> <li>2. Confirm ET assessment if exceedance is due / not due to the works</li> <li>3. Discuss with ET, ER and Contractor on the mitigation measures.</li> <li>III Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly.</li> <li>5. Assess the effectiveness of the implemented mitigation measures</li> </ul>
	- 1	<ol> <li>Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance Discuss with IEC, ET and Contractor on the proposed mitigation measures;</li> <li>Request Contractor to critically review the working methods;</li> <li>Ensure remedial measures are properly implemented the implemented mitigation measures.</li> </ol>
ACTION		<ol> <li>Notify IEC and ER in writing, within 24 hours of the identification of the exceedance</li> <li>Rectify unacceptable practice;</li> <li>Check all plant and equipment;</li> <li>Consider changes of working methods;</li> <li>Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance</li> <li>Discuss with ET, IEC and ER within 4 working days of the identification of an exceedance</li> <li>Discuss with eT, tEC and ER within 4 working days of the identification of an exceedance</li> <li>Implement the agreed mitigation measures within</li> </ol>
	ET Leader	surement stimpact; i writing data, all nd mg methods; ng s Contractor ays of ceedance ctor if e to ruction measures mit Level.
		Limit level being exceeded by one sampling day



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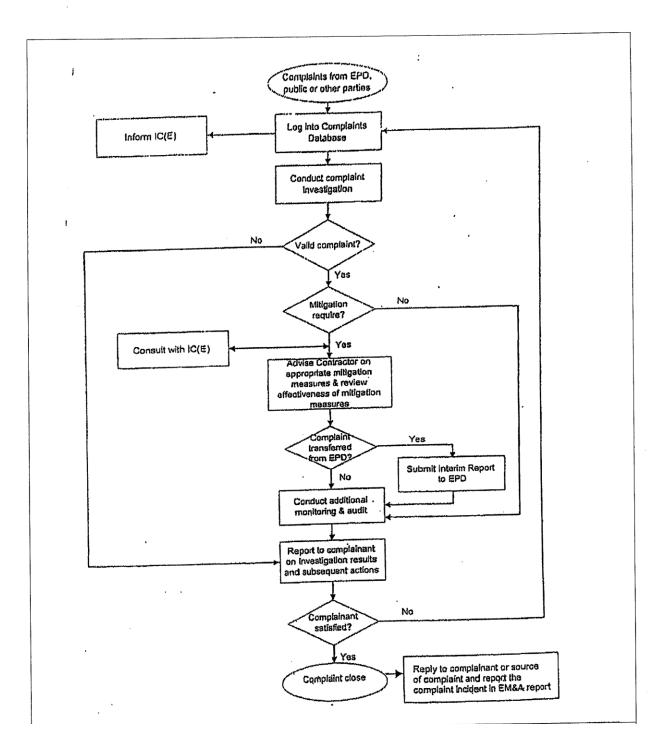
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Event Limit Level being more than one consecutive sampling days	EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE	-	ET Leader         Contractor         Contractor         Lotting tradings: to confirm findings:         Contractor         Lotting tradings: submitte governmental agancies in dentification of the within 24 hours of antimization of the within 24 hours of identification of the within 24 hours of identification of the within 24 hours of identification of the admitteration of the within 24 hours of identification of the exceedance         Contractor identification of the governmental agancies in governmental agancies in identification of the exceedance         . Notify EPD and other relevant identification of the identification of the exceedance         . Notify EPD and other relevant identification of the identification of the exceedance         . Notify EPD and other relevant identification of the indentification of the indentification of the investigation the contractor's working methods; identification of the investigation the contractor if measures         . Notify EPD and other relevant is exceedance         . Consider and other indentification of the indentification of the investigation the contractor's construction with ISC, FR and Contractor identification of acceedance identification of exceedance identification of acceedance identification of acceedance identification of the investigation measures         . Notify EPD is event andity inthereconch into the identification of the investigation the	two consecutive days.
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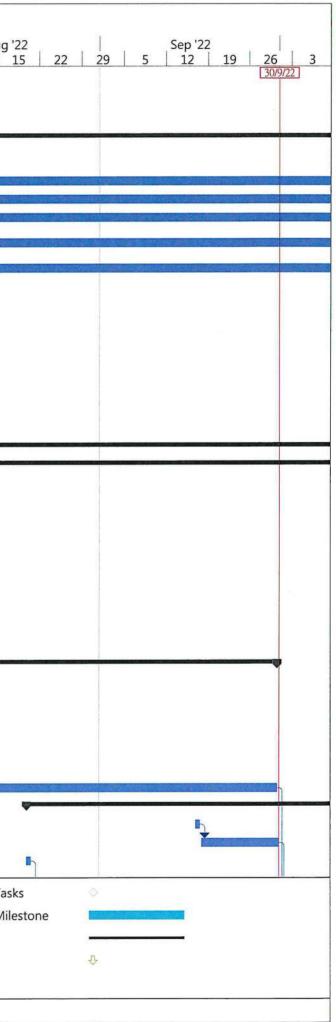
Appendix G

Work Programme

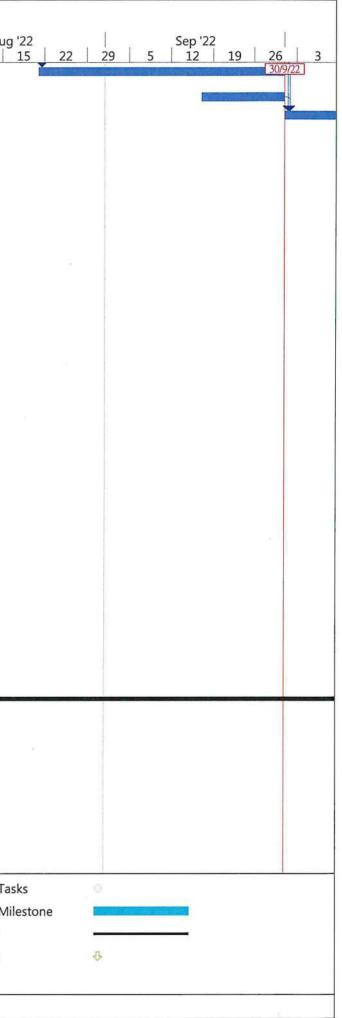
ID	0	Task Name		Start	Finish	Duratio	n Prede		Slack		1 B. E. S.S.	ıl '22	AI	ųg '
1		Contract duration of Contract CV/2021/9		Sat 1/1/22	Sun 31/12/2	23 730 days		-	0 days	27	4   1:	1 18 25	1 8	]
2		Contract date, Date of the Letter of Acceptance	e (assumed)		2' Mon 20/12/				742 days					
3		Starting Date of the Works		Sat 1/1/22		0 days			729 days					
4		Starting Date of Section 1 of the Works		Sat 1/1/22	Sat 1/1/22	0 days			0 days					
5		Starting Date of Section 2 of the Works		Sat 1/1/22	Sat 1/1/22	0 days			729 days					
6		Starting Date of Section 3 of the Works		Sat 1/1/22		0 days			120 days					
7		Date for Completion of the Works			23 Sun 31/12/2				1 day					
8		Completion Date of Section 1 of the Works			23 Sun 31/12/2				0 days					
9		Completion Date of Section 2 of the Works			23 Sun 31/12/2				0 days					
10	100	Completion Date of Section 3 of the Works			23 Sun 31/12/2				0 days					
11		Planned completion dates			23 Sun 31/12/2				0 days					
12	in a	Planned competion date of Section 1			23 Sun 31/12/2				0 days					
		Planned competion date of Section 2		Sun 31/12/2	23 Sun 31/12/2	30 days			0 days					
14		Planned competion date of Section 3			23 Sun 31/12/2				0 days					
15		Access Date of the Site		Sat 1/1/22					729 days					
16	V2		10 and A11 (within 60 days after starting	Sat 1/1/22	Sat 1/1/22	0 days			0 days					
17	12	Portion B1, B3, B6a, B6b and B7 (within 60 days a	after starting date)	Sat 1/1/22	Sat 1/1/22	0 days			0 days					
18		Portion A1. A7a, A7b, A7c1, A9, A9a and B6c (7 c		Sat 1/1/22	Sat 1/1/22	0 days			0 days					
19	1	Portion B6c (7 day's advance notice after starting		Sat 1/1/22	Sat 1/1/22	0 days			0 days					
20		Hand back of the Site		Sun 31/12/	23 Sun 31/12/2	230 days			0 days					
21		Project Manager with 30 days' advance notice)		Sun 31/12/23	Sun 31/12/23	0 days			0 days					
22		Portion A1, A7b, A7c1, A9 and A9a (or at an earlied with 30 days' advance notice)		Sun 31/12/23	Sun 31/12/23	0 days			0 days					
23	_	Portion B1, B3, B6a, B6b and B7 (or at an earlier of 30 days' advance notice)		Sun 31/12/23	Sun 31/12/23	0 days			0 days					
24		Portion B6c (or at an earlier date as notified by the notice)		Sun 31/12/23	Sun 31/12/23	0 days			0 days					
25		Section 1 of the Works - Tseung Kwan O Area		Sat 1/1/22	Sun 31/12/2				0 days					
26	~	Taking over the existing facilities at the Tseung of the Site			Sat 1/1/22	1 day	4SS		0 days					
133346.2		Operation of the the Tseung Kwan O Area 137		Sat 1/1/22					0 days		Contraction of Contract			
	<u>•</u> 2			Sat 1/1/22	Sun 31/12/2				0 days					
	<b>.</b> C	Bank within Portion A of the Site			Sun 31/12/23	730 days			0 days	arcanor lette				
30	PI	Provision, operation and maintenance of the Cr 137 Fill Bank within Portion A of the Site	ushing Plant at the Tseung Kwan O Area	Sat 1/1/22	Sun 31/12/23	730 days	2655	0	0 days	A REAL PROPERTY	And Constantions	and the second second		2
31		Operation and maintenance of the dewatering p Bank within portion A of the SIte.	plant at the Tseung Kwan O Area 137 Fill	Sat 1/1/22	Sun 31/12/23	730 days	26SS	0	0 days	<b>IBEGINAL</b>				
32	<b>.</b> A	Points to the TKO Area 137 Fill bank within Po		Sat 1/1/22	Sun 31/12/23	730 days	26SS	0	0 days					- Elek
33		Construction of Gabion wall			Sun 31/12/2				0 days					-
34	$\checkmark$	Preparing and submitting a method stateme	nt for approval	Sat 19/2/22	Wed 2/3/22	12 days		2	0 days					
35	~	Preparing and submitting the material subm	ission		Wed 2/3/22			2	0 days					
36	~	Obtaining approval from the Project Manage	r	Tue 26/4/22	Tue 26/4/22	1 day	35,34	2	0 days					
37		Construction of Gabion wall		Tue 19/4/22	Sun 31/12/2	3 622 days		7	0 days	States - Contra	AND SPECIAL DRIVEN			120
38	~	Re-surfacing of the access road at A11 TKO	FB	Mon 21/3/2	2 Fri 22/4/22	33 days			0 days					
39	~	Submission of method statement of re-surfa	acing the access road	Mon 21/3/22	2 Fri 25/3/22	5 days		0	0 days					
40	~	Obtaining approval from the Project Manage	r	Thu 7/4/22	Thu 7/4/22	1 day	39	2	0 days					
			Task English		External Tasl	ks	12000	1. A 1. A 1. A		Duration-	only		External 1	ask
					External Mile		\$				ummary Rol		External N	
	3month 5/6/2022	rolling Programme Jul22 to Sept22 CV/2021/09 21	Milestone •		nactive Mile					Manual St		<ul> <li>•</li> </ul>	Progress	
		-	Summary		nactive Sum	mary				Start-only			Deadline	
			Project Summary		Manual Task		ŵ			Finish-onl		-		
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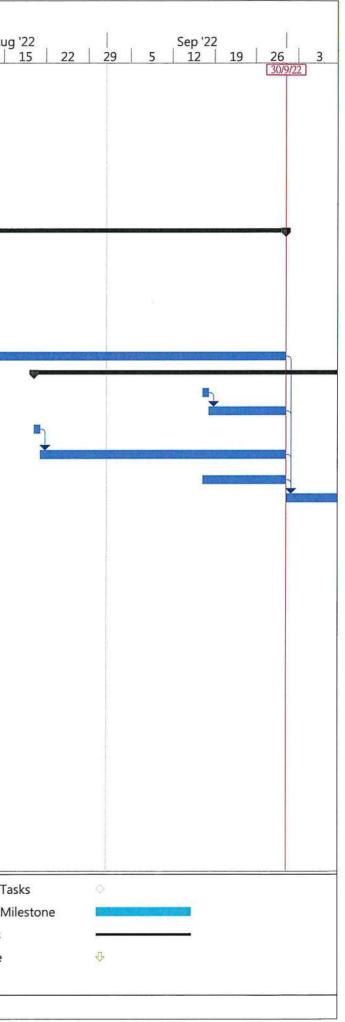
ID		Task Name		Start	Finish	Duration	Predec	etime risk allow	Slack			Jul '22	1	Aug '2
	0									27	4	11   18	3 25	1 8 1
41	~	Milling off the existing pavement, overlaying		Fri 15/4/22		8 days	40		0 days	1/1/2	22			
42		Handing over the facilities at the Tseung Kwan Site to the Employer Planned Completion Date (Section 1)	O Area 137 Fill Bank within Portion A of the	31/12/23	Sun 31/12/23 3 Sun 31/12/23	0 days	8SS		0 days 1 day					
43		Section 2 of the Works - Tuen Mun Area 38 Fill	Pank	Sat 1/1/22	Sun 31/12/23				0 days	_		The second s		
44		Taking over the existing facilities at the Tuen M		Sat 1/1/22	Sat 1/1/22	100 B	5SS		0 days					
	-	Site	ithis Dedies Deduke Cite	0-14/4/00	Que 21/12/20	720 dava	500	0	0 days	_				
46	-	Operation of the Tuen Mun Area 38 Fill Bank w		Sat 1/1/22	Sun 31/12/23				0 days		And the second second	- the second second		And a state of the second states
47	2	Operation and maintenance of the surveillance		Sat 1/1/22 Sat 1/1/22	Sun 31/12/23 Sun				0 days 0 days		t sender and set		Palatered dura	CARL CLASS AND DECK
48		Operation and maintenance of the existing tipp within Portion B of the Site			31/12/23	730 days					Service Stru			en de la compañía de la compañía
49		Operation and Maintenance of the Crushing Pla Portion B of the Site	ant at the Tuen Mun Area 36 Fill Bank Within	Sat 1/1/22	Sun 31/12/23	730 days	555	U	0 days		and the second se			
50		Operation and maintemnance of glass cullet sto 38 Fill Bank within Portion B of the Site		Sat 1/1/22	31/12/23	730 days	5SS		0 days					
51		PMI no.05 Construction of vehicle washing	house facilities		Thu 28/7/22	Cicce Soloure res			521 days			200.00 Parts		
52	~	Submission of method statement of vehicle			Wed 6/4/22				0 days					
53	~	Obtaning approval from the Project Manage			Mon 25/4/22		52		0 days					
54		Fabrication and delivery of the vehicle wash			Thu 30/6/22	100000.0000.0000			524 days					
55		Installation of the vehicle washing house fac	cilities	Sat 2/7/22	Mon 25/7/22	11	54		523 days		C BOASS PARA	1918 B. 190		
56		Trial run of vehicle washing house facilities			Thu 28/7/22		55		521 days				1	
57		Handing over the facilities at the Tuen Mun Are the Employer	a 38 Fill Bank within Portion B of the Site to	31/12/23	Sun 31/12/23	1 day	9SS		0 days					
58		Planned Completion Date (Section 2)			3 Sun 31/12/23				0 days					
59		Section 3 of the Works - Designated Reclamati			Sun 31/12/23				0 days				A DE LA D	
60		Collection and delivery of 2 million tonnes on Kwan O Area 137 Fill Bank and the Tuen Mu Reclamation Sites in the Mainland	of Public Fill by vessels from Tseung In Area 38 Fill Bank to the Desiognated	Tue 7/12/21	20/12/23	744 days			11 days					
61		1st and 2nd quarter of first year		Tue 7/12/21	Thu 30/6/22	206 days			549 days					
62		Installing Front End Mobile Unit (FEMU)	onto the proposed vessels	Mon 20/12/2	1Sun 26/12/21	7 days		2	705 days					
63	1	Submitting application documents to EPI	D for application of dumping permits	Tue 28/12/21	1 Tue 28/12/21	1 day		0	0 days					
64		Obtaining the dumping permit from EPD		Wed 29/12/2	' Sat 30/4/22	123 days	63	2	580 days					
65	~	permit of waste at the sea	Employer for the application of the dumping						0 days					
66	~	Obtaining the dumping permits from Min People's Republic of China through the E	Employer (assumed on 31/12/21)		Tue 26/4/22				0 days					
67		Obtaining all necessary permits, licenses			Sat 30/4/22				580 days					
68		Collection and delivery of 166666 tonnes	of Public Fill		Thu 30/6/22		66,64,67		549 days					
69		3rd quarter of first year			Fri 30/9/22				12 days					
70		Submitting application documents to EPI		Fri 17/6/22		1 day	70		12 days	_				
71		Obtaining the dumping permit from EPD			Thu 30/6/22		70		12 days					
72		permit of waste at the sea	Employer for the application of the dumping		Fri 20/5/22 Thu 30/6/22		72		12 days 12 days					
73		Obtaining the dumping permits from Min People's Republic of China through the E Obtaining all necessary permits, licenses	Employer	Fri 17/6/22	Thu 30/6/22		12		12 days					
74		Collection and delivery of 499998 tonnes		Fri 1/7/22	Fri 30/9/22		74 71 73		12 days			the state of the state of the		
75		4th guarter of first year			Sat 31/12/22		14,11,10		12 days				manifest sector to the	
76		4th quarter of first year Submitting application documents to EPI	) for application of dumping permits		Sat 31/12/22 Sat 17/9/22				12 days					
77		Obtaining the dumping permit from EPD			Fri 30/9/22	100000 M	77		12 days					
78 79			Employer for the application of the dumping						12 days					
	1	pointe of waste at the sea	Task	E CANCERS	xternal Task	s	CHE AGE		1000	Duratio	n-only			External Tasks
			Split		xternal Miles	stone	$\diamond$				Summary	Rollup 🔷		External Miles
	3montl 5/6/202	h rolling Programme Jul22 to Sept22 CV/2021/09	Milestone		nactive Miles						Summary	•		Progress
Trace Les			Summary		nactive Sum	marv				Start-on	nly	-		<ul> <li>Deadline</li> </ul>
			Project Summary		/anual Task	,	Q			Finish-o		-		•
											2			



ID		Task Name		Start	Finish	Duration		risk S							
	0							allow				Jul '22		. 1	Aug '
80		Obtaining the dumping permits from Mi	nistry of Ecology and environment of the	Sun 21/8/22	2 Fri 30/9/22	41 days	79	14 1	2 days	27	4	11	18 25	1	8 1
		People's Republic of China through the I	Employer (assumed on 30/9/22)												
81		Obtaining all necessary permits, licenses			Fri 30/9/22		75 04 00		2 days						
82		Collection and delivery of 250000 tonnes	s of Public Fill		Sat 31/12/22	1. 1000-07.000 <b>.</b> #370			2 days						
83		1st quarter of second year			22 Fri 31/3/23				2 days						
84		Submitting application documents to EP	11 1 01		22 Sun 18/12/2				2 days	_					
85		Obtaining the dumping permit from EPD	the second the term with a second second second second		22 Sat 31/12/22		84		2 days						
86 87		Submiting Application documents to the permit of waste at the sea Obtaining the dumping permits from Mi	Employer for the application of the dumping nistry of Ecology and environment of the	Sun 20/11/22 Mon	Sun 20/11/22 Sat 31/12/22	1 day	86		2 days 2 days	-					
0/	199	People's Republic of China through the I	Employer	21/11/22		-			2 00,0						
88	E	Obtaining all necessary permits, licenses		Sun 18/12/2	22 Sat 31/12/22				2 days						
89		Collection and delivery of 250000 tonne	s of Public Fill	Sun 1/1/23	Fri 31/3/23	90 days	82,88,87	14 1	2 days						
90	H	2nd quarter of second year		Sat 18/2/23	Fri 30/6/23	133 days		1	2 days						
91		Submitting application documents to EP	D for application of dumping permits	Sat 18/3/23	Sat 18/3/23	1 day		0 1	2 days						
92		Obtaining the dumping permit from EPD	(assumed on 31/3/23)	Sun 19/3/23	B Fri 31/3/23	13 days	91	2 1	2 days						
93		<b>J I I</b>	Employer for the application of the dumping	Sat 18/2/23	Sat 18/2/23	1 day		0 1	2 days						
94	-	permit of waste at the sea Obtaining the dumping permits from Mi People's Republic of China through the B		Sun 19/2/23	3 Fri 31/3/23	41 days	93	14 1	2 days						
95		Obtaining all necessary permits, licenses		Sat 18/3/23	Fri 31/3/23	14 days		2 1	2 days						
96	-	Collection and delivery of 250000 tonne	s of Public Fill	Sat 1/4/23	Fri 30/6/23	91 days	89,92,94	14 1	2 days						
97		3rd quarter of second year		Sat 20/5/23	Sat 30/9/23	134 days		1	2 days						
98	ine	Submitting application documents to EPI	D for application of dumping permits	Sat 17/6/23	Sat 17/6/23	1 day		0 1	2 days						
99	-	Obtaining the dumping permit from EPD	(assumed on 30/6/23)	Sun 18/6/23	Fri 30/6/23	13 days	98	14 1	2 days						
100		Submiting Application documents to the permit of waste at the sea	Employer for the application of the dumping	Sat 20/5/23	Sat 20/5/23	1 day		0 1	2 days						
101		Obtaining the dumping permits from Mi People's Republic of China through the E		Sun 21/5/23	8 Fri 30/6/23	41 days	100	14 1	2 days						
102	an	Obtaining all necessary permits, licenses	s,approvals and concents	Sat 17/6/23	Fri 30/6/23	14 days		2 1	2 days						
103	DE	Collection and delivery of 250000 tonner	s of Public Fill	Sat 1/7/23	Sat 30/9/23	92 days	96,102,9	14 1	2 days						
104		4th quarter of second year		Sun 20/8/23	3 Wed 20/12/2	:123 days		1	1 days						
105		Submitting application documents to EPI	D for application of dumping permits	Sun 17/9/23	Sun 17/9/23	1 day		0 1	2 days						
106		Obtaining the dumping permit from EPD	(assumed on 30/9/23)	Mon 18/9/23	3 Sat 30/9/23	13 days	105	2 1	2 days						
107		permit of waste at the sea	Employer for the application of the dumping		Sun 20/8/23				2 days						
108		Obtaining the dumping permits from Mi People's Republic of China through the B	Employer(assumed on 30/9/23)		3 Sat 30/9/23		107		2 days						
109		Obtaining all necessary permits, licenses			Sat 30/9/23				2 days						
		Collection and delivery of 250000 tonnes			3 Wed 20/12/2	10000000000	103,109,		1 days	-					
111		Collection and delivery of 8 million tonnes on Kwan O Area 137 Fill Bank and the Tuen Mu Reclamation Sites in the Mainland (subject t	n Area 38 Fill Bank to the Desiognated	Tue 7/12/21	Wed 20/12/23	744 days		1	1 days						
112	-	1st quarter of first year		Tue 7/12/21	Thu 30/6/22	206 days		5-	49 days						
113		Installing Front End Mobile Unit (FEMU)	onto the proposed vessels	Mon 20/12/2	21Sun 26/12/21	7 days		1 6	74 days						
114		Submitting application documents to EPI	D for application of dumping permits	Tue 28/12/2	1 Tue 28/12/21	1 day		0 54	49 days						
115		Obtaining the dumping permit from EPD		Wed 29/12/	2. Sat 30/4/22	123 days	114	2 5	49 days						
116			Employer for the application of the dumping	Tue 7/12/21	Tue 7/12/21	1 day			63 days						
117		Obtaining the dumping permits from Min People's Republic of China through the E	mployer (assumed on 31/12/21)		1 Sat 16/4/22				63 days						
118		Obtaining all necessary permits, licenses	approvals and concents	Sun 17/4/22	Sat 30/4/22	14 days		2 54	49 days						
			Task Distance		External Task	s			No.	Duration	n-only			Ext	ernal Task
					External Mile	stone	$\diamond$					y Rollup	•	Ext	ernal Mile
		rolling Programme Jul22 to Sept22 CV/2021/09	Milestone •		nactive Mile		5		1	Manual		•	•		gress
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ID		Task Name		Start	Finish	Duration	Predec	etime To risk Sla		22					
	0					1		allow			ř	Jul '2			Aug
110	0	Collection and delivery of 666666 tonnes	s of Public Fill	Sun 1/5/22	Thu 30/6/22	61 days	118,117	14 549	9 days	27	4	11	18 25	1	8
119 120		2nd quarter of first year		Fri 18/2/22					days		<u>د</u>				
120		Submitting application documents to EP	D for application of dumping permits		Sat 12/3/22				days						
121	-	Obtaining the dumping permit from EPD			Sat 30/4/22		121		days						
122		Submiting Application documents to the permit of waste at the sea				1 day	121		days	_					
124		Obtaining the dumping permits from Mi People's Republic of China through the I		e Tue 1/3/22	Sat 16/4/22	47 days	123	2 26	days						
125		Obtaining all necessary permits, license	s,approvals and concents	Sun 17/4/22	2 Sat 30/4/22			0 12	days						
126		Collection and delivery of 666666 tonnes	s of Public Fill	Sun 1/5/22			125,124,	14 12	days						
127		3rd quarter of first year		Fri 20/5/22	Fri 30/9/22	134 days		12	days					-	
128		Submitting application documents to EP		Fri 17/6/22	Fri 17/6/22	1 day		0 12	days						
129		Obtaining the dumping permit from EPD	(assumed on 30/6/22)	Sat 18/6/22	Thu 30/6/22	13 days	128	2 12	days					1	
130		Submiting Application documents to the permit of waste at the sea					100		days						
131 132		Obtaining the dumping permits from Mi People's Republic of China through the I Obtaining all necessary permits, licenses	Employer	Sat 21/5/22 Fri 17/6/22	Thu 30/6/22		130		days days						
122 C 12 C 12 C 1		Collection and delivery of 1666665 tonne		Fri 1/7/22	Fri 30/9/22	1	129,132,		days						
133		4th guarter of first year			Sat 31/12/22				days		Old service the				A HOUSE HARACLE RANG
134	(COLOR)	Submitting application documents to EP	D for application of dumping parmits		Sat 31/12/22	5			days						
135		Obtaining the dumping permit from EPD			2 Fri 30/9/22		135		days						
136 137		Submiting Application documents to the permit of waste at the sea			Sat 20/8/22		155		days						
138		Obtaining the dumping permits from Mi People's Republic of China through the f		Sun 21/8/22	2 Fri 30/9/22	41 days	137	14 12	days						
139		Obtaining all necessary permits, licenses	s,approvals and concents	Sat 17/9/22	Fri 30/9/22	14 days		2 12	days						
140		Collection and delivery of 1 million tonne	s of Public Fill	Sat 1/10/22	Sat 31/12/22	92 days	139,133,	14 12	days						
141		1st quarter of second year		Sun 20/11/2	22 Fri 31/3/23	132 days		12	days						
142		Submitting application documents to EP	D for application of dumping permits	Sun 18/12/2	22 Sun 18/12/2	2 1 day		0 12	days						
143		Obtaining the dumping permit from EPD	(assumed on 31/12/22)	Mon 19/12/2	22 Sat 31/12/22	13 days	142	2 12	days						
144		Submiting Application documents to the permit of waste at the sea		20/11/22	Sun 20/11/22	1 day		0 12	days						
145		Obtaining the dumping permits from Mi People's Republic of China through the B Obtaining all necessary permits, licenses	Employer	21/11/22	Sat 31/12/22 22 Sat 31/12/22		144		days days						
146							140 146								
147		Collection and delivery of 1 million tonne	es of Public Fill	Sun 1/1/23			140,146,		days						
148	-	2nd quarter of second year			Fri 30/6/23				days						
149		Submitting application documents to EPI			Sat 18/3/23		4.40		days						
150		Obtaining the dumping permit from EPD				13 days	149		days						
151		Submiting Application documents to the permit of waste at the sea Obtaining the dumping permits from Mi			Sat 18/2/23 Fri 31/3/23		151		days days						
152 153		People's Republic of China through the E Obtaining all necessary permits, licenses	Employer		Fri 31/3/23	14 days			days						
154	Tag	Collection and delivery of 1 million tonne	s aga aga san	Sat 1/4/23	Fri 30/6/23	· · ·	147,153,	14 12 0	days						
155		3rd quarter of second year			Sat 30/9/23				days						
156		Submitting application documents to EPI	D for application of dumping permits		Sat 17/6/23	-81200 - 980A			days						
157		Obtaining the dumping permit from EPD				1000	156		days						
158		Submiting Application documents to the permit of waste at the sea				100000000000000000000000000000000000000			days						
			Task		External Task	S				Duration	-only			11111	External Tas
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			Summary		Inactive Sum	mary				Start-onl	у				Deadline
			Project Summary		Manual Task		ŵ			Finish-or	12		-		
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ID		Task Name		Start	Finish	Duration	Predec	risk	Slack							
	0							allow		27	1	Jul '2:	2 18	25	1 8	Aug '
159		Obtaining the dumping permits from Mi People's Republic of China through the B		Sun 21/5/23	Fri 30/6/23	41 days	158	14	12 days	1/1/	22	1 11 1	10	25	1 0	
160		Obtaining all necessary permits, licenses		Sat 17/6/23	Fri 30/6/23	14 days		2	12 days							
161		Collection and delivery of 1million tonne	s of Public Fill	Sat 1/7/23	Sat 30/9/23	92 days	160,154	, 14	12 days							
162		4th quarter of second year		Sun 20/8/23	Wed 20/12/2	123 days			11 days							
163		Submitting application documents to EP	D for application of dumping permits	Sun 17/9/23	Sun 17/9/23	1 day		0	12 days							
164		Obtaining the dumping permit from EPD	(assumed on 30/9/23)	Mon 18/9/23	Sat 30/9/23	13 days	163	2	12 days							
165		permit of waste at the sea			Sun 20/8/23			0	12 days							
166		Obtaining the dumping permits from Mi People's Republic of China through the B	Employer (assumed on 30/9/23)		Sat 30/9/23		165		12 days							
167		Obtaining all necessary permits, licenses			Sat 30/9/23				12 days	_						
168		Collection and delivery of 1 million tonne			Wed 20/12/2	1			11 days							
169		Removal, excavation and deposition of stoo the Designated Reclamation Sites in the Ma Removal, excavation and deposition of stoc	inland		31/12/23	610 days	6SS		0 days							
170		and the second sec		Sun 1/5/22	Sun 31/12/23	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			0 days		And the local diversion of the		an the second	and the second se	the state of the state of the	* ***
171		Operation and maintenance of the existing a association with the existing berthing facilit Reclamation Sites in the Mainland		Sun 1/5/22	Sun 31/12/23	610 days	655		0 days							
172	11 m	Operation and maintenance of the existing r	navigation channel and turning basins	Sun 1/5/22	Sun 31/12/23	610 days		14	0 days	P/Au-ANTER	and Street St.		and the second	and the second sec		بالبهدة
173		Design, construction, operation and mainter turning basins in association with the new b Designated Reclamation Sites in the Mainla	perthing facility at Zone B of the	Sun 1/5/22	Sun 31/12/23	610 days			0 days							
174		Obtaining the dumping permits from Minist People's Republic of China through the Emp	ry of Ecology and environment of the	Sun 1/5/22	Sun 1/5/22	1 day		0	1 day							
175		Preparation of design submission	•	Mon 2/5/22	Tue 31/5/22	30 days	174	7	1 day							
176		Obtaining all necessary design approvals ar	nd concents	Wed 1/6/22	Thu 30/6/22	30 days	175	7	1 day							
177	HE	Construction of the new navigation channel	and turning basins	Fri 1/7/22	Sun 27/11/22	150 days	176	14	1 day	T			and the second	ACRE DI ANN		
178		Obtaining the construction completion certifi	icate	Mon 28/11/2	2 Tue 27/12/22	30 days	177	7	1 day							
179		Operation and maintenance of navigation c	hannel and turning basins	Thu 29/12/22	2 Sun 31/12/23	368 days	178	14	0 days							
180		Design, construction, operation and mainter of the Designated Reclamation Sites in the instruction)		Sun 1/5/22	Sun 31/12/23	610 days			0 days							1
181		Obtaining the dumping permits from Minist People's Republic of China through the Emp	ry of Ecology and environment of the ployer for Zone A & B (assumed on	Sun 1/5/22	Sun 1/5/22	1 day			0 days							
182		Preparation of design submission		Mon 2/5/22	Tue 31/5/22	30 days	181	7	0 days							
183		Obtaining all necessary design approvals an	nd concents	Wed 1/6/22	Thu 30/6/22	30 days	182	7	0 days							
184		Construction of the berthing facilities		Fri 1/7/22	Tue 27/12/22	180 days	183	14	0 days				Section 1			1000
185		Obtaining the construction completion certifi	cate	Wed 28/12/2	Thu 26/1/23	30 days	184	7	0 days							
186		Operation and maintenance of new berthing	facilities	Fri 27/1/23	Sun 31/12/23	339 days	185	14	0 days							
187		Design and construction of seawalls (appro: berthing facility at Zone B of the Designated (subject to Project's Manager's instructed)		Sun 1/5/22	Fri 28/10/22	181 days			429 days							
188		Obtaining the dumping permits from Minist People's Republic of China through the Emp	ry of Ecology and environment of the loyer for Zone A & B (assumed on	Sun 1/5/22	Sun 1/5/22	1 day		0	429 days							
189		Preparation of design submission		Mon 2/5/22	Tue 31/5/22	30 days	188	7	429 days							
190	110	Obtaining all necessary design approvals an	d concents	Wed 1/6/22	Thu 30/6/22	30 days	189	7	429 days							
191		Construction of seawalls		Fri 1/7/22	Wed 28/9/22	90 days	190	14	429 days					a survey of the	in and the	
192		Obtaining the construction completion certifi	cate	Thu 29/9/22	Fri 28/10/22	30 days	191	7	429 days							
		Planned Completion Date (Section 3)		Sun 31/12/23	Sun 31/12/23	0 days			1 day							
193		Planned Completion Date (Section 3)		Sun 31/12/23	Sun 31/12/23	0 days			1 day							_
			Task		xternal Task					Duratio					Externa	
			Split	E	xternal Miles	stone	$\diamond$			Manual	Summa	ry Rollup	٠		Externa	l Mile
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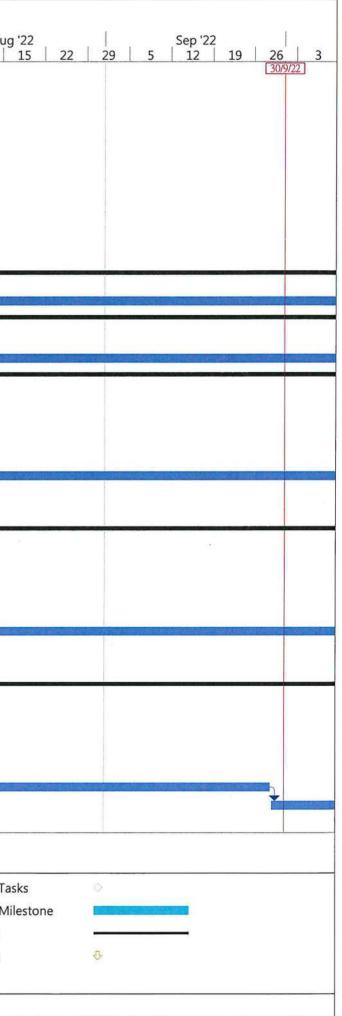
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Project Summary

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🔍 Manual Task





# Appendix H

Implementation Schedule of Environmental Mitigation Measures (EMIS)



# Environmental Mitigation Implementation Schedule

	Location		Implementa	tion Status	
Environmental Protection Measures		Implemented	Partially implemented	Not implemented	Not Applicable
Air Quality					
Dust control / mitigation measures shall be provided to prevent dust nuisance.	All areas		$\checkmark$		
Water sprays shall be provided and used to dampen materials.	All areas				
All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	All areas				
<ul> <li>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.</li> </ul>	All areas	$\checkmark$			
<ul> <li>Unpaved areas should be watered regularly to avoid dust generation.</li> </ul>	Site Egress	$\checkmark$			
The designated site main haul road shall be paved or regular watering.	All haul roads	$\checkmark$			
The public road around the site entrance should be kept clean and free from dust.	All areas	$\checkmark$			
<ul> <li>Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site and and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.</li> </ul>	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 shall be covered with impermeable sheet or sprayed with water.	All areas	$\checkmark$			
<ul> <li>Vehicle and equipment should be switched off while not in use.</li> </ul>	All areas	$\checkmark$			
<ul> <li>All plant and equipment should be well maintained e.g. without black smoke emission.</li> </ul>	All areas	$\checkmark$			
Open burning should be prohibited.	All areas	$\checkmark$			
<ul> <li>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).</li> </ul>	All areas	$\checkmark$			
Noise Impact					
The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	All areas	$\checkmark$			
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				
Air compressors and hand held breakers should have noise labels.	All areas				
<ul> <li>Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.</li> </ul>	All areas	$\checkmark$			
Noisy equipment and mobile plant shall always be site away from NSRs.	All areas	$\checkmark$			



	Location	Implementati	on Status		
Environmental Protection Measures		Implemented	Partially implemented	Not implemented	Not Applicable
Water Quality					
<ul> <li>The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.</li> </ul>	All areas	$\checkmark$			
<ul> <li>Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels.</li> <li>Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.</li> </ul>	All areas	$\checkmark$			
<ul> <li>The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.</li> </ul>	All areas	$\checkmark$			
<ul> <li>The material shall be properly covered to prevent washed away especially before rainstorm.</li> </ul>	All areas	$\checkmark$			
<ul> <li>Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.</li> </ul>	All areas	$\checkmark$			
<ul> <li>The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.</li> </ul>	Temporary Slopes	$\checkmark$			
<ul> <li>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.</li> </ul>	All areas	$\checkmark$			
<ul> <li>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.</li> </ul>	Wheel Washing facility	$\checkmark$			
<ul> <li>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.</li> </ul>	Site Egress	$\checkmark$			
<ul> <li>Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.</li> </ul>	Site Office	$\checkmark$			
<ul> <li>The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.</li> </ul>	All areas	$\checkmark$			
<ul> <li>Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.</li> </ul>	All areas	$\checkmark$			
<ul> <li>Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.</li> </ul>	Along the seafront	$\checkmark$			
<ul> <li>A waste collection vessel shall be deployed to remove floating debris.</li> </ul>	Along the seafront	$\checkmark$			
Landscape and Visual					
The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD.	All areas	$\checkmark$			
Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	Completed slopes	$\checkmark$			
Stockpile of public fill shall be removed in a sequence to allow the outer hydrseeded to be removed later than other portions as far as practicable.	Completed slopes	$\checkmark$			
• Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level.	Site boundary	$\checkmark$			
Lighting shall be set to minimise night-time glare.	All areas	$\checkmark$			
Waste Management					
Construction Waste Management					
Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	All areas	$\checkmark$			



	Location	Implementati	on Status		
Environmental Protection Measures		Implemented	Partially implemented	Not implemented	Not Applicable
• Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	All areas				
Mud and debris should be removed from waterworks access roads and associated drainage systems.	All areas				
Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	All areas				
Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	All areas				
In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	All areas	$\checkmark$			
Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	All areas				
Chemical Waste Management					
<ul> <li>It is required to register as a chemical waste producer if chemical wastes would be produced from the site activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.</li> </ul>	Waste Storage Area	$\checkmark$			
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	Waste Storage Area	$\checkmark$			
Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	Waste Storage Area				
• Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	Waste Storage Area	$\checkmark$			
Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	Waste Storage Area	$\checkmark$			
The designated chemical waste storage area should only be used for storing chemical wastes.	Waste Storage Area	$\checkmark$			
The set-up of chemical waste storage area should					
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	Waste Storage Area				
Be enclosed on at least 3 sides and securely closed.	Waste Storage Area	$\checkmark$			
• Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	Waste Storage Area	$\checkmark$			
Have adequate ventilation.	Waste Storage Area	$\checkmark$			
Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	Waste Storage Area	$\checkmark$			
Be arranged so that incompatible materials are adequately separated.	Waste Storage Area	$\checkmark$			
Warning panels should be displayed at the waste storage area.	Waste Storage Area	$\checkmark$			



	Location	Implementati	on Status		
Environmental Protection Measures		Implemented	Partially implemented	Not implemented	Not Applicable
Waste storage area should be cleaned and maintained regularly.	Waste Storage Area	$\checkmark$			
• Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	All areas				
All generators, fuel and oil storage should be within bundle areas.	All areas				
Oil leakage from machinery, vehicle and plant should be prevented.	All areas		$\checkmark$		
In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed.	All areas				
• The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place.	All areas	$\checkmark$			
Good Site Practices					
Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.	All areas	$\checkmark$			
Training of site personnel in proper waste management and chemical handling procedures should be provided.	All areas				
Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	All areas	$\checkmark$			
Proper storage and site practices to minimise the potential for damage or contamination of construction materials.	All areas	$\checkmark$			
The Environmental Permit should be displaced conspicuously on site.	Site Entrance				
Construction noise permits should be posted at site entrance or available for site inspection.	Site Entrance				$\checkmark$
Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	All areas	$\checkmark$			
Chemical storage area provided with lock and located on sealed areas.	Chemical Storage Area	$\checkmark$			
All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank).	Chemical Storage Area	$\checkmark$			
Any unused chemicals or those with remaining functional capacity should be recycled.	All areas	$\checkmark$			
• Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors.	All areas				
• To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	All areas	$\checkmark$			
• A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods.	All areas	$\checkmark$			
<ul> <li>A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be bunded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system.</li> </ul>	All areas	$\checkmark$			
Remove wastes in a timely manner.	All areas				



# Appendix I

## Statistical Analysis of the Trend of Suspended Solids in the Quarter



## Statistical Analysis of the Trend of Suspended Solids

## For Mid-Flood Tide

#### Station: TM-FM1

<u>t-test</u>

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	5.9733	1.3518	0.3902
Quarterly Mean	36	0	2.5787	0.9816	0.1636

#### Result:

Difference between means = 3.3946 (95% CI : 2.6688 < Diff < 4.1204)

t-value of difference = 8.0225 (15 degrees of freedom)

Calculated t-value > Critical t-value

#### **Conclusion:**

There is statistically significant difference between the groups. The P-Value of 130% Baseline Mean is larger than quarterly mean = >0.99 The result of suspended solids in this reporting period is lower than that of 130% baseline.

#### Station: TM-FM2

<u>t-test</u>

Group Name	Ν	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.0267	1.1748	0.3391
Quarterly Mean	36	0	2.4713	0.9252	0.1542

#### Result:

Difference between means = 3.5554 (95% CI : 2.8907 < Diff < 4.2201)

t-value of difference = 9.5436 (16 degrees of freedom)

Calculated t-value > Critical t-value

#### **Conclusion:**



## Statistical Analysis of the Trend of Suspended Solids

## For Mid-Flood Tide

#### Station: TM-FC1

<u>t-test</u>

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.6942	1.8839	0.5438
Quarterly Mean	36	0	2.5944	1.1302	0.1884

#### Result:

Difference between means = 4.0998 (95% CI : 3.1945 < Diff < 5.0051)

t-value of difference =7.1234 (14 degrees of freedom)

Calculated t-value > Critical t-value

#### **Conclusion:**

There is statistically significant difference between the groups. The P-Value of 130% Baseline Mean is larger than quarterly mean = >0.99 The result of suspended solids in this reporting period is lower than that of 130% baseline.

#### Station: TM-FC2

<u>t-test</u>

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	6.3067	1.8674	0.5391
Quarterly Mean	36	0	2.7778	1.0593	0.1765

#### Result:

Difference between means = 3.5289 (95% Cl : 2.6572 < Diff < 4.4006)

t-value of difference = 6.2212 (13 degrees of freedom)

Calculated t-value > Critical t-value

#### **Conclusion:**



# Statistical Analysis of the Trend of Suspended Solids For Mid-Ebb Tide

#### Station: TM-FM1

#### <u>t-test</u>

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	7.0008	1.6394	0.4733
Quarterly Mean	36	0	2.7856	1.0687	0.1781

#### Result:

Difference between means = 4.2152 (95% Cl : 3.3902 < Diff < 5.0402)

t-value of difference = 8.3359 (14 degrees of freedom)

Calculated t-value > Critical t-value

#### **Conclusion:**

There is statistically significant difference between the groups. The P-Value of 130% Baseline Mean is larger than quarterly mean = >0.99 The result of suspended solids in this reporting period is lower than that of 130% baseline.

#### Station: TM-FM2

#### <u>t-test</u>

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	7.2758	1.5293	0.4415
Quarterly Mean	36	0	2.4796	0.9460	0.1577

#### Result:

Difference between means = 4.7962 (95% CI : 4.7962 < Diff < 5.5434)

t-value of difference = 10.2312 (14 degrees of freedom)

Calculated t-value > Critical t-value

#### Conclusion:



## Statistical Analysis of the Trend of Suspended Solids

## For Mid-Ebb Tide

#### Station: TM-FC1

#### <u>t-test</u>

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	7.0008	1.6394	0.4733
Quarterly Mean	36	0	2.9602	1.1816	0.1803

#### Result:

Difference between means = 4.0406 (95% CI : 3.2009 < Diff < 4.8713)

t-value of difference = 7.9787 (14 degrees of freedom)

Calculated t-value > Critical t-value

#### **Conclusion:**

There is statistically significant difference between the groups. The P-Value of 130% Baseline Mean is larger than quarterly mean = >0.99 The result of suspended solids in this reporting period is lower than that of 130% baseline.

#### Station: TM-FC2

#### t-test

Group Name	N	Missing	Mean	Std Dev	SE
130% Baseline Mean	12	0	7.2758	1.5293	0.4415
Quarterly Mean	36	0	2.5356	1.0463	0.1744

#### Result:

Difference between means = 4.7402 (95% Cl : 3.9485 < Diff < 5.5319

t-value of difference = 9.9863 (15 degrees of freedom)

Calculated t-value > Critical t-value

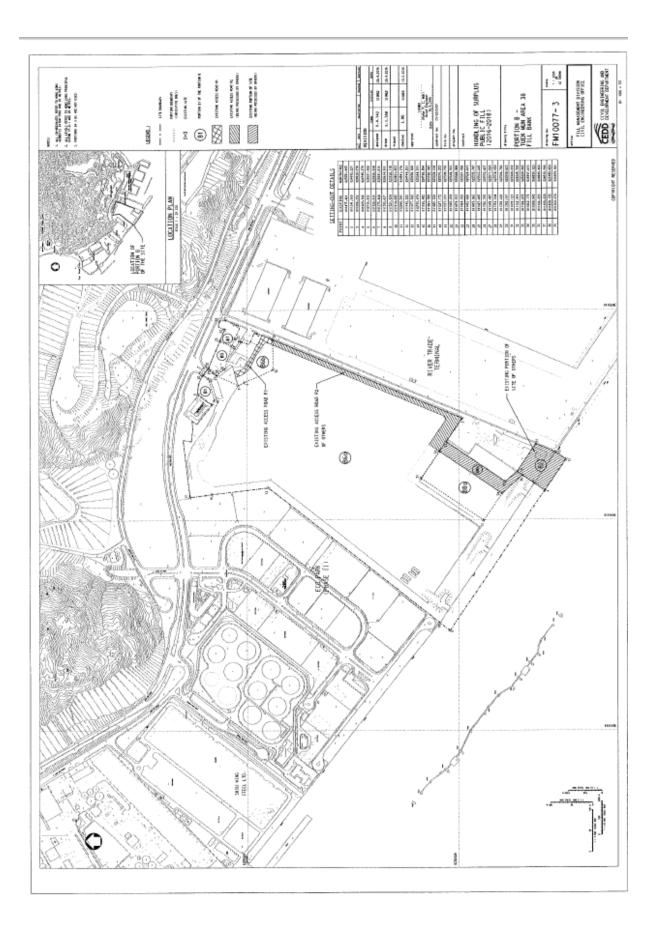
#### **Conclusion:**



Appendix J

Site General Layout plan







Appendix K

Weather Condition

			neteoror						
	Mean				Mean	Mean	Total	Prevailing	Mean
	Pressure	Ai	r Temperatu	ıre	Dew	Relative	Rainfall	Wind	Wind
	(hPa)				Point	Humidity	(mm)	Direction	Speed
Day		Absolute	Mean	Absolute	(deg. C)	(%)		(degrees)	(km/h)
		Daily	(deg.C)	Daily					
		Max	(	Min					
		(deg. C)		(deg. C)					
1	1000.7	29.7	27.2	25.4	24.5	85	63	80	59.3
2	999.1	28.4	26.9	25.6	24.9	89	72.4	110	57.8
3	1001.5	30.3	29	28.2	25.6	82	-	180	47.9
4	1002.2	29.4	28.8	27.9	25.6	83	0.4	200	44.8
5	1004.2	29.7	29	28.4	25.6	82	0.2	200	34.8
6	1005.7	30.3	28.8	28	25	81	0.5	220	22.5
7	1007.3	31.6	28.7	27.2	26.1	86	13.1	140	19.6
8	1007.4	33.8	30	27.7	25.8	79	Trace	90	17
9	1005.7	33.3	29.9	28.6	26.2	81	Trace	90	23.8
10	1006.5	34.2	30.5	28.6	26	77	Trace	100	13.7
11	1007.3	35.1	30.9	28.5	25.4	73	-	90	9.2
12	1006.9	35.2	31.1	28.6	25.2	72	-	110	10.2
13	1005.9	35.2	31	28.4	24.8	71	-	130	11.9
14	1005.6	33.1	30.4	28.5	25.2	75	-	190	11.3
15	1006.5	34.3	30.4	28.6	25.7	77	0.2	230	16.2
16	1006	33.3	30.5	28.8	26	77	1.5	230	31.3
17	1005.7	32.6	30.5	28.8	25.8	76	1.2	230	33.1
18	1004.9	32.7	30.4	28.5	26	78	2.7	220	25.5
19	1006.6	33.7	30.8	29.1	25.9	75	Trace	190	19.5
20	1009.8	34.2	30.8	29.2	26.1	76	0.6	130	22
21	1012	35.2	30.9	28.1	25.7	74	0.3	150	12.9
22	1010.8	35.6	31.2	28.2	25.2	72	-	240	11.7
23	1008.7	34.9	31.4	29.2	26.1	74	-	240	18.7
24	1007.1	36.1	32	29.5	26	72	-	240	18.3
25	1007.6	35.8	32	29.9	26.6	74	-	230	15.9
26	1007.7	35.2	31.2	29.1	25.1	71	-	210	12.8
27	1007.1	34.2	31	29	24.5	69	-	230	16.9
28	1006.2	35.3	31.2	28.8	25.7	73	-	250	17.3
29	1004.7	35.3	31.7	29.7	26.4	74	-	260	14.9
30	1004.3	31.2	29.5	26.5	25.9	81	2.4	220	8.8
31	1004.3	34	30.8	28.3	25.8	76	-	230	16
					_				

# Daily Extract of Meteorological Observations , July 2022 - Tuen Mun

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

				<u>, , , , , , , , , , , , , , , , , , , </u>					
	Mean				Mean	Mean	Total	Prevailing	Mean
	Pressure	<b>Air Temperature</b>			Dew	Relative	Rainfall	Wind	Wind
	(hPa)				Point	Humidity	(mm)	Direction	Speed
Day		Absolute	Mean	Absolute	(deg. C)	(%)		(degrees)	(km/h)
		Daily	(deg.C)	Daily					
		Max	(8)	Min					
		(deg. C)		(deg. C)					
1	1005.9	35.7	31.4	29.1	25	69	-	230	12.7
2	1007.1	35.2	31.1	28	24.9	70	0.2	220	10.7
3	1006.7	30.8	28.2	25.6	24.7	82	34.9	30	14.5
4	1004.5	28.4	27.1	25.9	24.6	86	14.9	290	19.6
5	1007.6	28.6	26.1	24.5	25.1	94	165.5	30	15.1
6	1007.6	30.9	27.9	26.1	25.9	89	5.5	50	18.5
7	1006.7	32.6	29.6	27.6	26.1	82	2.8	80	27.3
8	1006.3	30.9	28.3	26.2	25.8	87	33.3	90	27.9
9	1003.6	28.5	26.7	25.4	24.5	88	72	100	50.9
10	1004.1	29.6	27.4	25.8	25.6	90	49.7	110	44.4
11	1007.8	28.8	26.7	25.5	25	90	12.4	90	25.8
12	1008.8	27.1	26.1	24.9	24.8	93	76	120	14.3
13	1008	32.6	28.7	25.8	25.1	81	-	20	6.2
14	1007.2	33.3	29.5	26.9	25.1	78	-	170	4.7
15	1006.2	33.6	30	28.1	25.6	78	-	160	5.8
16	1005.6	33.2	29.4	26.2	25.9	82	9.1	80	16.4
17	1005.8	32.3	28.2	26.2	25.6	86	29.8	100	18.1
18	1005.5	30.4	28.1	26.2	25.6	87	22.1	100	10.8
19	1004.9	32	28.3	26.4	25.5	85	4.8	100	16.1
20	1007.5	31.9	28.2	26.5	25	83	8.4	140	30.6
21	1008.3	32.9	29	26.6	25.9	84	1.9	140	18.6
22	1006.9	32.9	30.1	28.2	25.5	77	-	240	18.1
23	1005	34.5	31.1	28.6	26.4	77	-	270	11.6
24	1002.3	34.9	30.8	26.4	25.2	73	5.5	70	36.5
25	1006.3	29.8	27.2	25	24.4	85	48.1	100	39.6
26	1010.6	32.9	29.4	27.5	25.6	80	0.1	130	13.8
27	1009.2	33	29.7	27.4	25.4	78	-	240	14.8
28	1008.4	34.4	30.5	28.3	26.7	80	-	80	12.1
29	1010.2	34.6	30.1	28.6	25.9	78	-	80	10.3
30	1008.8	32.3	29.5	27.9	25.7	80	13.1	220	4.9
31	1006.7	31.7	29.7	28.1	25.8	80	4.7	260	4.7

# Daily Extract of Meteorological Observations , August 2022 - Tuen Mun

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

Daily Extract of Meteorological Observation					vations	, Septem	ber 2022	2 - Tuen N	lun
	Mean				Mean	Mean	Total	Prevailing	Mean
	Pressure	Air Temperature			Dew	Relative	Rainfall	Wind	Wind
	(hPa)				Point	Humidity	(mm)	Direction	Speed
Day	(111 u)						()		
, i i i i i i i i i i i i i i i i i i i		Absolute	Mean	Absolute	(deg. C)	(%)		(degrees)	(km/h)
		Daily	(deg.C)	Daily					
		Max		Min					
		(deg. C)		(deg. C)					
1	1007.9	32.9	29.4	26.9	25	78	2.8	340	9.5
2	1005.9	32.3	29.5	27.3	21.6	63	-	360	24.8
3	1002.8	33.9	30	26.9	19.5	54	-	350	18.3
4	1002.9	34.7	30.8	27.7	20.6	55	-	360	13.7
5	1004.4	35.3	31.1	28.8	20.1	52	-	360	11.7
6	1008.2	34.5	30.8	28.4	22.3	61	-	80	11
7	1013.3	29.6	28.4	26.7	24.7	81	8.6	70	35.5
8	1014.2	32.8	29.5	27.8	23.3	70	Trace	80	22.8
9	1013.1	33.3	29.6	27.5	19.4	55	-	100	10.6
10	1011.4	31.4	28.9	27.6	24.2	76	Trace	70	11
11	1009.1	32.1	29.4	27.4	25	78	-	240	13.2
12	1007.4	33.7	30.8	28.2	23.1	66	-	260	10.3
13	1007.3	35.9	31.7	28.8	21.2	56	-	250	12.8
14	1007	35.5	31.7	29.6	18.6	46	-	280	18.1
15	1005.9	34.5	31.3	28.7	19.9	52	-	350	9.4
16	1005.1	33.8	30.8	28.6	22.9	63	Trace	250	7.9
17	1006	33.9	31.1	29.1	24.4	69	Trace	240	12.1
18	1005.7	34	30.1	27.4	25.4	77	20.3	250	21.2
19	1005.9	32.3	28.8	25.9	24.4	77	3.3	250	13.8
20	1008.2	30.7	28.9	26.2	24.8	79	3.5	80	26.6
21	1010.7	30.4	28.1	25.8	22.6	72	8.5	90	35.3
22	1011.1	31.2	28.5	26.9	23.2	73	-	80	24.8
23	1010.8	32.1	28.5	25.6	24	77	13.4	90	16
24	1011.2	31	28.3	25.8	22.5	71	-	80	35.7
25	1010.4	32.7	28.8	26.9	22.8	71	-	80	22.9
26	1009.1	33.7	29.4	27.2	23.2	70	-	70	30.8
27	1007.7	32.3	29.2	28.1	23.6	72	Trace	70	49.7
28	1008	31.2	28.8	27.7	23.5	73	-	80	49.1
29	1010.1	29.7	28	25	24.4	81	8.1	80	38.6
30	1012.3	28.3	26.4	24.8	24.8	91	102.7	90	28.8

## Daily Extract of Meteorological Observations , September 2022 - Tuen Mun

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



Appendix L

**Complaint Log** 



# Complaint Log

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



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



005	Tuen Mun Area 38 Fill Bank	28 June 2022	A complaint was received on 28 June 2022, which was forwarded to ET by email on 28 June 2022 for investigation, from public against "土木工程署屯門第 38 區填料庫經常發 出異味,致現場的空氣及環境被受污染,土木工程拓展署難 辭其咎,環保署亦應就現場大量大型車輛造成的空氣污染作 出跟進。"	<ul> <li>Refer to the ET site investigation on 30 June 2022, no defective observation related to dust emission was recorded during the investigation</li> <li>Details of Action(s) Taken by the Contactor: <ol> <li>Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank;</li> <li>Regular cleaning at the site haul road is provided to minimize the dust emission;</li> <li>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;</li> </ol> </li> </ul>	Closed
006	Tuen Mun Area 38 Fill Bank	05 July 2022	A complaint was received on 05 July 2022, which was forwarded to ET by email on 15 July 2022 for investigation, from an environmental group against "為何 TM38 區之斜坡 不同蓋上帆布" .	<ul> <li>Refer to the ET site investigation on 14 July 2022, no defective observation related to dust emission was recorded during the investigation.</li> <li>Details of Action(s) Taken by the Contactor: <ol> <li>Regular water spraying by water lorries is provided for dust suppression inside the Fill Bank.</li> <li>Regular cleaning at the site haul road is provided to minimize the dust emission.</li> </ol> </li> </ul>	Closed



Figures



