



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

CONCENTRIC CONSTRUCTION LIMITED

**OPERATION OF PUBLIC FILL RECEPTION
FACILITIES AT TUEN MUN AREA 38, TSEUNG
KWAN O AREA 137, QUARRY BAY AND MUI WO
(CONTRACT NO.: CV/2006/02)**

TUEN MUN AREA 38

MONTHLY EM&A REPORT

(NOVEMBER 2006)

Prepared by:

Louisa Fung
Environmental Officer

Checked and
Approved by:

C. L. Lau
Environmental Team Leader

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MATERIALAB CONSULTANTS LIMITED

Fugro Development Centre
5 Lok Yi Street, 17 M.S. Castle Peak Road,
Tai Lam, Tuen Mun, N.T., Hong Kong.

Telephone: +852-24508233
Telefax: +852-24506138
Email: mcl@fugro.com.hk

Materialab**FAX MESSAGE**Priority normal / urgent

To	ETS – Testconsult Limited	Ref. No.	MCLF1503
Country		Fax No.	2695 3944
Attn.	Mr. C. L. Lau	Date	18 December 2006
From	Joseph Poon	No. of Pages	1 (Incl. this page)
C.c. To	Mr. Thomas Wong	Fax No.	2714 0113
Subject	Contract No. CV/2006/02 Operation of Public Fill Reception Facilities at Tuen Mun Area 38, TKO Area 137, Quarry Bay and Mui Wo – Tuen Mun Area 38		

We refer to the third monthly EM&A report (rev. 0) that we received through email on 16 December 2006 and are pleased to confirm we have no further comment on the report.

Should you require further information, please feel free to contact us.

Best regards,



Joseph Poon
Independent Environmental Checker

JP/ac

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EXECUTIVE SUMMARY

This is the first monthly Environmental Monitoring and Audit (EM&A) report prepared by ETS-Testconsult Ltd (ET) for the "Contract No. CV/2006/02 Operation of Public Fill Reception Facilities at Tuen Mun Area 38, Tseung Kwan O Area 137, Quarry Bay and Mui Wo" (The Project).

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tuen Mun Area 38 in November 2006.

Construction Progress

As informed by the Contractor, the construction activities in this reporting month were as below:

- *Public Filling Operation*
- *Operation of Crushing Plant*
- *Construction of concrete access road under variation order*

Environmental Monitoring Progress

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

- *24-hour TSP Monitoring: 5 Occasions at 2 designated locations*
- *1-hour TSP Monitoring: 15 Occasions at 2 designated locations*
- *Marine Water Quality Monitoring: 13 Occasions at 2 designated locations*
- *Weekly-site inspection: 5 Occasions*

Air Monitoring

No exceedances of Action and Limit levels were recorded for 24-hr and 1-hr TSP monitoring in the reporting month.

Marine Water Quality Monitoring

According to the summary of marine water monitoring results, no exceedances of Action and Limit levels were recorded for

Site Inspection

Environmental site inspections conducted in this reporting month are presented as follows:

<u>Concerned Parties</u>	<u>Dates of Audit / Inspection</u>
<i>ET Weekly site inspection</i>	<i>03, 10, 15, 21, 27</i>
<i>IEC site inspection</i>	<i>15</i>

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

Environmental Complaints, Notification of summons and successful prosecutions

No complaints, notification of summons and prosecutions with respect to environmental issues were received in this monitoring month.

Future Key Issues

This operation completed on 30th November 2006. No further operation progress will carry out in next reporting month under this project.



1.0 INTRODUCTION

Concentric Construction Ltd (CCL) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for the "Operation of Public Fill Reception Facilities at Tuen Mun Area 38, Tseung Kwan O Area 137, Quarry Bay and Mui Wo" (Contract No.: CV/2006/02) (The Project).

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

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

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

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tuen Mun Area 38 in November 2006.

2.0 PROJECT INFORMATION

2.1 Construction Programme

Details of construction programme are shown in Appendix F.

2.2 Project Organization and Management Structure

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

2.3 Contact Details of Key Personnel

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

Table 2.1 Contact Details of Key Personnel

Organization	Name of Key Staff	Project Role	Tel. No.	Fax No.
CEDD	Mr. Thomas Wong	Engineer	2762 5602	2714 0113
IEC (Materialab)	Mr Joseph Poon	IEC	2450 8238	2450 6138
Contractor (CCL)	Mr. C P Lam	Project Manager	2398 8001 9212 9417	2398 8301
ET (ETL)	Mr C. L. Lau	ET Leader	2946 7791	2695 3944



3.0 CONSTRUCTION PROGRESS IN THIS REPORTING MONTH

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

- Public filling operation; and
- Construction of Crushing Plant.
- Construction of concrete access road under variation order

4.0 AIR QUALITY MONITORING

4.1 Monitoring Requirement

1-hr and 24-hr TSP levels were monitored in the reporting month. Table 4.4 shows the Action and Limit Levels for the environmental monitoring works.

4.2 Monitoring Equipment

Both 1-hour and 24-hour TSP air quality monitoring was performed using a GMWS2310 High Volume Air Sampler (HVS) located at each of the designated monitoring station. Table 4.1 summarizes the equipment used in the air quality monitoring programme. A copy of the calibration certificates for the HVS are attached in Appendix B1.

Table 4.1 Air Quality Monitoring Equipment

Equipment	Model and Make
HVS	Greasby GMWS2310
Calibrator	Tisch TE-5025A

4.3 Monitoring Parameters, Frequency and Duration

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

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

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

4.4 Monitoring Locations and Schedule

In accordance with the Project Profile, two air-quality monitoring stations, namely A1 and A2, were selected for the 1-hr TSP and 24-hr TSP sampling. The locations of monitoring stations are shown in Figure 2.

During the reporting month, 1-hr and 24-hr TSP monitoring were carried out as the schedule. The details for 24-hr and 1-hr TSP monitoring carried out in this reporting month are summarized in table 4.3.

Table 4.3 Monitoring Schedule for the air quality monitoring stations

Air quality monitoring stations	Monitoring Period						
	24-hr TSP				1-hr TSP		
	Start		Finish		Date	Start	Finish
	Date	Time	Date	Time			
A1	---				03/11/06	09:00	10:00
						10:30	11:30
						13:00	14:00
					09/11/06	09:35	10:35
						10:40	11:40
						11:45	12:45
	15/11/06	09:00	10:00				
		13:00	14:00				
		14:15	15:15				



Table 4.3 Monitoring Schedule for the air quality monitoring stations

A2						21/11/06	08:30	09:30				
						10:30	11:30					
						13:00	14:00					
						27/11/06	13:00	14:00				
						14:15	15:15					
						15:30	16:30					
						03/11/06	09:00	10:00				
						10:30	11:30					
						13:00	14:00					
						09/11/06	09:35	10:35				
						10:40	11:40					
						11:45	12:45					
15/11/06	09:00	10:00										
13:00	14:00											
14:15	15:15											
21/11/06	08:30	09:30										
10:30	11:30											
13:00	14:00											
27/11/06	13:00	14:00										
14:15	15:15											
15:30	16:30											
A1	03/11/06	14:30	04/11/06	14:30								
									09/11/06	14:05	10/11/06	14:05
									15/11/06	15:30	16/11/06	15:30
									21/11/06	14:30	22/11/06	14:30
									27/11/06	16:45	28/11/06	16:45
A2	03/11/06	14:30	04/11/06	14:30								
									09/11/06	14:05	10/11/06	14:05
									15/11/06	15:30	16/11/06	01:20
									21/11/06	14:30	22/11/06	14:30
									27/11/06	16:45	28/11/06	16:45

4.5 Monitoring Methodology

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

Instrumentation

High volume sampler, as HVS, (Greasby GMWS2310) complete with appropriate sampling inlets were employed for both 1-hour and 24-hour TSP monitoring. The sampler is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

Installation

The installation of HVS refers to the requirement stated in EM&A Manual.

Operation/Analytical Procedures

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

Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

- For TSP sampling, fiberglass filters (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.



- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling period of 24 hours \pm 1 hour. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and the relative humidity (RH) $<50\% \pm 5\%$.

Maintenance & Calibration

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

Wind Data Monitoring

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

4.6 Action and Limit Levels

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

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

Monitoring Location	24-hr TSP ($\mu\text{g}/\text{m}^3$)		1-hr TSP ($\mu\text{g}/\text{m}^3$)	
	Action Level	Limit Level	Action Level	Limit Level
A1	192	260	344	500
A2	192	260	344	500

4.7 Event-Action Plans

Please refer to Appendix E for details.

4.8 Results and Observations

Totally 5 occasions of 24-hr TSP monitoring and 15 occasions of 1-hr TSP monitoring were carried out in this reporting period. All monitoring data of both 1-hour and 24-hour TSP monitoring is provided in Appendix B2. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting month is shown in Appendix B3. Wind data, including wind speed and wind direction, are annexed in Appendix D.

No exceedances of Action and Limit Level of both 1-hour and 24-hour TSP monitoring results were recorded during the reporting month.

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

5.0 MARINE WATER QUALITY MONITORING

5.1 Monitoring Requirements



In accordance with the Project Profile, impact marine water quality monitoring was conducted three days per week. Measurements were taken at both mid-flood and mid-ebb tides at three depths (i.e. 1m below surface, mid depth and 1m from seabed) at four monitoring stations, FC1, FM1, FM2 and FC2.

5.2 Monitoring Locations

As stipulated in the EM&A requirement, there were four monitoring stations undertaken during the impact monitoring. Figure 3 shows the locations of the marine water quality monitoring stations.

5.3 Monitoring Parameters and Frequency

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

Table 5.1 Monitoring Parameters and Frequency of the marine water

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

5.4 Monitoring Methodology and Equipment Used

For Location of the monitoring stations

Global Positioning System (GPS)

A hand-held digital GPS was used to identify the designated monitoring stations prior to water sampling.

For Water Depth measurement

Echo Sounder

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

For In-situ Water Quality Measurement

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

Dissolved Oxygen (DO) and temperature measuring equipment

A portable, weatherproof DO-measuring meter with built-in salinity compensation (YSI model 95) was used in the impact monitoring. It can be capable for measuring:

- a dissolved oxygen level in the range of 0-20 mg/L and 0-200 % saturation; and
- a temperature of 0-45 degree Celsius

This type of DO-measuring meter has a membrane electrode with automatic temperature compensation complete with a 50-foot cable. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring location

Turbidity Measurement Instrument

A portable and weatherproof turbidity meter (HACH model 2100P) was used during impact monitoring. It has a photoelectric sensor capable of measuring turbidity between 0-1000 NTU.



Response of the sensor was checked with certified standard Turbidity solutions before the start of measurement.

Salinity Meter

A portable salinity meter capable of measuring salinity in the range 0-40 ppt (YSI Model 30M) was provided for measuring salinity of the water at each monitoring location. It was checked with standard 30 ppt Salinity solutions before the start of measurement.

For Water Sampling and Sample Analysis

In-situ monitoring was carried out at three depths: 1 meter below water surface, at mid-depth and 1 meter above the seabed. At each sampling depth, duplicate readings of dissolved oxygen content and turbidity were taken. The probes were retrieved out of the water after first measurement and then redeployed for the second measurement. The difference between the two readings of each set was more than 25% of the value of the first reading while a third measurement would be conducted to ensure data precision.

Water Sampler

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

Water Container

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

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

Table 5.2 Summary of testing procedures

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

In-situ measurement

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring location.

At each measurement/sampling depth, two consecutive measurements of dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. For turbidity measurement, the sample was collected by using sampler and then transferred to the cell. The reading of turbidity of the sample was directly recorded from the Turbidimeter (HACH 2100P) after inserting the cell to the Turbidimeter. For DO, DOS and Salinity, measurements were conducted three days per week at both mid-ebb and mid-flood tides at three depths (i.e. 1m below surface, mid depth and 1m from seabed). The duplicate measurements were averaged if the difference was not greater than 25%.

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



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

Parameter	Model	Date of Calibration	Due Date	Equipment No.
Coordinate of Monitoring stations	MLR GPS Navigator, SP24	-----	-----	EW/005/01*
Dissolved Oxygen (Saturation), Temperature	YSI Dissolved Oxygen Meter, YSI 95	20/11/2006	19/02/2007	EW/003/001*
Turbidity	HACH Model 2100P Turbid Meter	28/10/2006	28/01/2007	ET/0505/002
Salinity	YSI Model 30M	26/10/2006	26/01/2007	ET/0527/001
Water Depth	EAGLE Strata 128 Sonar	----	----	EW/002/02

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

5.5 Action and Limit Level

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

Table 5.4 Water Quality Action and Limit Levels

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

5.6 Event and Action Plan

Please refer to the Appendix E for details.

5.7 Monitoring Duration and Period in this reporting month

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

Table 5.5 Time Schedule of Water Quality Monitoring

November 2006						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
				▼		▼
5	6	7	8	9	10	11
		▼		▼		▼
12	13	14	15	16	17	18
		▼		▼		▼
19	20	21	22	23	24	25
		▼		▼		▼
26	27	28	29	30		
		▼		▼		

Remark(▼) : Marine water quality monitoring carried out by ET
The duration of marine water quality monitoring is detailed in Appendix C2.



5.8 Marine Water Quality Monitoring Results

Totally 13 occasions (mid-flood and mid-ebb) of marine water quality monitoring were carried out in this reporting period. The impact water quality measurement results are detailed in Appendix C2. Appendix C3 presents the water quality monitoring data and graphical presentations of monitoring results respectively.

The summary of marine water quality exceedances is shown in Table 5.6.

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

Tide	Station	Exceedance Level	DO		Turbidity	SS	Total
			Surface and Middle	Bottom			
Mid-Ebb	FM1	Action	0	0	0	0	0
		Limit	0	0	0	0	0
	FM2	Action	0	0	0	0	0
		Limit	0	0	0	0	0
Mid-Flood	FM1	Action	0	0	0	0	0
		Limit	0	0	0	0	0
	FM2	Action	0	0	0	0	0
		Limit	0	0	0	0	0
Total		Action	0	0	0	0	0
		Limit	0	0	0	0	0

According to the summary of marine water monitoring results, no exceedances of Action and Limit levels were recorded for this reporting month.

6.0 ENVIRONMENTAL AUDIT

6.1 Weekly Site Inspection

Weekly ET site inspections were carried out by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, four weekly site inspections were conducted (03, 10, 15, 21, 27 November 2006). Summaries of the weekly site inspection observations and recommendations in this reporting month are described as follows:

Air Quality

- The major dust sources were dump truck movement on the unpaved haul roads and loading & unloading activities on various working platforms in the Fill Bank. The Contractor deployed water bowzers to dampen the haul roads and the working platforms;
- Water trucks served to dampen the haul roads and on the ramp to the stockpiling area;
- Wheel washing facilities were found operating during weekly site inspections;
- No potential fugitive dust from vehicle movement was observed in this reporting month. The Contractor was still reminded to water the haul road more frequently during dry season;
- The dump trucks were operating below the speed limit in the Fill Bank. There were sufficient speed limit signs on site to advise the drivers; and
- No dark smoke emission was noted from the site equipment and machinery during weekly site inspections. The Contractor was still reminded to maintain all the Powered Mechanical Equipment (PME) regularly.

Noise

- The major noise source was dump truck traffic in the Fill Bank;
- Compressors and generators were operated with door closed; and



- All site equipment and machinery were well maintained and no noise nuisance was observed during operating.

Water Quality

- On 03 November 2006, muddy water was continued discharging into nearby seabody from drainage channel at "TP-3". No further discharge of muddy water to neighbourhood seabody was observed during site inspection on 15 November 2006 site inspection and drainage channel at 'TP-3' was spotted tidy and clear. Hence, no further action is necessary;
- Rain water was found reserviored near 'WPB-2' during inspection on 27 November 2006. Contractor was reminded to fill up all reservoirs asap in order to avoid ponding of stagnant water under rainy days.

Chemical and Waste Management

- On 03 November 2006, an open Rubbish collection point was spotted. Contractor should cover collection point with suitable lit or tarpaulin sheet to reduce flies and water trap. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. A proper covered collection point was observed on 15 November 2006 site inspection. Thus no further verification should be required;
- Chemical oil tank was spotted storing with proper drip tray at air quality monitoring station AM1 on 15 November 2006;
- Abandoned 20 L oil drum and idle machines were left unattended at different location at site including wheel washing facility area, in rubbish skip at 'full checking area' on 15 November 2006.
- Waste oil and stagnant water was noted ponding on the ground during 15 November 2006 site inspection. Contractor has filled up the reservoir and removed abandoned oil drum on 21 November 2006. Thus no further action is necessary;

Site Practices

- Sufficient rubbish skips had been provided at site by the Contractor and the site area was found tidy and clean.
- During 15 November 2006 and 21 November 2006 site visit, dropping of sand and gravel were marked on hurdle at TP2 and TP3. Contractor has being reminded to clean up all dirt asap and provide suitable mitigation measures to avoid continuous drops of construction materials during loading and unloading at barge.

6.2 Review of Environmental Monitoring Procedures

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

Air Quality Monitoring

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

Water Quality Monitoring

- The monitoring team recorded the observations around the monitoring stations, which might affect the results; and
- Major water pollution sources were identified and recorded.

6.3 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting month are summarized in Table 6.1.



Table 6.1 Summary of environmental licensing and permit status

Description	Permit No.	Valid Period		Section
		From	To	
Environmental Permit	EP-210/2005	25/02/05	---	Issued
Effluent Discharge License	Application had been submitted to EPD			
Chemical Waste Producer	Application had been submitted to EPD			

6.4 Implementation Status

6.4.1 Implementation Status of Environmental Mitigation Measures

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

6.4.2 Implementation Status of Event and Action Plan

There was no exceedance on air quality monitoring parameters recorded in this monitoring month. Hence no further actions were required.

According to the summary of marine water monitoring results, no exceedances of Action and Limit levels were recorded for this reporting month.

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

No complaints, notifications of summons and successful prosecutions were received in this reporting month. A summary of environmental complaints, notifications of summons and successful prosecutions was given in Table 6.2.

Table 6.2 Summary of Environmental Complaints and Prosecutions

Complaints logged		Summons served		Successful Prosecution	
November 2006	Cumulative	November 2006	Cumulative	November 2006	Cumulative
0	1	0	0	0	0

7.0 LANDSCAPE AND VISUAL

Landscape and visual site audit was carried out on a weekly basis to monitor environmental issues in order to ensure that all mitigation measures were implemented timely and properly. The findings in *November 2006* were:

- The maximum stockpiling height at the Fill Bank was limited to a maximum of +40 mPD;
- The Contractor hydroseeded the outer slopes of the Fill Bank as far as practicable;
- The Contractor removed the stockpile of public fill in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable;
- *Casuarina equisetifolia* were planted as buffer tree along the northern perimeter of the site. The height of *Casuarina equisetifolia* was maintained at least 3000mm above soil level; and
- *Lighting was set to minimize night-time glare.*

8.0 WASTE MANAGEMENT

The actual amounts of different types of waste generated by the activities of the Project in the month are shown in Table 8.1



Table 8.1 Actual amounts of Waste generated in November 2006

Waste Type	Actual Amount	Disposal Locations
Public Fill	0 m ³	---
C&D Waste	17.89 tonne	WENT Landfill
Chemical Waste	0 L	---

9.0 ENVIRONMENTAL NON-CONFORMANCE

9.1 Summary of air quality, noise and marine water quality

No exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month.

According to the summary of marine water monitoring results, no exceedances of Action and Limit levels were recorded for this reporting month.

9.2 Summary of Environmental Complaints

No complaint was received in this reporting month.

9.3 Summary of Notification of Summons and Prosecution

There was no notification of summons respect to environmental issues registered in this reporting month.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Impact monitoring of air quality were carried out at designated locations in accordance with the Profile in this reporting month.

According to the summary of air monitoring results, no exceedances of Action and Limit Level of 24-hour and 1-hour TSP monitoring results were recorded during the reporting month.

According to the summary of marine water monitoring results, no exceedances of Action and Limit levels were recorded in this reporting month.

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

No complaints, prosecutions or notifications of summons were received in this reporting month.

Recommendations

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

Air Quality

- Ensure the frequency of water spraying on haul roads, unloading areas and stockpiles to be sufficient to suppress the dust sources;
- Provide proper maintenance for the powered mechanical equipment and barges to avoid emission of dark smoke;
- Provide water spraying onto the truckloads during inspection of fill material;
- Conduct road sweeping on the public road and the main haul roads outside and near the site egress by the road sweeper. Undertake water spraying on stockpiling area by water bowsers;
- 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.

Water Quality

- Maintain the drainage system, including the trapezoidal channels and permanent desilting chambers regularly;
- 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 mesh screen on top of the additional drainage, DP3 to avoid improper dumping of rubbish;
- Maintain good housekeeping at the workshop area;
- Ensure sufficient tarpaulin sheets are provided to cover drip trays; and
- Avoid soil being polluted during oil filling and equipment maintenance; hence, properly remove and store the contaminated soil, if any.

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 hydroseeded slopes properly.

11.0 FUTURE KEY ISSUES

This operation completed on 30th November 2006. No further operation progress will carry out in next reporting month under this project.



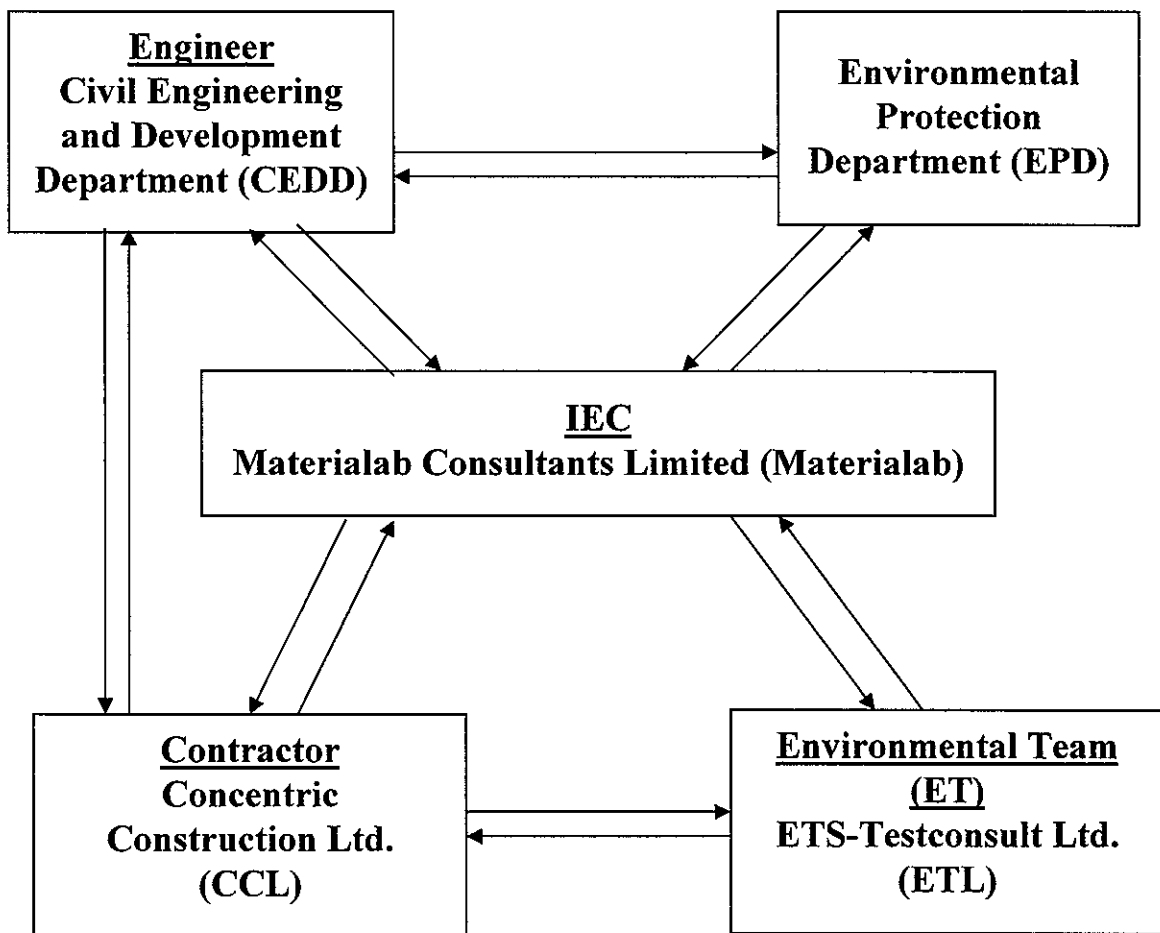


Appendix A

Organization Chart and Lines of Communication



Lines of Communication





Appendix B1

Calibration Certificates for Air Quality Monitoring Equipments



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

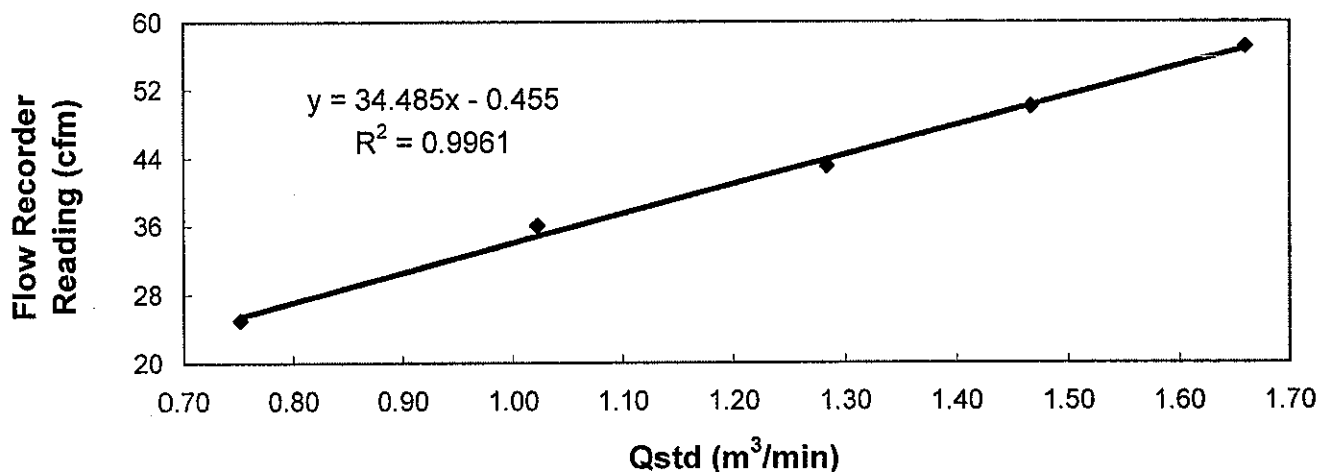
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 09 November 2006
Serial No. : 8115 (ET / EA / 003 / 13) Calibration Due Date : 08 January 2007
Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results

Flow recorder reading (cfm)	57	50	43	36	25
Qstd (Actual flow rate, m ³ /min)	1.66	1.47	1.28	1.02	0.75
Pressure :	756.81 mm Hg			Temp. :	295 K

Sampler 8115 Calibration Curve
Site: Tuen Mun 38 (AM-2)
Date of Calibration: 09 November 2006



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

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

Calibrated by : Danny Wong
Danny Wong
(Technician)

Approved by : H. T. Chow
H. T. Chow
(Asst. Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

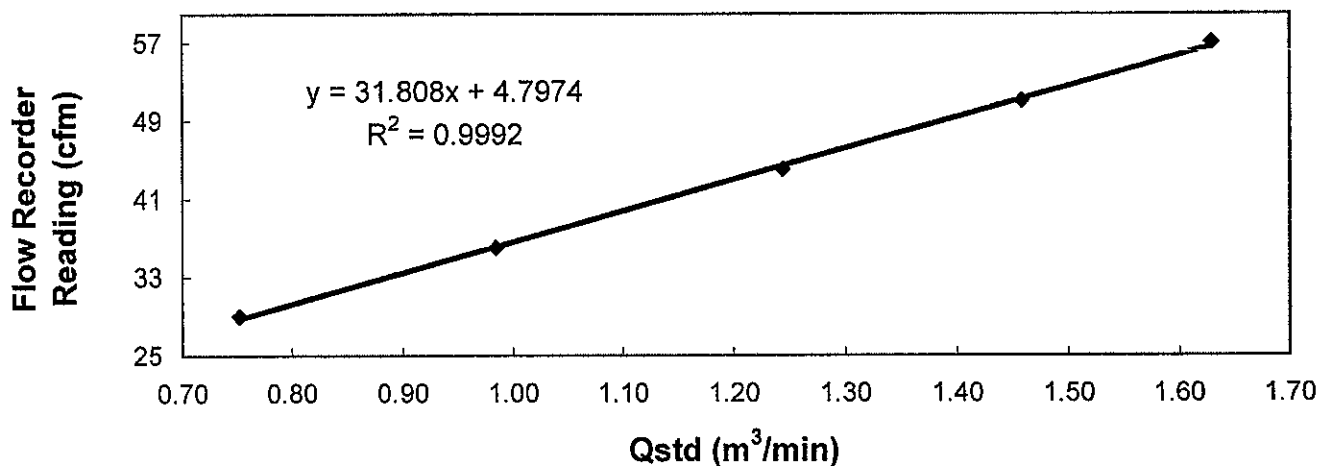
**Calibration Report
of
High Volume Air Sampler**

Manufacturer : Graseby GMW Date of Calibration : 09 November 2006
Serial No. : 9503 (ET / EA / 003 / 03) Calibration Due Date : 08 January 2007
Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results

Flow recorder reading (cfm)	57	51	44	36	29
Qstd (Actual flow rate, m ³ /min)	1.63	1.46	1.24	0.98	0.75
Pressure :	756.81 mm Hg		Temp. :	295 K	

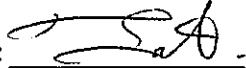
**Sampler 9503 Calibration Curve
Site: Tuen Mun 38 (AM-1)
Date of Calibration: 09 November 2006**



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

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

Calibrated by : 
Danny Wong
(Technician)

Approved by : 
H. T. Chow
(Asst. Environmental Officer)



Appendix B2

Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : A1

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final	
03/11/06	14:30	04/11/06	14:30	9694.05	9718.05	24.00	0.9582	0.9582	0.9582	2.9008	3.1657	192
09/11/06	14:05	10/11/06	14:05	9721.05	9745.05	24.00	1.1382	1.1382	1.1382	2.8129	3.0666	155
15/11/06	15:30	16/11/06	15:30	9748.05	9772.05	24.00	0.9810	0.9810	0.9810	2.9121	3.0618	106
21/11/06	14:30	22/11/06	14:30	9775.05	9799.05	24.00	0.9495	0.9495	0.9495	2.9208	3.0409	88
27/11/06	16:45	28/11/06	16:45	9802.05	9826.05	24.00	0.9495	0.9495	0.9495	2.9142	3.1002	136

Monitoring Station : A2

Start		Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
Date	Time	Date	Time	Initial	Final		Initial	Final		Initial	Final	
03/11/06	14:30	04/11/06	14:30	9634.95	9658.95	24.00	0.9116	0.9116	0.9116	2.6792	2.9234	186
09/11/06	14:05	10/11/06	14:05	4.43	28.43	24.00	0.7961	0.7961	0.7961	2.8803	3.0141	117
15/11/06*	15:30	16/11/06	01:20	31.36	41.19	9.83	0.9411	0.9411	0.9411	2.9129	2.9994	156
21/11/06	14:30	22/11/06	14:30	44.12	68.1	23.98	0.9411	0.9411	0.9411	2.0917	3.0424	94
27/11/06	16:45	28/11/06	16:45	71.1	95.1	24.00	0.9411	0.9411	0.9411	2.9088	3.1243	159

* The High Volume Sampler was interrupted during air sampling due to shortage of power supply from diesel electricity generator after 9.59 hours dust collection at Monitoring Station A2. The concentration of Collected Dust on 15/11/06 was according to the total volume 555.06 m³ of air flow through High Volume Sampler within 9.59 collection hour.

Summary of 1-hr TSP Monitoring Results

Monitoring Station : AA1
Location : Outside CEDD Site Office

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
03/11/06	09:00	10:00	9691.05	9592.05	1.00	1.1052	1.1052	1.1052	2.8878	2.9031	231
	10:30	11:30	9592.05	9693.05	1.00	0.8995	0.8995	0.8995	2.9090	2.9234	267
	13:00	14:00	9693.05	9694.05	1.00	0.8995	0.8995	0.8995	2.8967	2.9102	250
09/11/06	09:35	10:35	9718.05	9719.05	1.00	0.9495	0.9495	0.9495	2.8881	2.9067	342
	10:40	11:40	9719.05	9720.05	1.00	1.1067	1.1067	1.1067	2.8918	2.9128	316
	11:45	12:45	9720.05	9721.05	1.00	1.1382	1.1382	1.1382	2.8953	2.9174	324
15/11/06	09:00	10:00	9745.05	9746.05	1.00	0.9181	0.9181	0.9181	2.9253	2.9360	194
	13:00	14:00	9746.05	9747.05	1.00	0.9495	0.9495	0.9495	2.9109	2.9216	188
	14:15	15:15	9747.05	9748.05	1.00	0.9810	0.9810	0.9810	2.9087	2.9185	166
21/11/06	08:30	09:30	9772.05	9773.05	1.00	0.8867	0.8867	0.8867	2.8898	2.9051	288
	10:30	11:30	9773.05	9774.05	1.00	0.8867	0.8867	0.8867	2.9025	2.9115	169
	13:00	14:00	9774.05	9775.05	1.00	0.9495	0.9495	0.9495	2.8914	2.8989	132
27/11/06	13:00	14:00	9799.05	9800.05	1.00	0.9495	0.9495	0.9495	2.8895	2.9008	198
	14:15	15:15	9800.05	9801.05	1.00	0.9495	0.9495	0.9495	2.8962	2.9102	246
	15:30	16:30	9801.05	9802.05	1.00	0.9495	0.9495	0.9495	2.8971	2.9086	202

Monitoring Station : AA2
Location : Site Egress

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
03/11/06	09:00	10:00	8631.95	8632.95	1.00	0.82	0.82	0.82	2.9067	2.9194	258
	10:30	11:30	8632.95	8633.95	1.00	0.8811	0.8811	0.8811	2.8901	2.9081	340
	13:00	14:00	8633.95	8634.95	1.00	0.8801	0.8801	0.8801	2.8954	2.9127	327
09/11/06	09:35	10:35	0001.43	0002.43	1.00	0.7961	0.7961	0.7961	2.9001	2.9066	136
	10:40	11:40	0002.43	0003.43	1.00	1.1731	1.1731	1.1731	2.9008	2.9153	206
	11:45	12:45	0003.43	0004.43	1.00	0.7091	0.7091	0.7091	2.8988	2.9064	179
15/11/06	09:00	10:00	0028.43	0029.43	1.00	1.1151	1.1151	1.1151	2.9275	2.9366	139
	13:00	14:00	0029.43	0030.43	1.00	0.9411	0.9411	0.9411	2.8923	2.9023	181
	14:15	15:15	0030.43	0031.43	1.00	0.9121	0.9121	0.9121	2.8808	2.8939	247
21/11/06	08:30	09:30	0041.19	0042.17	1.00	0.9701	0.9701	0.9701	2.9014	2.9203	331
	10:30	11:30	0042.17	0043.14	1.00	0.8831	0.8831	0.8831	2.9083	2.9250	325
	13:00	14:00	0043.14	0044.12	1.00	0.9701	0.9701	0.9701	2.9169	2.9296	223
27/11/06	13:00	14:00	0068.10	0069.10	1.00	0.9411	0.9411	0.9411	2.9043	2.9199	276
	14:15	15:15	0069.10	0070.10	1.00	0.9411	0.9411	0.9411	2.8966	2.9133	266
	15:30	16:30	0070.10	0071.10	1.00	0.9411	0.9411	0.9411	2.9090	2.9250	283

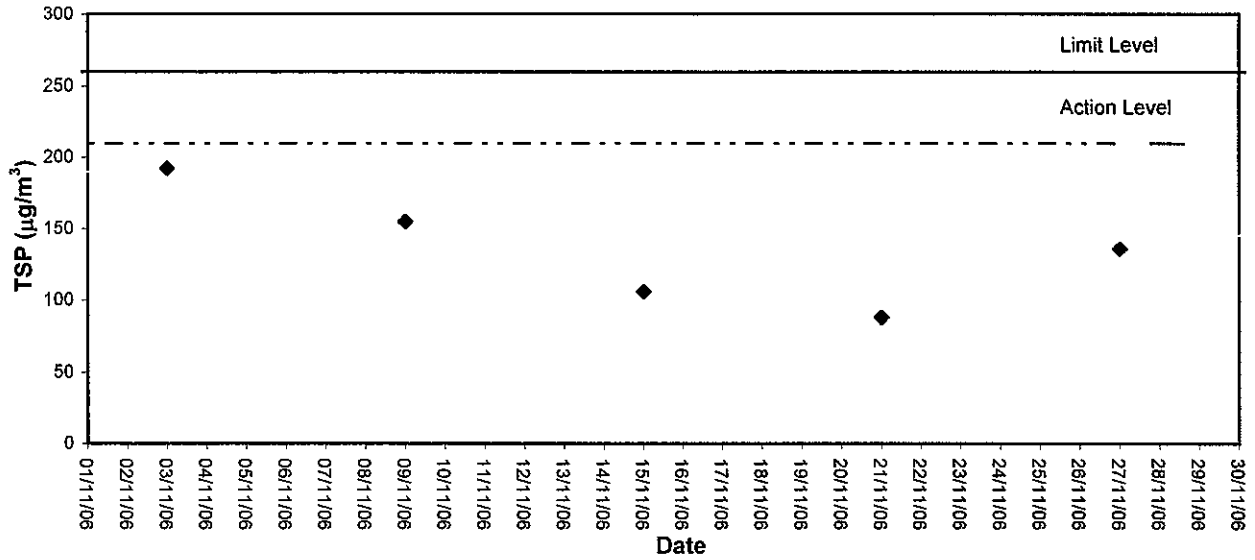


Appendix B3

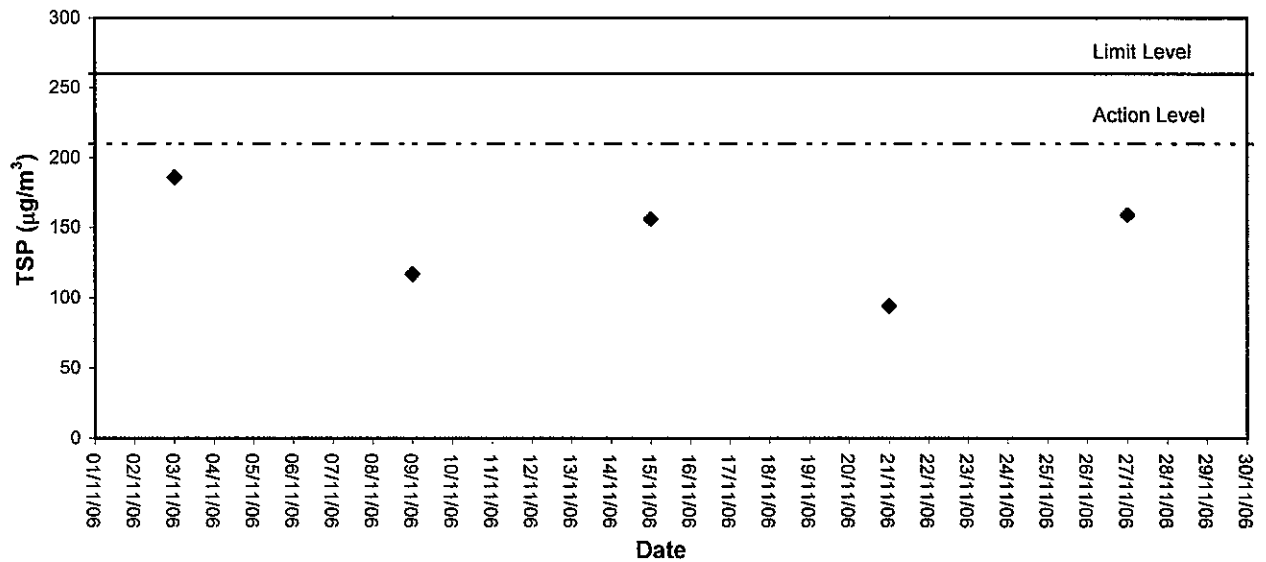
Graphical Plots of Air Quality Monitoring Data



24-hour TSP level at A1

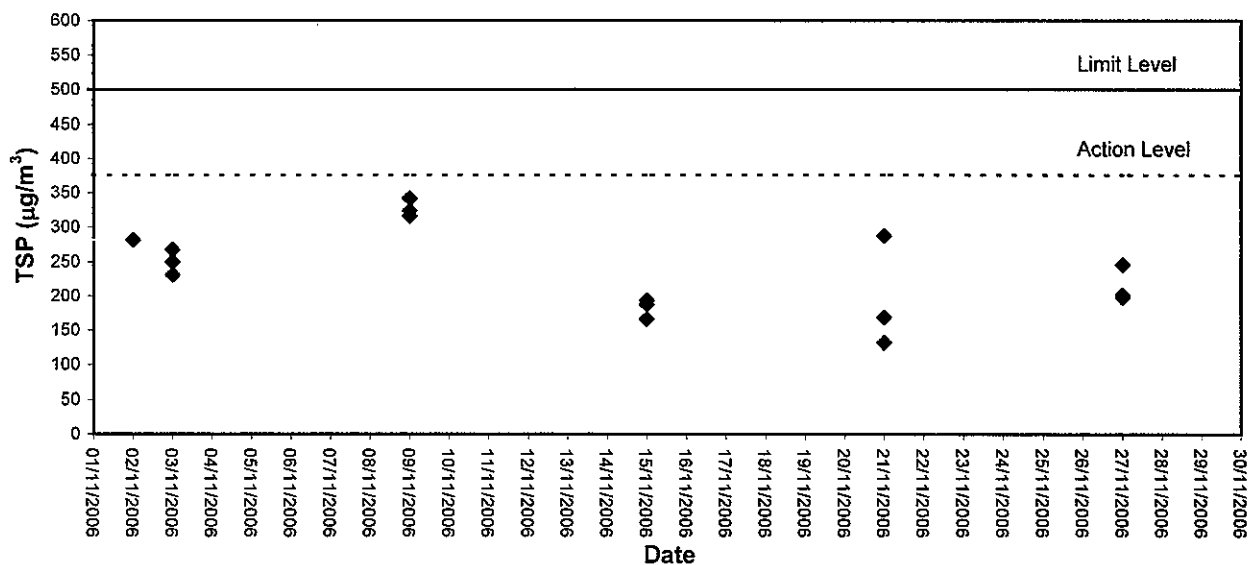


24-hour TSP level at A2

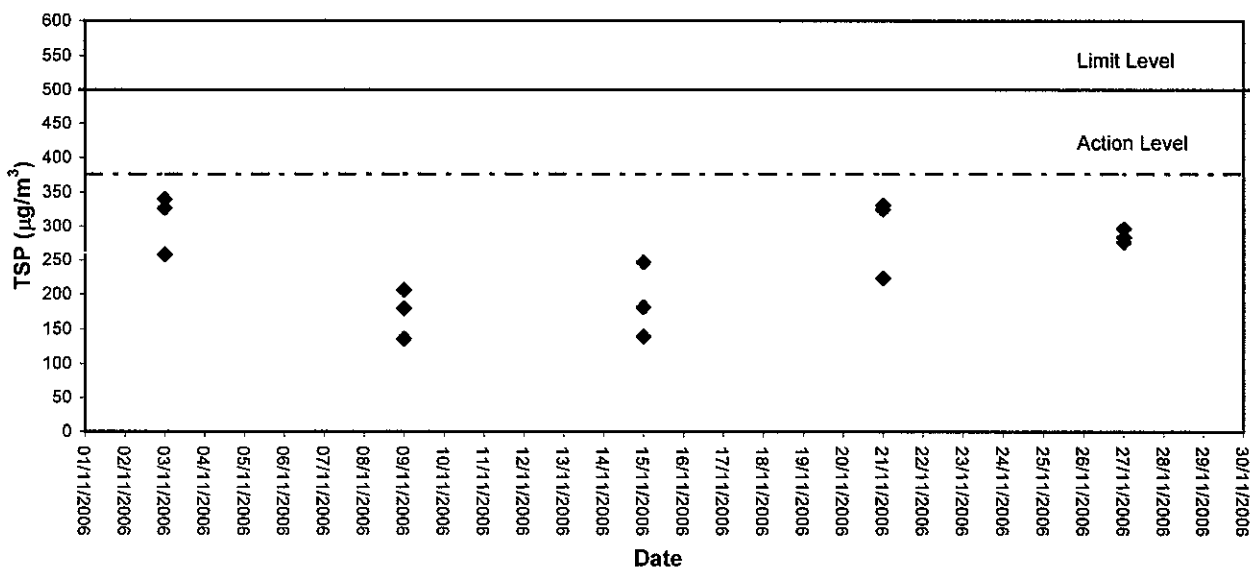




1-hour TSP level at A1



1-hour TSP level at A2





Appendix C1

Calibration Certificates for Marine Water Quality Monitoring Equipments



Internal Calibration Report of Turbidimeter

Equipment Ref. No. : ET/0505/002

Manufacturer : HACH

Model No. : 2100 P

Serial No. : 930900 003728

Date of Calibration : 28/10/06

Calibration Due : 28/11/07

Data

(4.95)	(49.0)	(409)
0 - 10 NTU Gelex Vial	10 - 100 NTU Gelex Vial	100 - 1000 NTU Gelex Vial
4.98	49.2	411

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

* Delete as appropriate

Calibrated by :

Approved by :



Performance Check of Salinity Meter

Equipment Ref. No. : ET/EN/008/001 Manufacturer : YSI
Model No. : YSI 85 Serial No. : 082 1285
Date of Calibration : 20/11/06 Due Date : 19/12/07

Ref. No. of Salinity Standard used (30ppt)

J196A

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	29.6	1.3%

Acceptance Criteria

Difference : <10 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : *PH*

Approved by : *[Signature]*



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : ET/EW/003/001
 Model No. : 95
 Date of Calibration : 20/11/06

Manufacturer : YSI
 Serial No. : 97H 04071 AD
 Calibration Due Date : 19/12/07

Ref. No. of Reference Thermometer : ET/2403/01
 Ref. No. of Potassium Dichromate : ET/0520/003/02

Temperature Verification

	Temperature (°C)
Thermometer reading	20.0
Meter reading	20.0

Linearity Checking

Purging time, min	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.51	7.53	7.52	7.48	7.49	7.49	0.40
5	5.29	5.31	5.30	5.22	5.20	5.21	1.71
10	3.56	3.54	3.55	3.61	3.59	3.60	1.40
Linear regression coefficient				0.9990			

Zero Point Checking

DO meter reading, mg/L	0.00
------------------------	------

Salinity Checking

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	6.70	6.72	6.71	6.80	6.82	6.81	1.48
30	6.25	6.23	6.24	6.38	6.36	6.37	2.06

Acceptance Criteria

- (1) Difference between temperature readings from temperature sensor of DO probe and reference thermometer : <math>< 0.5\text{ }^\circ\text{C}</math>
- (2) Linear regression coefficient : >0.99
- (3) Zero checking: 0.0mg/L
- (4) Difference (%) of DO content from the meter reading and by winkler titration : within $\pm 5\%$

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

* Delete as appropriate

Calibrated by : PK

Approved by : [Signature]



Appendix C2

Impact Marine Water Quality Monitoring Results

Mid-Flood Tide

Monitoring Station : TM-FM1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/06	16:01 - 16:09	28/Cloudy	Surface	27.2	28.4	28.4	6.32	6.36	5.93	89.7	90.2	8.89	8.88	8.5	8.5	9.3		
			Middle	26.5	28.9	28.9	5.53	5.50	5.93	90.7	90.2	8.87	8.88	8.5	8.5			
			Bottom	26.3	29.5	29.5	5.46	5.04	5.04	77.5	78.0	9.65	9.66	9.5	9.5			
04/11/06	17:00 - 17:10	28/Sunny	Surface	27.1	28.2	28.2	5.06	6.74	6.40	71.9	71.6	11.30	11.25	10.0	10.0	9.8		
			Middle	26.8	29.8	29.8	5.02	6.05	6.05	100.1	100.4	9.77	9.77	9.5	9.5			
			Bottom	26.3	30.2	30.2	6.72	6.03	5.81	100.7	89.5	9.76	10.75	10.0	10.0			
07/11/06	07:25 - 07:36	25/Fine	Surface	23.9	29.2	29.2	5.79	6.44	6.10	85.6	85.9	11.20	11.15	10.0	10.0	8.4		
			Middle	24.8	29.5	29.5	5.82	5.75	5.96	86.1	91.5	9.84	8.02	7.7	7.8			
			Bottom	25.0	30.4	30.4	6.41	5.56	5.56	91.9	79.0	9.76	8.27	8.0	8.0			
09/11/06	09:45 - 09:54	27/Sunny	Surface	26.4	27.9	27.9	5.54	6.36	5.20	82.1	92.3	6.32	6.32	6.3	6.3	7.8		
			Middle	26.2	29.2	29.2	6.33	5.56	5.96	81.2	80.6	6.32	7.92	7.7	7.8			
			Bottom	25.7	30.2	30.2	5.24	5.20	5.20	80.0	75.4	7.91	7.92	7.8	7.8			
11/11/06	16:00 - 16:10	28/Sunny	Surface	26.4	29.8	29.8	5.16	6.67	6.36	74.8	99.3	9.36	8.64	8.5	8.5	9.5		
			Middle	25.9	30.8	30.8	5.24	6.05	6.05	99.5	99.3	8.63	8.64	8.5	8.5			
			Bottom	25.6	31.3	31.3	6.69	5.74	5.74	99.0	90.1	8.64	9.80	9.5	9.5			
14/11/06	15:05 - 15:14	27/Cloudy	Surface	26.4	27.5	27.5	6.04	6.59	6.33	84.6	89.0	11.40	11.35	10.0	10.0	7.4		
			Middle	26.1	29.1	29.1	5.72	6.06	6.06	85.2	89.0	6.44	7.82	7.5	7.5			
			Bottom	25.6	29.9	29.9	6.03	5.69	5.69	82.2	81.8	7.81	7.82	7.5	7.5			
16/11/06	16:45 - 16:55	26/Cloudy	Surface	25.8	27.6	27.6	6.09	6.65	6.39	76.4	76.8	8.36	8.36	9.0	9.0	9.5		
			Middle	25.1	28.9	28.9	5.72	6.13	6.13	77.2	100.3	9.15	9.16	9.0	9.0			
			Bottom	24.9	29.6	29.6	6.62	5.97	5.97	99.9	92.5	9.17	9.79	9.5	9.5			

Mid-Flood Tide

Monitoring Station : TM-FM1



東業 標 驗 測 試 有 限 公 司
ETS-TESTCONSULT LIMITED

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Value	Average
18/11/06	16:35 - 16:43	26/Cloudy	Surface	25.5	29.2	29.3	6.48	6.44	6.27	88.8	88.2	5.45	5.45	5.2	5.2	6.1		
			Middle	25.2	30.2	30.3	6.12	6.09	6.28	83.8	83.4	6.28	6.28	6.0	6.0			
			Bottom	24.9	30.8	30.9	5.76	5.70	5.70	78.9	78.1	7.19	7.19	7.0	7.0			
21/11/06	09:00 - 09:15	25/Cloudy	Surface	24.4	31.2	31.2	6.53	6.52	6.34	91.9	91.8	8.64	8.65	8.5	8.5	9.2		
			Middle	24.3	31.3	31.3	6.17	6.16	6.34	86.9	86.7	9.75	9.76	9.5	9.5			
			Bottom	24.2	31.3	31.3	5.95	5.93	5.93	83.8	83.6	9.69	9.70	9.5	9.5			
23/11/06	08:32 - 08:40	22/Cloudy	Surface	22.4	30.6	30.6	6.65	6.61	6.35	91.8	91.3	5.81	5.81	5.5	5.5	6.7		
			Middle	22.1	30.9	30.9	6.12	6.08	6.35	84.5	84.0	7.12	7.12	7.0	7.0			
			Bottom	21.8	31.7	31.7	5.81	5.79	5.79	80.2	79.9	7.94	7.94	7.7	7.7			
25/11/06	10:18 - 10:27	23/Cloudy	Surface	22.7	27.6	27.6	6.49	6.46	6.34	91.0	90.6	9.17	9.20	9.0	9.0	8.3		
			Middle	23.5	28.6	28.7	6.25	6.22	6.34	87.7	87.4	8.54	8.57	8.5	8.5			
			Bottom	21.7	30.4	30.4	5.45	5.44	5.44	76.4	76.2	7.33	7.41	7.2	7.3			
28/11/06	13:35 - 13:50	20/Cloudy	Surface	23.4	29.4	29.4	6.79	6.77	6.55	97.7	97.5	8.53	8.54	8.5	8.5	9.2		
			Middle	23.1	30.4	30.4	6.34	6.32	6.55	91.2	91.0	9.29	9.30	9.0	9.0			
			Bottom	22.8	30.8	30.8	6.10	6.12	6.12	87.2	87.5	11.40	11.30	10.0	10.0			
30/11/06	14:40 - 14:51	22/Cloudy	Surface	22.2	28.9	28.9	6.60	6.56	6.39	91.1	90.5	7.31	7.31	7.3	7.3	8.4		
			Middle	21.9	29.8	29.7	6.25	6.21	6.39	86.3	85.7	8.49	8.49	8.3	8.3			
			Bottom	21.6	30.4	30.4	5.91	5.95	5.95	81.6	82.1	9.57	9.57	9.5	9.5			

Mid-Flood Tide

Monitoring Station : TM-FM2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/06	16:14 - 16:23	28/Cloudy	Surface	27.3	28.7	28.7	6.59	6.55	6.26	93.6	93.0	9.05	8.8	8.8	9.4			
			Middle	26.7	29.8	29.8	6.01	5.97	85.3	84.7	9.79	9.80	9.5	9.5				
			Bottom	26.4	30.3	30.3	5.34	5.37	75.8	76.3	10.20	10.25	10.0	10.0				
04/11/06	17:15 - 17:25	28/Sunny	Surface	27.2	28.1	28.1	6.62	6.61	6.37	98.6	98.4	9.30	9.2	9.2	9.7			
			Middle	26.7	29.8	29.8	6.11	6.13	90.4	90.7	11.10	11.05	10.0	10.0				
			Bottom	26.2	30.2	30.2	5.68	5.67	84.0	83.8	11.50	11.45	10.0	10.0				
07/11/06	07:42 - 07:53	25/Fine	Surface	24.0	29.1	29.1	6.72	6.69	6.34	95.4	95.0	10.35	10.0	10.0	8.8			
			Middle	24.7	29.8	29.8	6.03	5.99	85.6	85.1	8.85	8.89	8.5	8.8				
			Bottom	24.9	30.6	30.6	5.40	5.38	76.7	76.4	7.69	7.73	7.5	7.5				
09/11/06	10:02 - 10:10	27/Sunny	Surface	26.3	28.1	28.1	6.64	6.68	6.26	97.3	96.8	7.15	7.0	7.0	8.0			
			Middle	26.1	29.4	29.4	5.87	5.84	84.2	84.7	8.44	8.44	8.2	8.1				
			Bottom	25.8	30.5	30.5	5.44	5.41	78.9	78.5	9.18	9.18	9.0	9.0				
11/11/06	16:15 - 16:25	28/Sunny	Surface	26.5	29.7	29.7	6.84	6.87	6.61	101.9	102.3	9.06	8.8	8.8	9.4			
			Middle	25.9	30.8	30.8	6.32	6.34	93.6	93.9	9.79	9.78	9.5	9.5				
			Bottom	25.7	31.3	31.3	5.93	5.91	87.7	87.4	10.60	10.50	10.0	10.0				
14/11/06	15:30 - 15:40	27/Cloudy	Surface	26.5	27.9	27.9	6.31	6.35	6.13	85.2	85.8	6.18	6.0	6.0	7.0			
			Middle	26.2	28.5	28.5	5.94	5.90	80.2	79.7	7.36	7.36	7.2	7.1				
			Bottom	25.7	29.6	29.6	5.61	5.64	75.7	76.1	8.11	8.11	8.0	8.0				
16/11/06	17:00 - 17:10	26/Cloudy	Surface	25.8	27.8	27.8	6.54	6.53	6.29	98.7	98.5	9.26	9.0	9.0	9.6			
			Middle	25.3	28.9	28.9	6.07	6.06	91.0	90.8	9.89	9.90	9.5	9.8				
			Bottom	24.8	29.5	29.5	5.84	5.86	87.5	87.8	11.40	11.35	10.0	10.0				

Mid-Flood Tide



東業德測測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
18/11/06	16:58 - 17:06	26/Cloudy	Surface	25.3	29.0	29.1	6.40	6.36	6.14	87.7	87.2	6.32	6.32	6.3	7.0			
			Middle	25.1	29.9	5.94	5.91	81.4	81.0	7.04	7.05	6.7	6.9					
			Bottom	24.8	30.7	5.88	5.58	77.0	76.5	8.02	8.03	8.0	7.9					
21/11/06	08:25 - 08:40	25/Cloudy	Surface	24.4	31.0	31.0	6.26	6.25	6.27	89.3	89.1	9.05	9.07	8.8	9.4			
			Middle	24.2	31.3	6.30	6.29	89.7	89.5	9.62	9.61	9.5	9.5					
			Bottom	24.1	31.2	5.98	5.97	84.9	84.7	9.97	9.96	10.0	9.9					
23/11/06	08:49 - 08:56	22/Cloudy	Surface	22.3	30.8	30.8	6.34	6.38	6.09	87.5	88.1	6.11	6.12	6.0	7.2			
			Middle	22.0	31.2	5.76	5.79	79.5	79.9	7.45	7.45	7.3	7.2					
			Bottom	21.7	32.0	5.31	5.35	73.8	74.1	8.61	8.61	8.5	8.5					
25/11/06	10:33 - 10:44	23/Cloudy	Surface	22.8	27.4	27.4	6.46	6.49	6.46	91.3	91.1	8.86	8.84	8.5	7.9			
			Middle	23.4	28.9	6.46	6.44	90.6	90.3	8.05	8.01	7.7	7.9					
			Bottom	21.5	30.6	5.26	5.24	90.0	90.0	7.97	7.97	8.0	7.3					
28/11/06	13:55 - 14:10	20/Cloudy	Surface	23.4	29.4	29.4	6.98	6.97	6.61	100.5	100.3	9.02	9.04	8.8	9.9			
			Middle	23.0	30.4	6.27	6.25	90.2	90.0	10.20	10.35	10.0	10.0					
			Bottom	22.9	30.8	5.95	5.93	89.7	84.8	11.80	11.75	11.0	11.0					
30/11/06	15:02 - 15:15	22/Cloudy	Surface	22.3	28.7	28.7	6.41	6.38	6.19	88.5	88.1	7.01	7.01	6.8	8.1			
			Middle	21.9	29.5	6.02	5.99	83.1	82.7	8.66	8.66	8.5	8.5					
			Bottom	21.7	30.7	5.76	5.73	79.5	79.1	9.12	9.12	9.0	9.0					

Mid-Flood Tide



專業地盤測試顧問有限公司
ETS-TEST CONSULT LIMITED

Monitoring Station : TM-FC1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/06	15:45 - 15:55	28/Cloudy	Surface	27.2	28.1	6.48	6.44	92.0	91.5	8.95	8.96	9.0	8.9	9.5				
			Middle	26.5	29.2	5.46	5.43	77.5	77.0	9.78	9.76	9.5	9.5					
			Bottom	26.2	29.9	4.97	4.94	70.6	70.2	10.60	10.55	10.0	10.0					
04/11/06	16:45 - 16:55	28/Sunny	Surface	27.3	27.6	6.64	6.62	98.9	98.6	9.43	9.44	9.0	9.2	9.7				
			Middle	26.8	29.8	6.21	6.19	92.5	92.2	10.40	10.35	10.0	10.0					
			Bottom	26.2	29.9	5.85	5.87	86.5	86.8	11.30	11.25	10.0	10.0					
07/11/06	07:00 - 07:12	25/Fine	Surface	24.1	28.7	6.59	6.56	93.6	93.2	10.70	10.80	10.0	10.0	8.8				
			Middle	25.0	29.7	5.42	5.46	77.0	77.5	9.23	9.26	9.0	9.0					
			Bottom	25.1	30.1	5.22	5.20	74.1	73.8	7.58	7.59	7.5	7.5					
09/11/06	09:30 - 09:38	27/Sunny	Surface	26.5	28.2	6.56	6.52	95.1	94.6	4.59	4.59	4.5	4.5	6.7				
			Middle	26.0	29.6	5.72	5.69	82.8	82.5	6.81	6.81	6.5	6.5					
			Bottom	25.3	30.5	5.39	5.42	78.2	78.6	9.17	9.17	9.0	9.0					
11/11/06	15:45 - 15:55	28/Sunny	Surface	26.2	28.5	6.72	6.74	100.1	100.4	7.95	7.95	8.0	7.9	8.9				
			Middle	25.8	30.7	6.12	6.14	91.1	91.4	8.94	8.95	8.8	8.8					
			Bottom	25.7	31.2	5.80	5.82	85.8	86.1	10.20	10.15	10.0	10.0					
14/11/06	14:45 - 14:54	27/Cloudy	Surface	26.6	27.2	6.41	6.38	85.5	86.1	6.12	6.13	6.0	6.0	7.2				
			Middle	26.1	28.8	5.87	5.90	79.2	79.6	7.88	7.88	7.5	7.5					
			Bottom	25.4	29.8	5.52	5.54	74.5	74.8	8.29	8.29	8.0	8.0					
16/11/06	16:30 - 16:40	26/Cloudy	Surface	25.7	27.2	6.80	6.82	102.6	102.9	9.04	9.05	9.0	8.9	9.8				
			Middle	25.3	29.3	6.05	6.03	90.7	90.4	10.50	10.55	10.0	10.0					
			Bottom	24.9	29.5	5.89	5.91	88.3	88.6	11.70	11.55	11.0	10.5					

Mid-Flood Tide



匯泰里地質測試顧問有限公司
ETS-TEST CONSULT LIMITED

Monitoring Station : TM-FC1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
18/11/06	16:15 - 16:24	26/Cloudy	Surface	25.5	29.4	29.4	6.31	6.29	6.04	86.4	86.1	6.16	6.16	6.0	6.0	6.8		
					29.4	30.7	6.26	5.80	85.8	79.5	6.16	7.08	6.0	6.8				
					30.7	30.7	5.84	5.80	80.0	79.5	7.09	6.8	6.8					
21/11/06	09:25 - 09:40	25/Cloudy	Bottom	24.6	31.3	31.4	5.55	5.52	5.52	76.0	75.6	7.74	7.74	7.5	7.5	9.2		
					31.4	31.4	5.49	5.52	75.2	75.6	7.74	7.5	7.5					
					30.9	30.9	6.62	6.64	94.6	94.8	7.95	7.96	8.0	7.9				
		Surface	25/Cloudy	1.0	24.8	30.9	31.3	6.65	6.42	6.53	95.0	91.8	7.95	9.35	9.8	9.8		
						31.3	31.3	6.40	6.42	91.5	91.8	9.96	9.8	9.8				
						31.3	31.4	6.44	6.08	92.0	86.2	10.20	10.15	10.0	10.0			
23/11/06	08:15 - 08:24	22/Cloudy	Bottom	24.1	31.4	31.4	6.09	6.08	6.08	86.4	86.2	10.20	10.15	10.0	10.0	6.4		
					31.4	31.4	6.06	6.08	86.0	86.0	10.10	10.0	10.0					
					30.9	30.9	6.35	6.31	87.6	87.1	5.79	5.79	5.5	5.5				
		Surface	22/Cloudy	1.0	22.3	30.9	31.3	6.27	5.79	6.05	86.5	79.9	5.78	6.42	6.3	6.3		
						31.3	31.3	5.76	5.79	79.5	79.9	6.42	6.42	6.3	6.3			
						31.2	32.1	5.82	5.36	80.3	74.0	7.86	7.86	7.5	7.5			
25/11/06	10:00 - 10:11	23/Cloudy	Bottom	21.7	32.1	32.1	5.32	5.36	5.36	73.4	74.0	7.86	7.86	7.5	7.5	8.5		
					32.1	32.1	5.40	5.36	74.5	75.2	8.14	8.17	8.0	8.0				
					27.2	27.3	6.32	6.25	88.6	88.3	8.63	8.62	8.5	8.5				
		Surface	23/Cloudy	1.0	22.6	27.3	29.0	6.18	6.05	6.15	88.0	85.0	8.60	9.21	9.0	9.0		
						28.9	29.0	6.08	6.05	85.3	85.0	9.25	9.21	9.0	9.0			
						29.0	30.2	6.02	5.36	84.7	75.6	9.17	8.17	8.0	8.0			
28/11/06	13:15 - 13:30	20/Cloudy	Bottom	22.9	30.2	30.2	5.39	6.07	6.07	75.6	86.7	8.14	10.75	10.0	10.0	9.1		
					30.2	30.2	5.33	6.07	6.07	74.8	86.5	8.20	10.70	10.0	10.0			
					28.3	28.3	6.90	6.92	99.3	99.6	7.89	7.90	7.5	7.6				
		Surface	20/Cloudy	1.0	23.3	28.3	29.2	6.94	6.42	6.67	99.9	91.8	7.91	9.98	9.7	9.7		
						29.2	29.2	6.40	6.42	91.5	91.8	9.97	9.98	9.7	9.7			
						28.2	29.5	6.44	6.07	92.0	86.9	9.98	10.80	10.0	10.0			
30/11/06	14:15 - 14:23	22/Cloudy	Bottom	21.4	29.4	29.4	6.08	6.07	6.07	86.5	86.7	10.80	10.75	10.0	10.0	8.0		
					29.4	29.4	6.05	6.07	6.07	86.5	86.7	10.70	10.70	10.0	10.0			
					28.8	28.8	6.37	6.34	87.9	87.4	6.94	6.94	7.0	6.9				
		Surface	22/Cloudy	1.0	22.2	28.8	29.6	6.30	6.06	6.20	86.9	83.7	6.94	8.11	8.0	8.0		
						29.6	29.6	6.10	6.06	84.2	83.1	8.11	8.11	8.0	8.0			
						29.5	30.5	6.02	5.86	83.1	80.5	8.10	9.26	8.0	9.0			
	Bottom	22/Cloudy	21.2	21.4	30.5	30.5	5.83	5.86	5.86	80.5	80.9	9.26	9.26	9.0	9.0			
					30.5	30.5	5.89	5.86	81.3	81.3	9.25	9.25	9.0	9.0				

Mid-Ebb Tide



東業 德 勘 測 試 驗 有 限 公 司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/06	09:15 - 09:25	28/Cloudy	Surface	27.2	28.7	28.8	6.63	6.60	94.1	93.7	9.12	9.12	9.0	9.0	9.6
			Middle	26.8	29.6	5.76	5.73	81.8	81.4	9.98	9.98	10.0	9.9		
			Bottom	26.4	30.5	5.35	5.39	76.0	76.5	11.20	11.15	10.0	10.0		
04/11/06	11:00 - 11:10	28/Sunny	Surface	26.9	27.9	27.9	6.57	6.55	97.8	97.5	9.54	9.53	9.5	9.5	9.8
			Middle	26.6	29.4	5.73	5.75	85.3	85.6	11.20	11.30	10.0	10.0		
			Bottom	26.0	30.1	5.21	5.23	77.1	77.4	11.80	11.75	10.0	10.0		
07/11/06	13:19 - 13:30	27/Fine	Surface	26.2	29.0	29.0	6.04	6.02	85.4	85.2	10.20	10.30	10.0	10.0	9.1
			Middle	25.8	29.7	5.58	5.55	78.9	78.5	8.22	8.27	8.0	8.2		
			Bottom	25.4	30.3	5.29	5.26	73.8	74.3	9.15	9.17	9.0	9.0		
09/11/06	14:30 - 14:40	27/Sunny	Surface	26.5	29.2	29.2	6.62	6.58	95.9	95.4	6.14	6.14	6.0	6.0	7.4
			Middle	26.2	29.6	5.32	5.29	77.1	76.7	7.82	7.83	7.5	7.5		
			Bottom	25.8	30.8	5.08	5.10	73.7	74.0	9.03	9.04	8.8	8.8		
11/11/06	07:15 - 07:25	28/Sunny	Surface	25.3	29.4	29.5	6.45	6.47	96.1	96.3	7.89	7.90	7.5	7.8	9.3
			Middle	25.1	30.5	5.79	5.77	85.6	85.4	9.89	9.90	9.5	9.6		
			Bottom	25.0	30.9	5.33	5.35	78.8	79.1	11.70	11.60	11.0	10.5		
14/11/06	07:18 - 07:27	27/Cloudy	Surface	26.5	27.2	27.2	6.74	6.70	91.0	90.5	6.14	6.15	6.0	6.0	6.9
			Middle	26.3	28.9	6.14	6.16	82.9	83.2	7.28	7.28	7.0	7.0		
			Bottom	26.0	30.2	5.82	5.79	78.6	78.2	7.98	7.99	7.7	7.8		
16/11/06	09:00 - 09:10	26/Cloudy	Surface	25.2	27.0	27.0	6.75	6.77	101.9	102.1	9.24	9.25	9.0	9.0	9.5
			Middle	24.8	28.9	6.27	6.29	94.0	94.3	9.89	9.88	9.5	9.5		
			Bottom	24.8	29.4	5.88	5.87	88.9	88.7	10.80	10.75	10.0	10.0		

Mid-Ebb Tide



東業 機 動 測 試 顧 問 有 限 公 司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
18/11/06	10:46 - 10:54	26/Cloudy	Surface	25.6	29.2	29.2	6.37	6.33	6.12	87.3	86.8	5.16	5.16	5.0	5.0	5.8		
			Middle	25.1	29.9	5.94	5.91	6.06	81.4	81.0	6.12	6.12	6.0	6.0				
			Bottom	24.9	30.5	5.42	5.39	5.39	74.3	73.9	6.89	6.89	6.5	6.5				
21/11/06	12:25 - 12:40	25/Cloudy	Surface	24.5	31.2	31.2	6.69	6.71	6.49	95.6	95.9	7.95	7.96	7.8	7.9	8.9		
			Middle	24.2	31.4	6.29	6.27	6.05	89.9	89.6	9.36	9.37	9.0	9.2				
			Bottom	24.1	31.3	6.07	6.05	6.05	89.3	85.8	9.38	9.90	9.3	9.7				
23/11/06	13:38 - 13:45	22/Cloudy	Surface	22.3	30.6	30.7	6.71	6.67	6.36	86.1	92.0	5.53	5.53	5.5	5.5	6.4		
			Middle	22.0	31.2	6.10	6.06	5.68	84.2	83.7	6.87	6.87	6.5	6.5				
			Bottom	21.7	31.7	5.72	5.68	5.68	83.1	78.4	7.44	7.45	7.3	7.3				
25/11/06	14:51 - 15:02	23/Cloudy	Surface	22.7	26.8	26.8	6.42	6.39	6.16	89.9	89.6	8.11	8.08	8.0	8.0	8.1		
			Middle	23.0	28.8	5.94	5.93	5.46	82.8	83.0	8.88	8.90	8.5	8.7				
			Bottom	22.2	30.2	5.48	5.46	5.46	82.8	76.5	8.92	7.60	8.8	7.5				
28/11/06	07:20 - 07:35	20/Cloudy	Surface	23.4	29.2	29.2	6.84	6.82	6.53	98.4	98.2	9.07	9.08	8.80	8.9	9.5		
			Middle	23.1	30.2	6.22	6.24	6.17	97.9	89.8	9.09	9.88	9.00	9.5				
			Bottom	22.9	30.1	6.15	6.17	6.17	90.1	88.8	9.87	10.35	9.50	10.0				
30/11/06	07:35 - 07:45	22/Cloudy	Surface	22.3	28.1	28.2	6.57	6.54	6.36	88.5	90.3	6.59	6.59	6.5	6.5	7.8		
			Middle	21.9	29.6	6.22	6.18	5.70	85.8	85.3	8.17	8.17	8.0	8.0				
			Bottom	21.6	30.4	5.76	5.70	5.70	84.7	78.7	9.26	9.27	9.0	9.0				

Mid-Ebb Tide



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ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/06	09:29 - 09:38	28/Cloudy	Surface	1.0	27.1	28.1	28.1	6.47	6.44	91.9	91.5	9.03	9.03	8.8	8.8	10.43	10.0	9.8	
			Middle	8.4	26.5	28.9	28.9	5.41	5.38	76.8	76.4	10.50	10.50	10.0	10.0				
			Bottom	15.8	26.3	29.8	29.8	5.06	5.09	71.9	72.3	11.80	11.75	11.0	10.5				
04/11/06	11:15 - 11:25	28/Sunny	Surface	1.0	27.0	28.2	28.2	6.29	6.31	93.7	93.9	9.79	9.79	9.5	9.5	11.20	10.0	10.2	
			Middle	9.0	26.2	29.6	29.7	5.91	5.93	87.4	87.7	11.70	11.75	10.0	10.0				
			Bottom	17.0	25.8	30.2	30.2	5.37	5.35	79.4	79.1	12.00	12.05	11.0	11.0				
07/11/06	13:38 - 13:49	27/Fine	Surface	1.0	26.1	28.8	28.8	6.55	6.53	92.7	92.4	9.85	9.78	9.5	9.5	8.60	7.4	8.5	
			Middle	8.4	25.5	29.5	29.5	5.89	5.86	83.3	82.9	7.35	7.43	7.3	7.5				
			Bottom	15.8	25.3	30.0	30.0	5.04	5.02	71.3	71.0	8.56	8.60	8.5	8.5				
09/11/06	14:48 - 14:56	27/Sunny	Surface	1.0	26.4	29.1	29.1	6.34	6.36	91.9	92.2	6.52	6.52	6.5	6.5	7.68	7.5	7.5	
			Middle	8.7	26.1	29.5	29.5	5.57	5.53	80.8	80.2	7.76	7.76	7.5	7.5				
			Bottom	16.4	25.7	30.4	30.4	4.92	4.95	71.3	71.8	8.74	8.75	8.5	8.5				
11/11/06	07:30 - 07:40	28/Sunny	Surface	1.0	25.6	29.7	29.7	6.48	6.47	96.5	96.3	8.05	8.05	7.8	7.8	9.48	9.5	9.1	
			Middle	8.8	25.3	30.6	30.7	5.89	5.91	87.7	88.0	9.72	9.73	9.5	9.5				
			Bottom	16.6	24.9	31.0	31.0	5.43	5.45	80.3	80.6	10.80	10.65	10.0	10.0				
14/11/06	07:32 - 07:40	27/Cloudy	Surface	1.0	26.4	27.5	27.5	6.49	6.45	87.6	87.1	6.44	6.45	6.3	6.3	7.43	7.5	7.2	
			Middle	8.8	26.1	28.6	28.6	5.81	5.85	78.4	79.0	7.81	7.81	7.5	7.5				
			Bottom	16.6	25.9	29.8	29.8	5.53	5.57	74.7	75.2	8.04	8.05	7.7	7.7				
16/11/06	09:15 - 09:25	26/Cloudy	Surface	1.0	25.4	27.2	27.2	6.82	6.84	102.9	103.2	9.89	9.90	9.5	9.5	10.62	10.0	10.1	
			Middle	8.4	24.8	29.0	29.0	6.25	6.27	93.7	94.0	10.40	10.50	10.0	10.0				
			Bottom	15.8	24.7	29.5	29.5	5.92	5.94	88.9	89.1	11.50	11.45	11.0	10.5				

Mid-Ebb Tide



東業德勘測試驗有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FM2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
18/11/06	11:05 - 11:15	26/Cloudy	Surface	25.5	29.0	29.1	6.28	6.24	6.01	86.0	85.5	6.44	6.45	6.3	6.3	6.9		
			Middle	25.2	29.5	5.74	5.78	79.2	79.2	7.18	7.17	7.0	7.0	7.0				
			Bottom	24.9	30.1	5.18	5.22	71.5	71.5	7.79	7.80	7.5	7.5	7.5				
21/11/06	12:45 - 13:00	25/Cloudy	Surface	24.4	31.2	31.2	6.45	6.43	6.36	92.2	91.9	8.02	8.03	7.8	7.8	8.8		
			Middle	24.2	31.4	6.41	6.30	90.2	90.0	9.29	9.30	9.0	9.2	9.0				
			Bottom	24.0	31.4	6.12	6.14	87.1	87.1	9.79	9.77	9.5	9.5	9.5				
23/11/06	13:52 - 14:00	22/Cloudy	Surface	22.4	30.7	30.7	6.22	6.26	6.09	88.8	87.9	6.03	6.04	5.7	5.7	6.8		
			Middle	22.1	31.3	5.94	5.91	82.0	81.6	7.12	7.12	7.0	7.0	7.0				
			Bottom	21.8	32.0	5.18	5.22	72.6	72.1	8.06	8.06	7.7	7.7	7.7				
25/11/06	15:06 - 15:17	23/Cloudy	Surface	22.6	26.9	26.9	6.33	6.30	6.01	88.6	88.3	7.48	7.50	7.3	7.4	8.3		
			Middle	23.1	29.1	5.72	5.71	80.1	80.0	9.20	9.14	9.0	9.0	9.0				
			Bottom	22.0	30.2	5.11	5.10	71.5	71.3	8.57	8.66	8.5	8.5	8.5				
28/11/06	07:40 - 07:55	20/Cloudy	Surface	23.4	29.4	29.4	6.79	6.77	6.47	97.7	97.5	9.15	9.17	9.0	9.0	10.5		
			Middle	23.0	30.2	6.19	6.18	88.5	88.3	11.70	11.75	11.0	11.0	11.0				
			Bottom	22.8	30.2	5.96	5.94	85.2	84.9	12.20	12.35	11.0	11.0	11.0				
30/11/06	07:55 - 08:10	22/Cloudy	Surface	22.2	28.8	28.8	6.60	6.56	6.34	91.1	90.5	7.05	7.05	6.8	6.8	8.3		
			Middle	21.9	29.7	6.09	6.13	84.0	84.3	8.24	8.25	8.0	8.0	8.0				
			Bottom	21.6	30.7	5.71	5.68	79.0	78.6	10.20	10.30	10.0	10.0	10.0				

Mid-Ebb Tide



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ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FC2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
02/11/06	09:42 - 09:55	28/Cloudy	Surface	27.2	28.8	28.8	6.38	6.34	5.84	90.6	90.1	8.79	8.79	8.5	8.5	9.3		
			Middle	26.8	29.6	5.37	5.34	76.3	75.9	9.82	9.82	9.5	9.5					
			Bottom	26.3	30.2	5.01	5.05	71.1	71.7	10.50	10.45	10.0	10.0					
04/11/06	11:30 - 11:40	28/Sunny	Surface	27.0	28.4	28.4	6.33	6.32	5.99	94.3	94.1	10.00	10.10	9.8	9.9	10.0		
			Middle	26.5	29.8	5.69	5.67	84.7	84.4	10.80	10.75	10.0	10.0					
			Bottom	25.9	30.2	5.18	5.17	76.6	76.4	11.40	11.35	10.0	10.0					
07/11/06	14:00 - 14:12	27/Fine	Surface	26.2	29.1	29.1	6.70	6.67	6.48	93.9	94.4	11.30	11.15	10.0	10.0	9.8		
			Middle	25.8	29.8	6.26	6.29	89.4	89.0	9.76	9.68	9.5	9.5					
			Bottom	25.3	30.4	5.81	5.78	82.8	82.1	10.20	10.35	10.0	10.0					
09/11/06	15:04 - 15:15	27/Sunny	Surface	26.5	29.4	29.4	6.41	6.38	6.22	92.9	92.5	6.84	6.84	6.5	6.5	7.6		
			Middle	26.2	29.8	6.10	6.06	88.5	87.9	7.98	7.99	7.7	7.8					
			Bottom	26.0	30.7	5.76	5.73	83.5	83.1	8.70	8.71	8.5	8.5					
11/11/06	07:45 - 07:55	28/Sunny	Surface	25.6	29.8	29.8	6.69	6.68	6.36	99.6	99.4	9.13	9.14	9.0	9.0	10.0		
			Middle	25.2	30.7	6.02	6.04	89.0	89.3	10.60	10.50	10.0	10.0					
			Bottom	25.0	31.1	5.67	5.65	83.9	83.6	11.40	11.45	11.0	11.0					
14/11/06	07:45 - 08:05	27/Cloudy	Surface	26.5	26.8	26.8	6.68	6.65	6.39	90.2	89.8	6.06	6.06	5.7	5.8	7.4		
			Middle	26.1	28.8	6.16	6.12	82.1	82.7	8.11	8.12	8.0	8.0					
			Bottom	25.6	30.5	5.71	5.68	77.1	76.7	8.87	8.88	8.5	8.5					
16/11/06	09:30 - 09:40	26/Cloudy	Surface	25.4	27.6	27.6	6.79	6.78	6.48	102.5	102.3	9.56	9.57	9.5	9.5	10.2		
			Middle	24.8	29.2	6.16	6.18	93.0	93.3	10.70	10.75	10.0	10.0					
			Bottom	24.8	29.5	5.76	5.78	86.4	86.7	12.00	12.10	11.0	11.0					

Mid-Ebb Tide



東業 德 勘 測 試 驗 有 限 公 司
ETS-TESTCONSULT LIMITED

Monitoring Station : TM-FC2

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
18/11/06	11:30 - 11:40	26/Cloudy	Surface	25.4	29.2	29.2	6.41	6.39	6.18	87.8	87.5	5.87	5.87	5.5	5.5	6.6		
			Middle	25.1	29.7	5.94	5.98	81.4	82.0	6.45	6.45	6.3	6.3					
			Bottom	24.8	30.4	5.66	5.63	77.5	77.1	8.14	8.14	8.0	8.0					
21/11/06	13:10 - 13:25	25/Cloudy	Surface	24.4	31.1	6.52	6.54	93.2	93.4	9.15	9.17	9.0	9.0	9.3				
			Middle	24.2	31.4	6.25	6.23	89.3	89.1	9.05	9.07	8.8	8.8					
			Bottom	24.0	31.5	6.06	6.04	86.6	86.3	10.10	10.10	10.0	10.0					
23/11/06	14:11 - 14:25	22/Cloudy	Surface	22.2	30.7	6.57	6.53	90.7	90.2	5.91	5.92	5.7	5.8	6.9				
			Middle	21.9	31.2	6.08	6.03	83.9	83.2	7.46	7.46	7.3	7.3					
			Bottom	21.7	32.1	5.34	5.38	73.7	74.3	7.87	7.87	7.5	7.5					
25/11/06	15:26 - 15:38	23/Cloudy	Surface	22.8	27.0	6.97	6.94	97.6	97.6	7.24	7.28	7.0	7.2	7.0				
			Middle	22.9	29.4	6.40	6.38	89.6	89.3	6.89	6.92	6.5	6.7					
			Bottom	21.7	30.6	5.70	5.66	79.8	79.4	7.37	7.39	7.3	7.2					
28/11/06	08:00 - 08:15	20/Cloudy	Surface	23.4	29.4	6.88	6.87	99.0	98.9	9.34	9.36	9.3	9.3	10.1				
			Middle	23.1	30.3	6.27	6.26	89.6	89.4	10.50	10.60	10.0	10.0					
			Bottom	22.9	30.4	5.87	5.85	83.9	83.6	11.60	11.65	11.0	11.0					
30/11/06	08:20 - 08:30	22/Cloudy	Surface	22.3	28.5	6.38	6.34	88.0	87.5	7.03	7.04	6.7	6.8	7.9				
			Middle	21.8	29.4	6.21	6.18	85.7	85.2	8.22	8.23	8.0	8.0					
			Bottom	21.6	30.2	5.87	5.84	81.0	80.6	9.29	9.29	9.0	9.0					

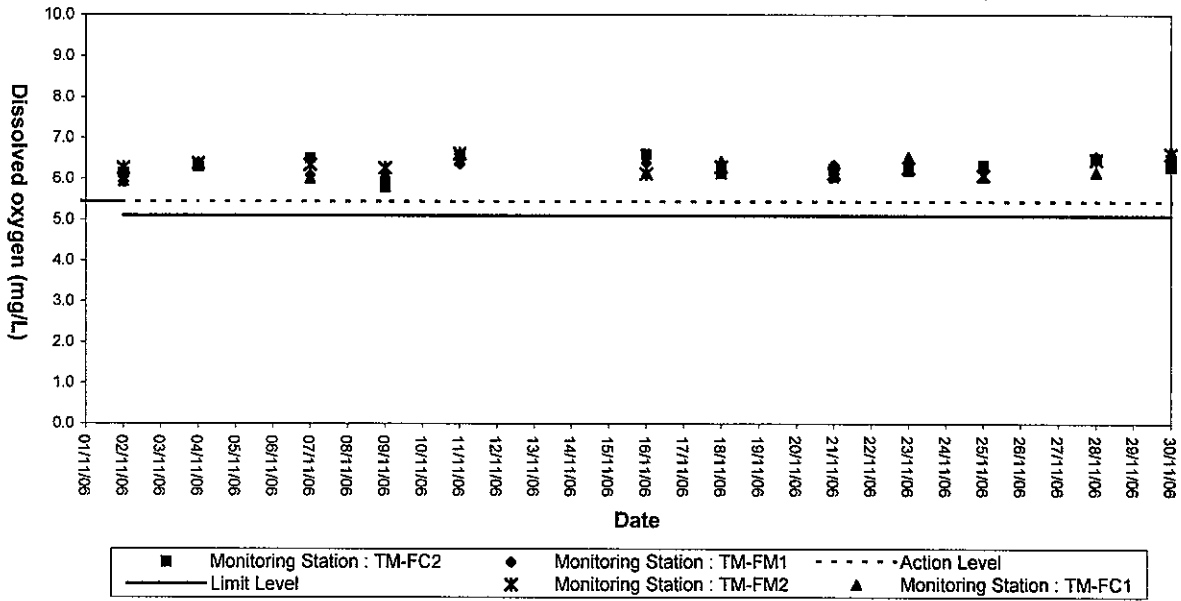


Appendix C3

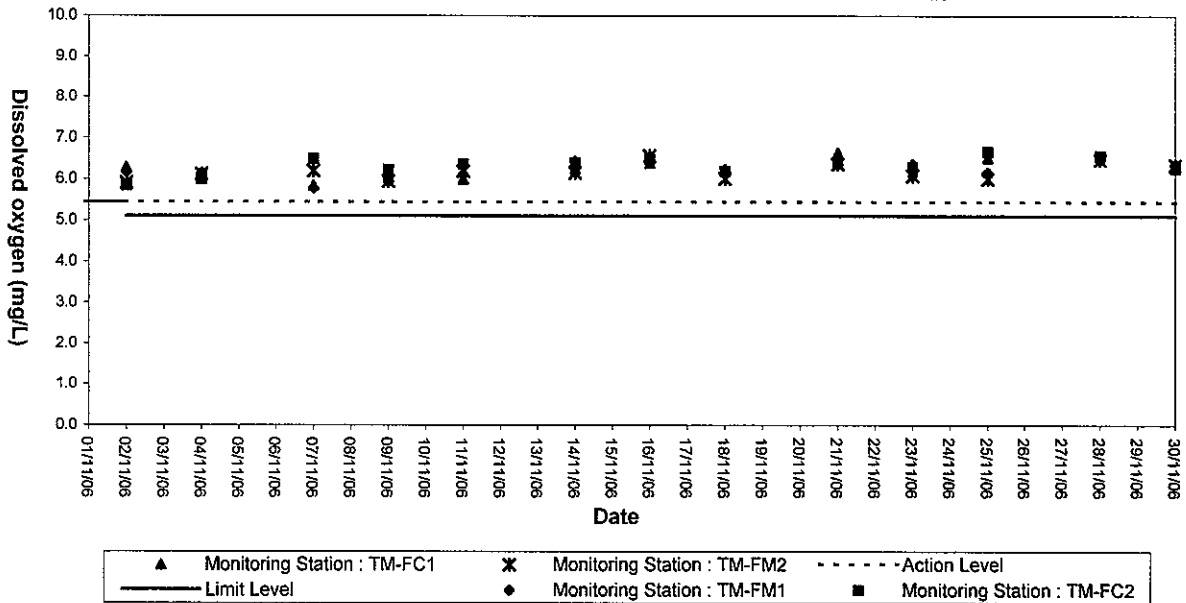
Graphical Plots of Impact Marine Water Quality Monitoring Data



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

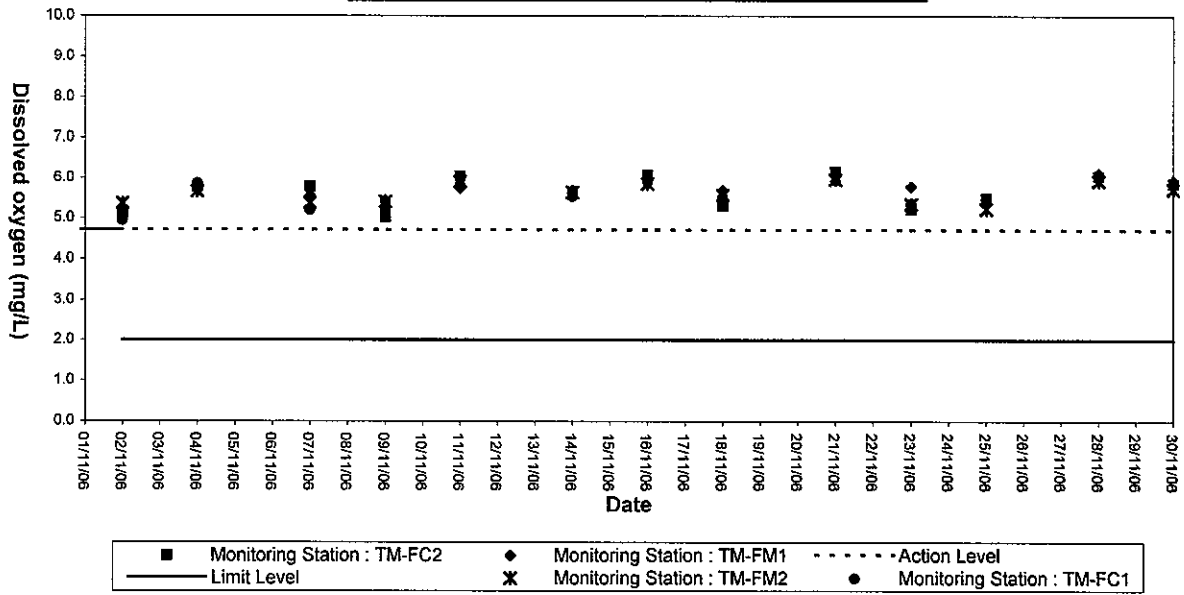


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

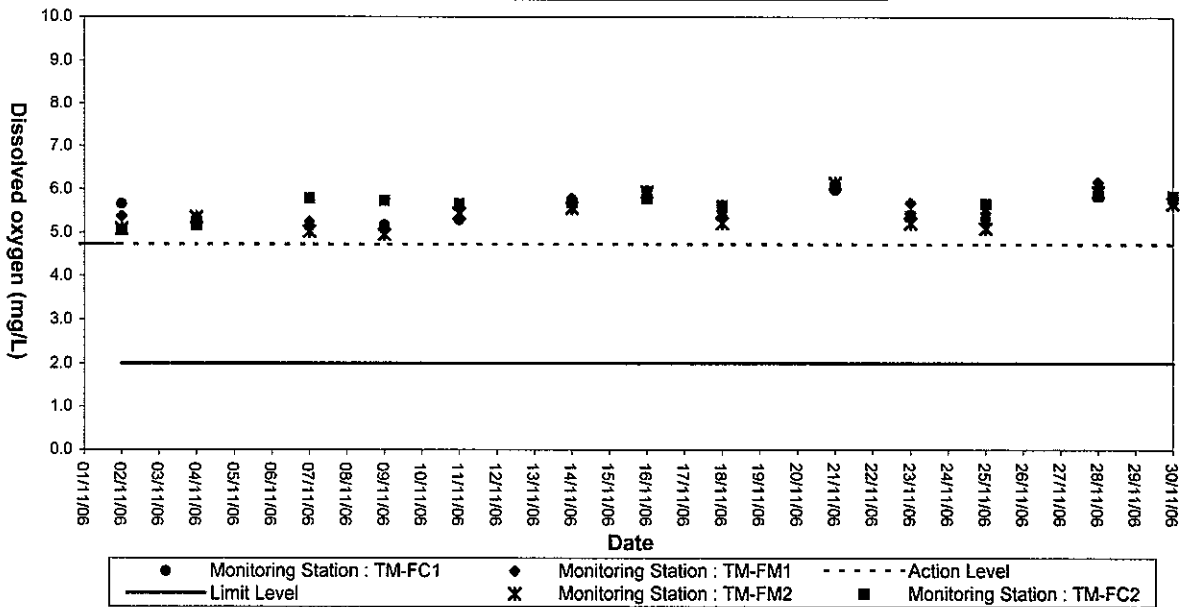




Dissolved Oxygen (Bottom) at Mid-Flood Tide

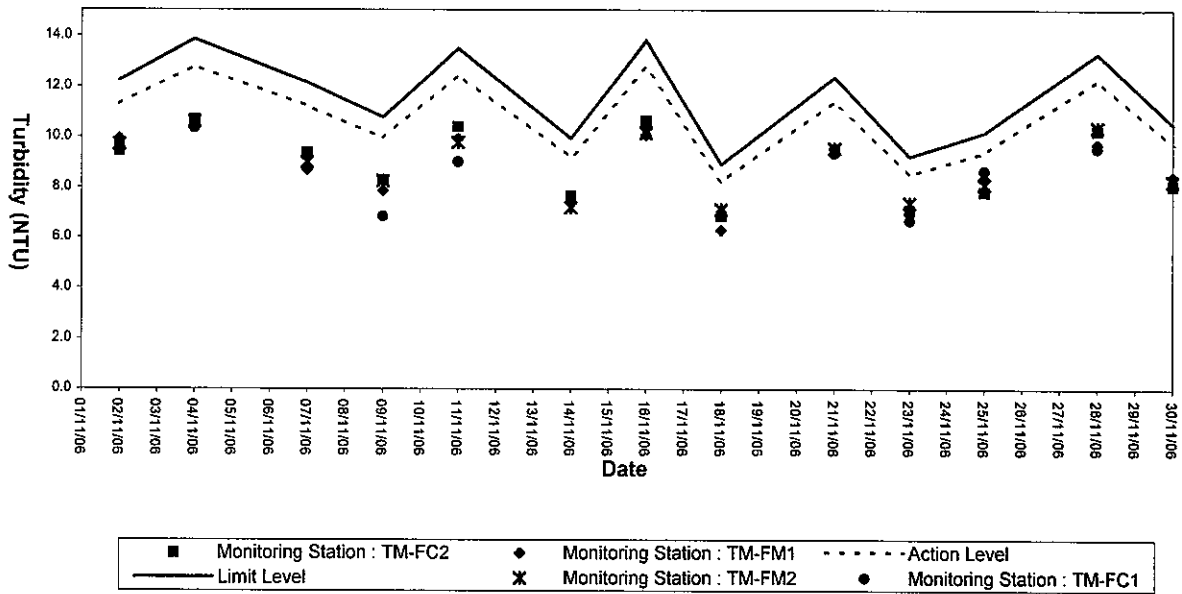


Dissolved Oxygen (Bottom) at Mid-Ebb Tide

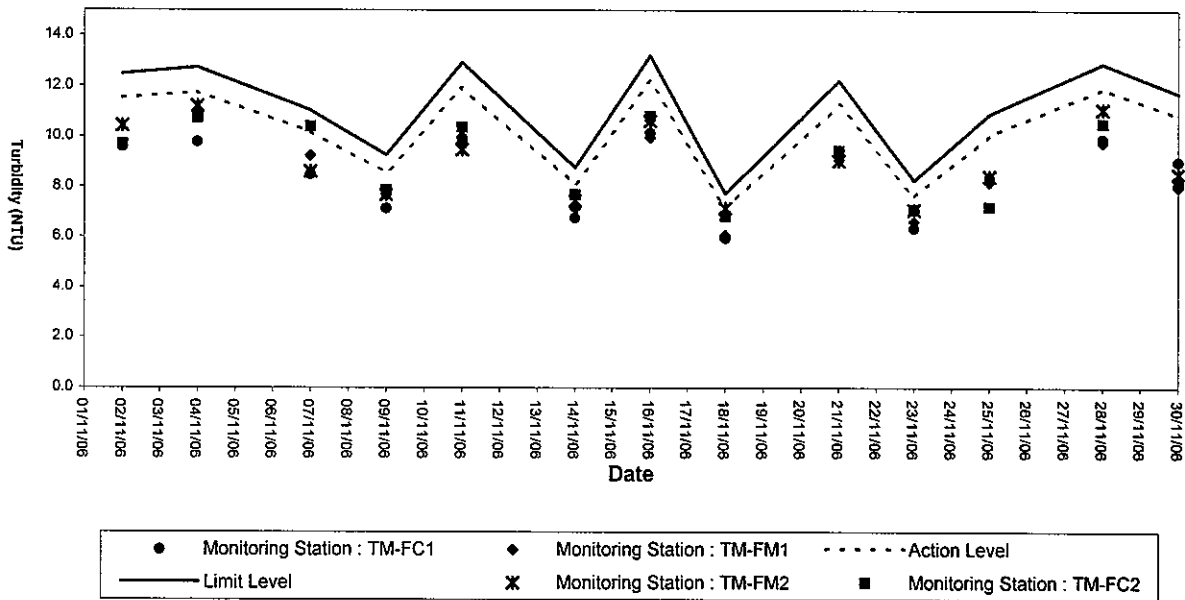




Turbidity (Depth-average) at Mid-Flood Tide

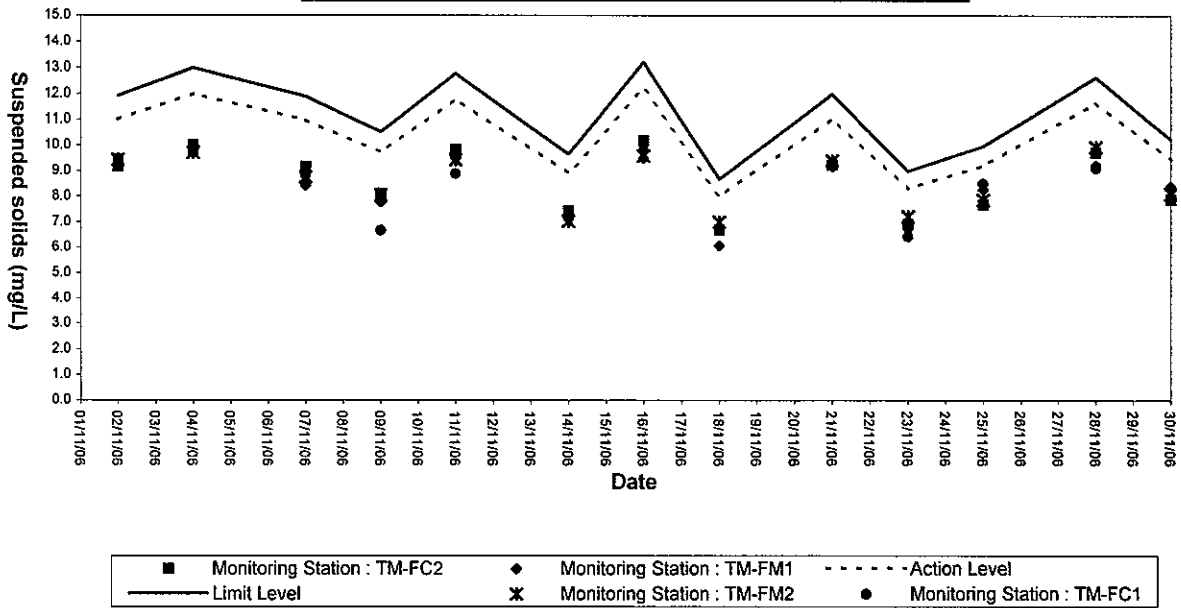


Turbidity (Depth-average) at Mid-Ebb Tide

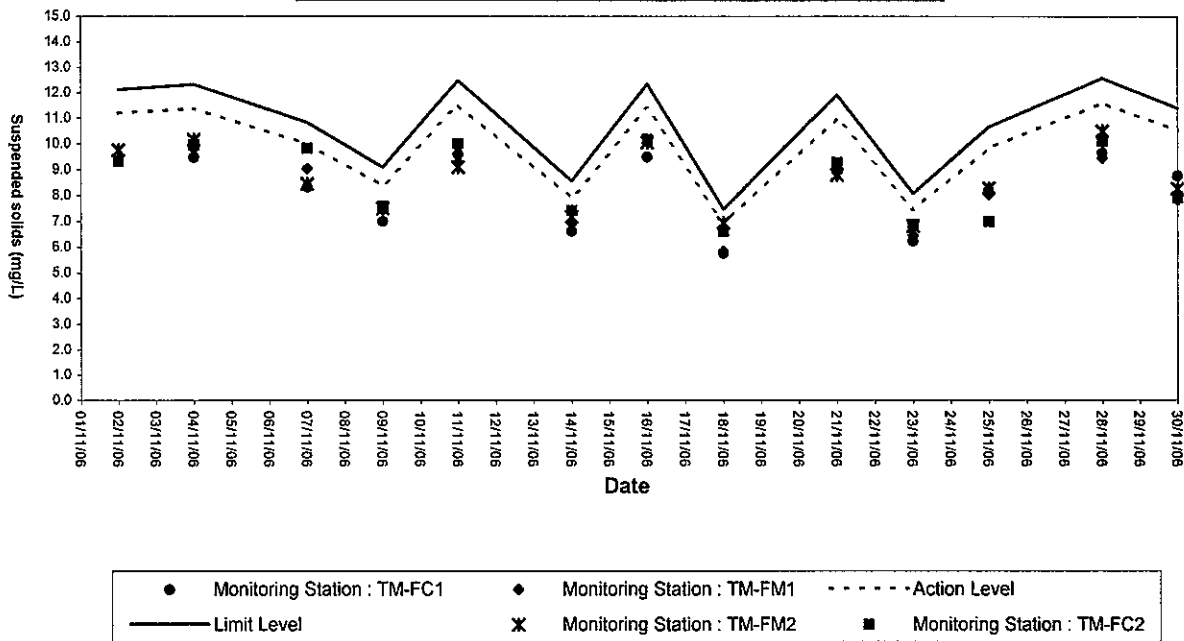




Suspended solids (Depth-average) at Mid-Flood Tide



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





Appendix D

Weather Condition



Weather Condition

Date	Rainfall (mm)	Max. Temp (°C)	Min. Temp. (°C)	Relative Humidity (%)	Wind Direction	Wind Speed (m/s)
01/11/200	-	27.1	23.5	47	NNE	<5
02/11/200	-	25.7	21.9	56	NNE	<5
03/11/200	Trace	26.4	21.4	66	NEE	<5
04/11/200	-	28.0	21.3	67	E	<5
05/11/200	-	27.8	21.8	69	NEE	<5
06/11/200	-	28.7	22.4	58	NNE	<5
07/11/200	-	26.6	21.5	61	E	<5
08/11/200	-	26.4	21.7	68	E	<5
09/11/200	-	27.4	22.3	75	NEE	<5
10/11/200	-	28.3	22.7	75	NNE	<5
11/11/200	-	29.2	23.6	60	NNE	<5
12/11/200	-	25.8	21.3	57	SEE	<5
13/11/200	Trace	25.3	21.3	74	NEE	<5
14/11/200	0.3	26.6	23.4	77	E	<5
15/11/200	9.2	23.9	20.3	84	NEE	<5
16/11/200	Trace	24.7	20.4	85	NEE	<5
17/11/200	-	25.2	22.3	84	E	<5
18/11/200	1.6	25.9	22.8	90	NEE	<5
19/11/200	Trace	25.8	23.5	86	NEE	<5
20/11/200	Trace	25.5	22.4	82	NNE	<5
21/11/200	66.5	23.6	19.6	90	E	<5
22/11/200	9.7	21.9	19.4	94	NNE	<5
23/11/200	3.0	24.0	20.5	83	NNE	<5
24/11/200	-	23.3	21.1	83	NEE	<5
25/11/200	Trace	23.2	22.1	91	NEE	<5
26/11/200	1.2	25.7	22.5	88	E	<5
27/11/200	7.0	25.2	21.8	90	NEE	<5
28/11/200	1.1	22.4	18.7	80	NNE	<5
29/11/200	Trace	21.9	20.0	84	NEE	<5
30/11/200	-	22.5	19.0	78	NNE	<5

Remark: Data of wind speed and wind direction were extracted from Hong Kong Observatory.



Appendix E

Event-Action Plans

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

	ET Leader	ACTION IC(E)	ER	Contractor
		ACTION LEVEL		
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, IC(E) and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check contractor's working method 	<ol style="list-style-type: none"> 1. Notify Contractor 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practise 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform IC(E) and Contractor 3. Repeat measurements to confirm finding 4. Increase monitoring frequency to daily 5. Discuss with IC(E) and Contractor on remedial actions 6. If exceedance continues, arrange meeting with IC(E) and ER. 7. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check the Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented 	<ol style="list-style-type: none"> 1. Submit proposals for remedial actions to IC(E) within 3 working days of notification 2. Implement the agreed proposals 3. Amend proposal if appropriate
		LIMIT LEVEL		
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Inform ER, Contractor and EPD 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Assess the effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by the ET 2. Check Contractor's working method 3. Discuss with ET and Contractor on possible remedial measures 4. Advise the ER on the effectiveness of the proposed remedial measures 5. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify the Contractor 3. Ensure remedial measures properly implemented 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Amend proposal if appropriate.

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

EVENT	ACTION			Contractor
	ET Leader	IC(E)	ER	
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Notify IC(E), ER, EPD and Contractor 3. Repeat measurement to confirm finding 4. Increase monitoring frequency to daily 5. Carry out analysis of contractor's working procedures to determine possible mitigation to be implemented 6. Arrange meeting with IC(E) and ER to discuss the remedial actions to be taken 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results 8. If exceedance stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET and Contractor on the potential remedial actions 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly 3. Supervise the implementation of remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing 2. Notify Contractor 3. In consultation with the IC(E), agree with the Contractor on the remedial measures to be implemented 4. Ensure remedial measures are properly implemented if exceedances continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated 5. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedances 2. Submit proposals for remedial actions to IC(E) within 3 working days of notification 3. Implement the agreed proposals 4. Resubmit proposals if problem still not under control 5. Stop the relevant activity of works as determined by the ER until the exceedance is abated

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

Event	ACTION			IEC
	ET Leader	Contractor	ER	
<p>Action level being exceeded by one sampling day</p>	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 6. Discuss mitigation measures with Contractor if exceedance is due to the construction works within 4 working days 7. Repeat measurement on next day of exceedance if exceedance is due to the construction works 	<ol style="list-style-type: none"> 1. Notify the ER and IEC in writing within 24 hours of identification of exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Submit investigation report to IEC and ER within 3 working days of the identification of an exceedance 5. Consider changes of working method if exceedance is due to the construction works 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER if exceedance is due to the construction works within 4 working days of identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of the identification of the exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Require contractor to propose remedial measures for the analysed problem if related to the construction works 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the mitigation measure 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures 4. Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly 5. Supervise the implementation of mitigation measures

EVENT AND ACTION PLAN FOR WATER QUALITY

Event	ACTION			
	ET Leader	Contractor	ER	IEC
<p>Action level being exceeded by more than one consecutive sampling days</p>	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings 3. Notify Contractor in writing within 24 hours of identification 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC and Contractor within 4 working of identification of an exceedance 8. Ensure mitigation measures are implemented; 9. Prepare to increase the monitoring frequency to daily; 10. Repeat measurement on next day of exceedance. 	<ol style="list-style-type: none"> 1. Notify IEC and ER in writing within 24 hours of identification of exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days of identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of the identification of the exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Require contractor to propose remedial measures for the analysed problem if related to the construction works 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the mitigation measure 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures. 4. Review contractor's mitigation measures whenever necessary to ensure their effectiveness and advise the ER accordingly 5. Assess the effectiveness of the implemented mitigation measures.

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

Event	ACTION			IEC
	ET Leader	Contractor	ER	
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; identify source(s) of impact; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC, ER and Contractor within 4 working of identification of an exceedance 8. Ensure mitigation measures are implemented; 9. Increase the monitoring frequency to daily until no exceedance of Limit Level. 	<ol style="list-style-type: none"> 1. Notify IEC and ER in writing; within 24 hours of the identification of the exceedance 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 6. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days of the identification of an exceedance 7. Implement the agreed mitigation measures within reasonable time scale 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 4. Ensure remedial measures are properly implemented 5. Assess the effectiveness of the implemented mitigation measures. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ET, ER and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures

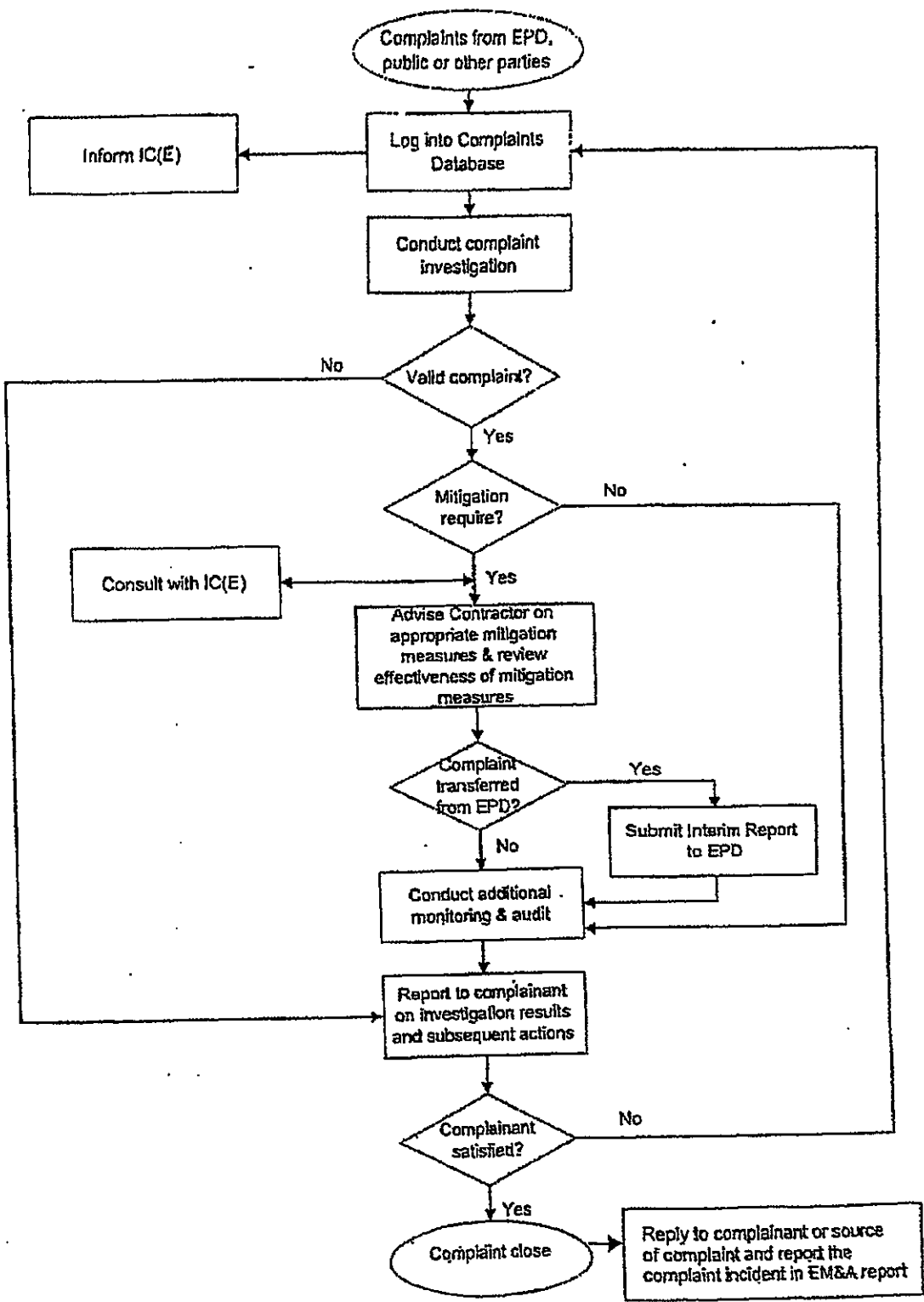
EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

Event	ACTION			IEC
	ET Leader	Contractor	ER	
Limit Level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Notify Contractor in writing within 24 hours of identification of the exceedance 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Carry out investigation 6. Report the results of investigation to the Contractor within 3 working days of identification of exceedance and advise contractor if exceedance is due to contractor's construction works 7. Discuss mitigation measures with IEC, ER and Contractor; 8. Ensure mitigation measures are implemented; 9. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days. 	<ol style="list-style-type: none"> 1. Notify ER and IEC in writing within 24 hours of the identification of the exceedance and Rectify unacceptable practices; 3. Check all plant and equipment; 4. Consider changes of working methods; 8. Submit the results of the investigation to IEC and ER within 3 working days of the identification of an exceedance 5. Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 4 working days; 6. Implement the agreed mitigation measures within reasonable time scale 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. 	<ol style="list-style-type: none"> 1. Notify EPD and other relevant governmental agencies in writing within 24 hours of identification of exceedance 2. Discuss with IEC, ET and Contractor on the proposed mitigation measures; 3. Request Contractor to critically review the working methods; 6. Ensure remedial measures are properly implemented 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and Instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit Level. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ER, ET and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures.



Appendix F

Construction Programme

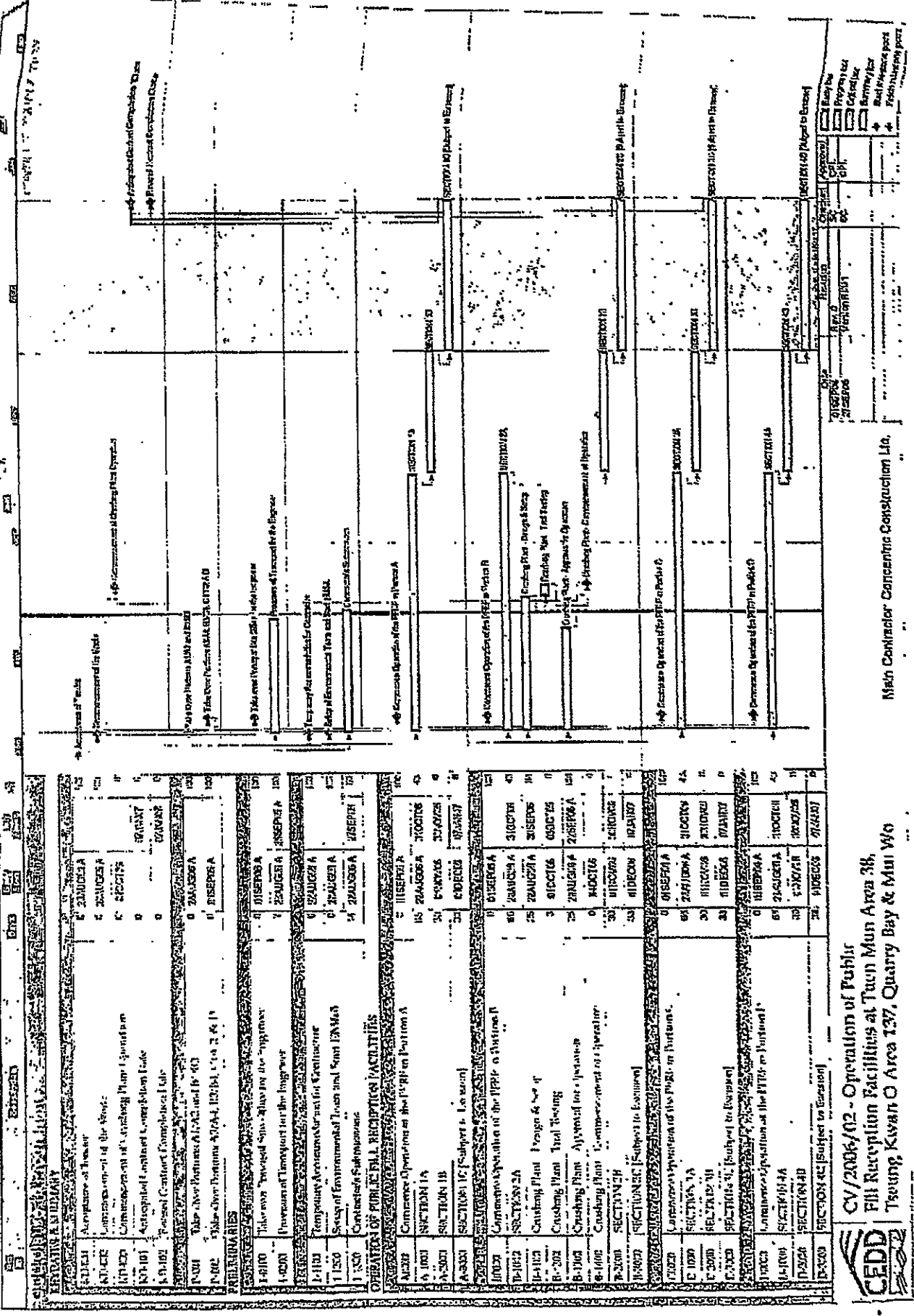


CEDD Contract No. CV/2006/02 Operation of Public Fill Reception Facilities at Tuen Mun Area 38, Tseung Kwan O Area 137, Quarry Bay and Mui Wo

Figure 4 Environmental Complaint Handling Procedure - Tuen Mun Area 38

Scale : ---
Revised Date : September 2006





NO	DESCRIPTION	DATE	BY	CHKD	NO	DESCRIPTION	DATE	BY	CHKD
1	PRELIMINARY				1	SECTION 1A			
2	SECTION 1A				2	SECTION 1B			
3	SECTION 1B				3	SECTION 1C			
4	SECTION 1C				4	SECTION 1D			
5	SECTION 1D				5	SECTION 1E			
6	SECTION 1E				6	SECTION 1F			
7	SECTION 1F				7	SECTION 1G			
8	SECTION 1G				8	SECTION 1H			
9	SECTION 1H				9	SECTION 1I			
10	SECTION 1I				10	SECTION 1J			
11	SECTION 1J				11	SECTION 1K			
12	SECTION 1K				12	SECTION 1L			
13	SECTION 1L				13	SECTION 1M			
14	SECTION 1M				14	SECTION 1N			
15	SECTION 1N				15	SECTION 1O			
16	SECTION 1O				16	SECTION 1P			
17	SECTION 1P				17	SECTION 1Q			
18	SECTION 1Q				18	SECTION 1R			
19	SECTION 1R				19	SECTION 1S			
20	SECTION 1S				20	SECTION 1T			
21	SECTION 1T				21	SECTION 1U			
22	SECTION 1U				22	SECTION 1V			
23	SECTION 1V				23	SECTION 1W			
24	SECTION 1W				24	SECTION 1X			
25	SECTION 1X				25	SECTION 1Y			
26	SECTION 1Y				26	SECTION 1Z			
27	SECTION 1Z				27	SECTION 2A			
28	SECTION 2A				28	SECTION 2B			
29	SECTION 2B				29	SECTION 2C			
30	SECTION 2C				30	SECTION 2D			
31	SECTION 2D				31	SECTION 2E			
32	SECTION 2E				32	SECTION 2F			
33	SECTION 2F				33	SECTION 2G			
34	SECTION 2G				34	SECTION 2H			
35	SECTION 2H				35	SECTION 2I			
36	SECTION 2I				36	SECTION 2J			
37	SECTION 2J				37	SECTION 2K			
38	SECTION 2K				38	SECTION 2L			
39	SECTION 2L				39	SECTION 2M			
40	SECTION 2M				40	SECTION 2N			
41	SECTION 2N				41	SECTION 2O			
42	SECTION 2O				42	SECTION 2P			
43	SECTION 2P				43	SECTION 2Q			
44	SECTION 2Q				44	SECTION 2R			
45	SECTION 2R				45	SECTION 2S			
46	SECTION 2S				46	SECTION 2T			
47	SECTION 2T				47	SECTION 2U			
48	SECTION 2U				48	SECTION 2V			
49	SECTION 2V				49	SECTION 2W			
50	SECTION 2W				50	SECTION 2X			
51	SECTION 2X				51	SECTION 2Y			
52	SECTION 2Y				52	SECTION 2Z			
53	SECTION 2Z				53	SECTION 3A			
54	SECTION 3A				54	SECTION 3B			
55	SECTION 3B				55	SECTION 3C			
56	SECTION 3C				56	SECTION 3D			
57	SECTION 3D				57	SECTION 3E			
58	SECTION 3E				58	SECTION 3F			
59	SECTION 3F				59	SECTION 3G			
60	SECTION 3G				60	SECTION 3H			
61	SECTION 3H				61	SECTION 3I			
62	SECTION 3I				62	SECTION 3J			
63	SECTION 3J				63	SECTION 3K			
64	SECTION 3K				64	SECTION 3L			
65	SECTION 3L				65	SECTION 3M			
66	SECTION 3M				66	SECTION 3N			
67	SECTION 3N				67	SECTION 3O			
68	SECTION 3O				68	SECTION 3P			
69	SECTION 3P				69	SECTION 3Q			
70	SECTION 3Q				70	SECTION 3R			
71	SECTION 3R				71	SECTION 3S			
72	SECTION 3S				72	SECTION 3T			
73	SECTION 3T				73	SECTION 3U			
74	SECTION 3U				74	SECTION 3V			
75	SECTION 3V				75	SECTION 3W			
76	SECTION 3W				76	SECTION 3X			
77	SECTION 3X				77	SECTION 3Y			
78	SECTION 3Y				78	SECTION 3Z			
79	SECTION 3Z				79	SECTION 4A			
80	SECTION 4A				80	SECTION 4B			
81	SECTION 4B				81	SECTION 4C			
82	SECTION 4C				82	SECTION 4D			
83	SECTION 4D				83	SECTION 4E			
84	SECTION 4E				84	SECTION 4F			
85	SECTION 4F				85	SECTION 4G			
86	SECTION 4G				86	SECTION 4H			
87	SECTION 4H				87	SECTION 4I			
88	SECTION 4I				88	SECTION 4J			
89	SECTION 4J				89	SECTION 4K			
90	SECTION 4K				90	SECTION 4L			
91	SECTION 4L				91	SECTION 4M			
92	SECTION 4M				92	SECTION 4N			
93	SECTION 4N				93	SECTION 4O			
94	SECTION 4O				94	SECTION 4P			
95	SECTION 4P				95	SECTION 4Q			
96	SECTION 4Q				96	SECTION 4R			
97	SECTION 4R				97	SECTION 4S			
98	SECTION 4S				98	SECTION 4T			
99	SECTION 4T				99	SECTION 4U			
100	SECTION 4U				100	SECTION 4V			

Match Contractor: Concrete Construction Ltd.

CV/2006/02 - Operation of Public
 Fill Reception Facilities at Tuen Mun Area 3B,
 Tsung Kwan O Area 137, Quarry Bay & Mui Wo





Appendix G

Weekly ET's Site Inspection Record

CEDD Contract No.: CV/2006/02
 Project: Fill Bank at Tuen Mun Area 3B

Inspection Date : 3 November 2006
 Time : 10:30
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm (Light) / Breeze / Strong

Temperature : 26 °C
 Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
Environmental Checklist				
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪ Water sprays shall be provided and used to dampen materials.	✓			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓			
▪ Unpaved areas should be watered regularly to avoid dust generation.	✓			
▪ The designated site main haul road shall be paved or regular watering.	✓			
▪ The public road around the site entrance should be kept clean and free from dust.	✓			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓			
▪ Vehicle and equipment should be switched off while not in use.	✓			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
▪ Open burning should be prohibited.	✓			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪ The constructions works should be scheduled to minimize noise nuisance.	✓			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪ Air compressors and hand held breakers should have noise labels.	✓			
▪ Compressors and generators should operate with door closed.	✓			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	✓			

CEDD Contract No.: CV/2006/02
Project: Fill Bank at Tuen Mun Area 3B

Environmental Checklist		Implementation Stages*			Remark
		Yes	No	N/A	
Water Quality					
	▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.		✓		7/2/11 (2)
	▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓			
	▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	✓			
	▪ The material shall be properly covered to prevent washed away especially before rainstorm.	✓			
	▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓			
	▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓			
	▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓			
	▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	✓			
	▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓			
	▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	✓			
	▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓			
	▪ The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.			✓	
	▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.			✓	
	▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.			✓	
	▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓			
	▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	✓			
	▪ A waste collection vessel shall be deployed to remove floating debris.			✓	
Landscape and Visual					
	▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD.			✓	
	▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.			✓	
	▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable.			✓	
	▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level.			✓	
	▪ Lighting shall be set to minimise night-time glare.			✓	

Waste Management			
Construction Waste Management			
▪	Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	✓	
▪	Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	✓	
▪	Mud and debris should be removed from waterworks access roads and associated drainage systems.	✓	
▪	Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	✓	
▪	Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	✓	
▪	Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	✓	
▪	In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	✓	
▪	Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	✓	
Chemical Waste Management			
▪	It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓	
▪	After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓	
▪	Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓	
▪	Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	✓	
▪	Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	✓	
▪	The designated chemical waste storage area should only be used for storing chemical wastes.	✓	
▪	The set-up of chemical waste storage area should		
▪	Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	✓	
▪	Be enclosed on at least 3 sides and securely closed.	✓	
▪	Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	✓	
▪	Have adequate ventilation.	✓	
▪	Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	✓	
▪	Be arranged so that incompatible materials are adequately separated.	✓	
▪	Warning panels should be displayed at the waste storage area.	✓	
▪	Waste storage area should be cleaned and maintained regularly.	✓	



<ul style="list-style-type: none"> Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste. 	✓		
<ul style="list-style-type: none"> All generators, fuel and oil storage should be within bundle areas. 	✓		
<ul style="list-style-type: none"> Oil leakage from machinery, vehicle and plant should be prevented. 	✓		
<ul style="list-style-type: none"> In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed. 	✓		
<ul style="list-style-type: none"> The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place. 	✓		
Good Site Practices			
<ul style="list-style-type: none"> 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. 	✓		
<ul style="list-style-type: none"> Training of site personnel in proper waste management and chemical handling procedures should be provided. 	✓		
<ul style="list-style-type: none"> 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. 	✓		item ③
<ul style="list-style-type: none"> Proper storage and site practices to minimise the potential for damage or contamination of construction materials. 	✓		
<ul style="list-style-type: none"> The Environmental Permit should be displaced conspicuously on site. 	✓		
<ul style="list-style-type: none"> Construction noise permits should be posted at site entrance or available for site inspection. 	✓		✓
<ul style="list-style-type: none"> Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	✓		
<ul style="list-style-type: none"> Chemical storage area provided with lock and located on sealed areas. 	✓		
<ul style="list-style-type: none"> All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank). 	✓		
<ul style="list-style-type: none"> Any unused chemicals or those with remaining functional capacity should be recycled. 	✓		
<ul style="list-style-type: none"> Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors. 	✓		
<ul style="list-style-type: none"> 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. 	✓		
<ul style="list-style-type: none"> 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. 	✓		✓
<ul style="list-style-type: none"> 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 banded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system. 	✓		
<ul style="list-style-type: none"> Remove wastes in a timely manner. 	✓		

Summary of the Weekly Site Inspection:

Item	Details of Follow-up Observation(s)
#1	Follow up action to previous site inspection item ② on (11-10-06), #3 (17-10-06) and #1 (23-10-06), a covered rubbish bin areas provided for "PT-1". No further action is necessary since the follow up action was completed.
#2	Follow up action to previous site inspection item ① on 23-10-2006, an appropriate label was provided for chemical wastes storage area at "TP-1".
#3	Follow up action to previous site inspection item ③ on 23-10-2006, unnecessary water at all locations was removed.
#4	Follow up action to previous site inspection item ③ on 23-10-2006, rubbish has been cleaned up on the ground next to the air monitoring station AM-1.

Item	Details of New Observation(s)
①	Fugitive dust was observed from conveyor belts transfer points and hopper discharge areas at crushing plant, the contractor should fitted with wind boards and should be enclosed to minimize emission of dust during operation.
②	Mudwater was found discharge into the sea from drainage channel at "TP-3".
③	Rubbish collection point next to the air air monitoring station AM-1 was found without covered.

Remark

Inspected by	Name	Signature	Date
Checked by	H.T. Chow Lau	 	3-11-2006 & 11.06

CEDD Contract No.: CV/2006/02
Project: Fill Bank at Tuen Mun Area 38

Inspection Date : 10 November 2006
Time : 15:00

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 28 °C
Humidity : High / Moderate / Low

Environmental Checklist

	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪ Water sprays shall be provided and used to dampen materials.	✓			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓			
▪ Unpaved areas should be watered regularly to avoid dust generation.	✓			
▪ The designated site main haul road shall be paved or regular watering.	✓			
▪ The public road around the site entrance should be kept clean and free from dust.	✓			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓			
▪ Vehicle and equipment should be switched off while not in use.	✓			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
▪ Open burning should be prohibited.	✓			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪ The constructions works should be scheduled to minimize noise nuisance.	✓			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪ Air compressors and hand held breakers should have noise labels.	✓			
▪ Compressors and generators should operate with door closed.	✓			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪ Noisy equipment and mobile plant shall always be sited away from NSRs.	✓			

Environmental Checklist

	Implementation Stages*		Remark
	Yes	No / N/A	
Water Quality			
▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.	✓		Item 1
▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓		
▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	✓		
▪ The material shall be properly covered to prevent washed away especially before rainstorm.	✓		
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓		
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓		
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓		
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	✓		
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓		
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	✓		
▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓		
▪ The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	✓		
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	✓		
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	✓		
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓		
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	✓		
▪ A waste collection vessel shall be deployed to remove floating debris.	✓		
Landscape and Visual			
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD.	✓		
▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.	✓		
▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable.	✓		
▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level.	✓		
▪ Lighting shall be set to minimise night-time glare.	✓		

Waste Management			
Construction Waste Management			
Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	✓		
Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	✓		
Mud and debris should be removed from waterworks access roads and associated drainage systems.	✓		
Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	✓		
Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	✓		
Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	✓		
In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	✓		
Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	✓		
Chemical Waste Management			
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓		
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓		
Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓		
Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	✓		
Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	✓		
The designated chemical waste storage area should only be used for storing chemical wastes.	✓		
The set-up of chemical waste storage area should			
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	✓		
Be enclosed on at least 3 sides and securely closed.	✓		
Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	✓		
Have adequate ventilation.	✓		
Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	✓		
Be arranged so that incompatible materials are adequately separated.	✓		
Warning panels should be displayed at the waste storage area.	✓		
Waste storage area should be cleaned and maintained regularly.	✓		
Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	✓		

<ul style="list-style-type: none"> ▪ Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste. 	√		
<ul style="list-style-type: none"> ▪ All generators, fuel and oil storage should be within bundle areas. 	√		
<ul style="list-style-type: none"> ▪ Oil leakage from machinery, vehicle and plant should be prevented. 	√		
<ul style="list-style-type: none"> ▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed. 	√		
<ul style="list-style-type: none"> ▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place. 	√		
<ul style="list-style-type: none"> ▪ Good Site Practices <ul style="list-style-type: none"> ○ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. ○ Training of site personnel in proper waste management and chemical handling procedures should be provided. • Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment. • Proper storage and site practices to minimise the potential for damage or contamination of construction materials. • The Environmental Permit should be displaced conspicuously on site. • Construction noise permits should be posted at site entrance or available for site inspection. ○ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. ○ Chemical storage area provided with lock and located on sealed areas. ○ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank). ○ Any unused chemicals or those with remaining functional capacity should be recycled. ○ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, surmps and oil interceptors. 	√		
<ul style="list-style-type: none"> ▪ 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. 	√		
<ul style="list-style-type: none"> ▪ 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. 	√		
<ul style="list-style-type: none"> ▪ 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 banded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system. 	√		Item 3
<ul style="list-style-type: none"> ▪ Remove wastes in a timely manner. 	√		



Summary of the Weekly Site Inspection:

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action on previous item 1 on 03 November 2006, fly dust from conveyor belt transfer points and hopper discharge areas at crushing plant has rectified with additional water sprinkle system. No further action is required.	Photo 061110_001-002	No
2	Follow up action on previous item 2 on 03 November 2006, muddy water was continue discharging into nearby seabody from drainage channel at "TP-3". Immediate rectification is required.	Photo 061110_003	Yes
3	Follow up action on previous and item 3 on 03 November 2006, Rubbish collection point should cover with suitable lit or tarpaulin sheet to reduce flies and water trap.	Photo 061110_004	Yes

Remark

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Name	Signature	Date
Inspected by H. T. Chow		10 November 2006
Checked by Louisa Fung		10 November 2006

Photos

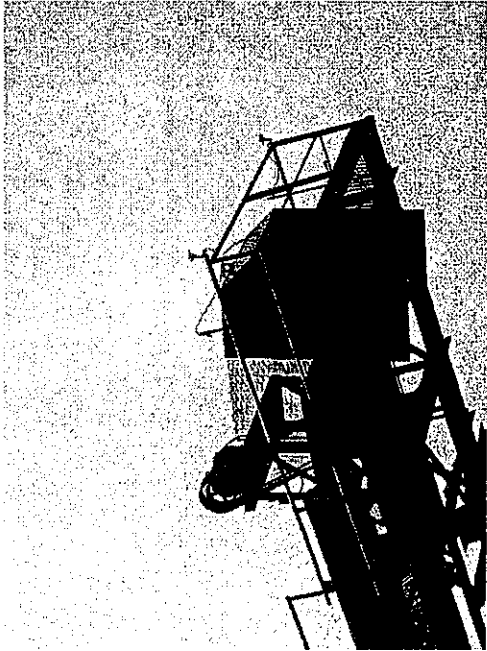


Photo 061101_001

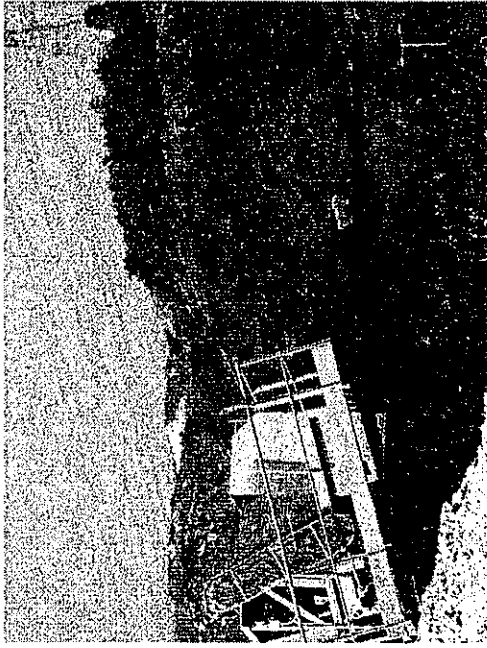


Photo 061101_002

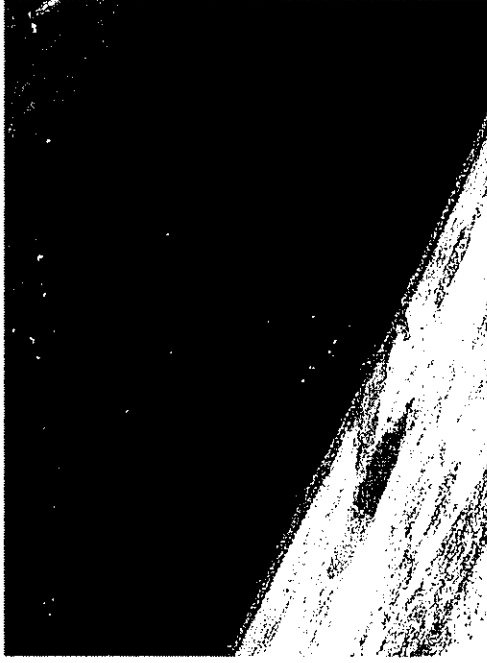


Photo 061101_003



Photo 061101_004

CEDD Contract No.: CV/2006/02
Project: Fill Bank at Tuen Mun Area 38

Inspection Date : 15 November 2006
Time : 09:30

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Witnessed by: T.W Chang (CEDD), Jerry Tam(Contractor),
Sunny Chan (Contractor), Arthur (IEC)

Temperature : 23°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪ Water sprays shall be provided and used to dampen materials.	✓			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓			
▪ Unpaved areas should be watered regularly to avoid dust generation.	✓			
▪ The designated site main haul road shall be paved or regular watering.	✓			
▪ The public road around the site entrance should be kept clean and free from dust.	✓			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓			
▪ Vehicle and equipment should be switched off while not in use.	✓			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
▪ Open burning should be prohibited.	✓			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪ The constructions works should be scheduled to minimize noise nuisance.	✓			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪ Air compressors and hand held breakers should have noise labels.	✓			
▪ Compressors and generators should operate with door closed.	✓			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	✓			

Implementation Stages*		Remark
Water Quality		
✓		The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.
✓		Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.
✓		The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.
✓		The material shall be properly covered to prevent washed away especially before rainstorm.
✓		The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.
✓		Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
✓		Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.
✓		A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.
✓		The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.
✓		Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.
✓		The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.
✓		The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.
✓		All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.
✓		Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.
✓		Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.
✓		The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.
✓		A waste collection vessel shall be deployed to remove floating debris.
		Landscape and Visual
✓		The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD.
✓		Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.
✓		Stockpile of public fill shall be removed in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable.
✓		Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level.
✓		Lighting shall be set to minimise night-time glare.

Waste Management				
Construction Waste Management				
Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	✓			
Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	✓			
Mud and debris should be removed from waterworks access roads and associated drainage systems.		✓		
Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	✓			
Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	✓			
Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.		✓		Item 2
In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	✓			
Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	✓			
Chemical Waste Management				
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓			
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓			
Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓			
Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	✓			
Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.		✓		Item 1,4,7,11
The designated chemical waste storage area should only be used for storing chemical wastes.	✓			
The set-up of chemical waste storage area should				
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	✓			
Be enclosed on at least 3 sides and securely closed.	✓			
Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	✓			
Have adequate ventilation.	✓			
Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	✓			
Be arranged so that incompatible materials are adequately separated.	✓			
Warning panels should be displayed at the waste storage area.	✓			
Waste storage area should be cleaned and maintained regularly.	✓			
Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	✓			

<ul style="list-style-type: none"> ▪ All generators, fuel and oil storage should be within bundle areas. 	✓		
<ul style="list-style-type: none"> ▪ Oil leakage from machinery, vehicle and plant should be prevented. 	✓		
<ul style="list-style-type: none"> ▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed. 	✓		
<ul style="list-style-type: none"> ▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place. 	✓		
<ul style="list-style-type: none"> ▪ Good Site Practices <ul style="list-style-type: none"> ○ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. ○ Training of site personnel in proper waste management and chemical handling procedures should be provided. • Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment. • Proper storage and site practices to minimise the potential for damage or contamination of construction materials. • The Environmental Permit should be displaced conspicuously on site. • Construction noise permits should be posted at site entrance or available for site inspection. 	✓		
<ul style="list-style-type: none"> ○ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. 	✓		✓
<ul style="list-style-type: none"> ○ Chemical storage area provided with lock and located on sealed areas. 	✓		
<ul style="list-style-type: none"> ○ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank). 	✓		
<ul style="list-style-type: none"> ○ Any unused chemicals or those with remaining functional capacity should be recycled. 	✓		
<ul style="list-style-type: none"> ○ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors. 	✓		
<ul style="list-style-type: none"> ▪ 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. 	✓		
<ul style="list-style-type: none"> ▪ 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. 		✓	
<ul style="list-style-type: none"> ▪ 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. 		✓	Item 3
<ul style="list-style-type: none"> ▪ Remove wastes in a timely manner. 		✓	Item 2,8,11

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Chemical oil tank was spotted storing with proper drip tray at air quality monitoring station AM1.	Photo 061115_001	Yes
2	Wooden waste was idled next to Contractor's Office.	Photo 061115_002	Yes
3	Follow up action on previous item 3 on 09 November 2006 and item 3 on 03 November 2006, Rubbish collection point has cover with suitable lit or tarpaulin sheet to reduce flies and water trap.	Photo 061115_003	No
4	20 L. oil bucket and idle machines were left unattended at wheel washing facility area.	Photo 061115_004	Yes
5	Trash container was found to be insufficient at water truck filling station.	Photo 061115_005	Yes
6	Waste oil and stagnant water was ponding on the ground. Contractor should fill up the reservoir asap	Photo 061115_006	Yes
7	Oil container was discarded in rubbish skip at 'full checking area' instead of proper chemical waste station.	Photo 061115_007	Yes
8	Sands and gravels are dropped on the hurdle at TP2 and TP3. Contractor should clean up asap and provide mitigation measure to avoid drops of sand and gravels during barges loading and unloading.	Photo 061115_008	Yes
9	Follow up action on previous inspection item 2 on 03 November 2006 and item 2 on 09 November 2006, no further muddy water discharge to seabody and manhold of drainage channel at TP-3 has cleared.	Photo 061115_009-10	Yes
10	Three Fuel tanks was idled at 'oversize stockpile area' without proper trip tray.	Photo 061115_011	Yes
11	Rubbish and debris was accumulated in the u-channel at 'WPB-3'.	Photo 061115_012	Yes

Remark

Signature		Date
Inspected by	H. T. Chow	15 November 2006
Checked by	Louisa Fung	17 November 2006

Photos



Photo 061115_001

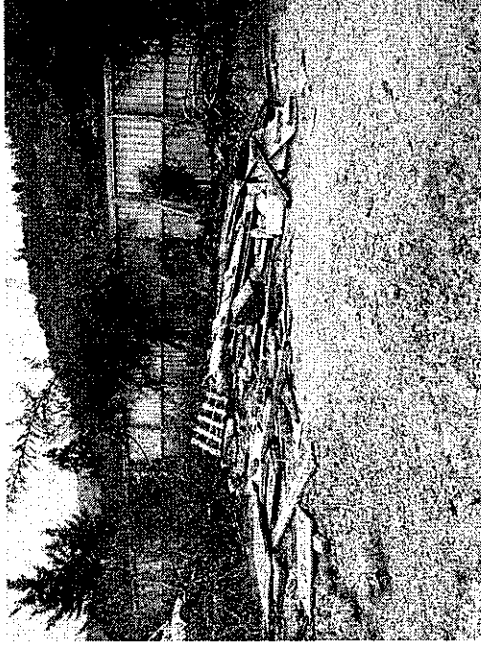


Photo 061115_002



Photo 061115_003

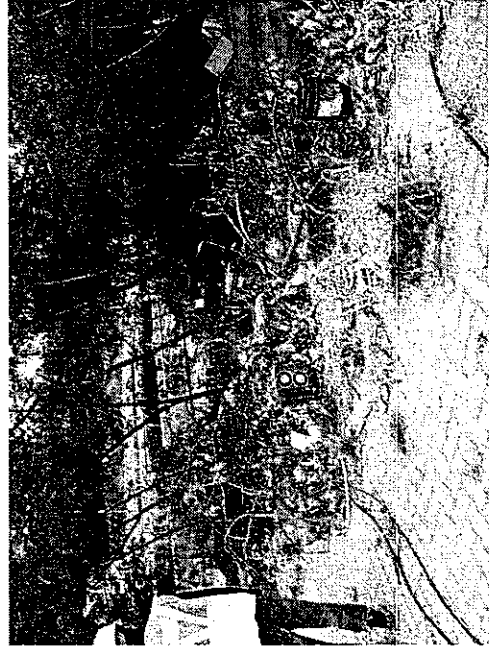


Photo 061115_004



Photo 061115_005



Photo 061115_006



Photo 061115_007



Photo 061115_008

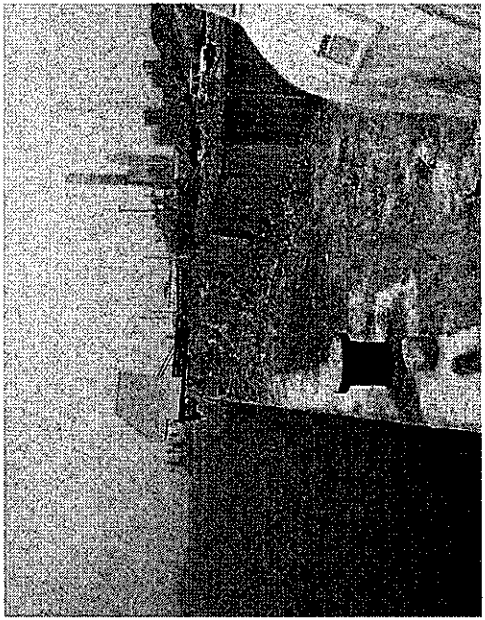


Photo 061115_009



Photo 061115_010

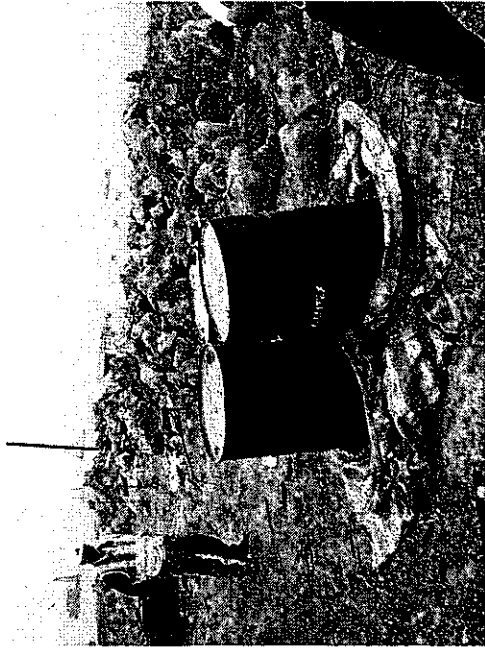


Photo 061115_011

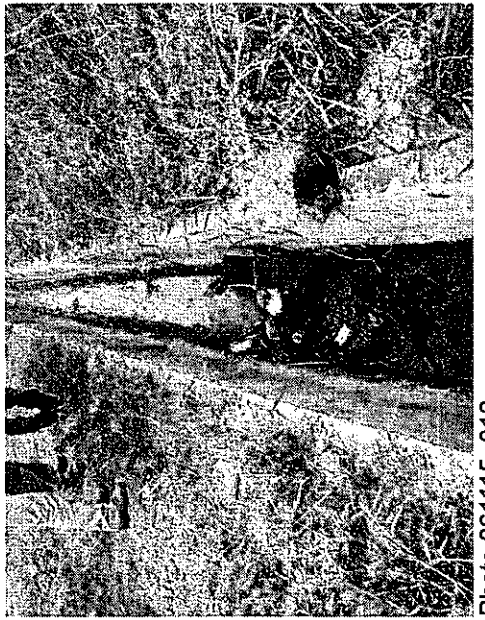


Photo 061115_012



CEDD Contract No.: CV2006/02
Project: Fill Bank at Tuen Mun Area 38

Inspection Date : 21 November 2006
Time : 10:45

Witnessed by: T.W Chang (CEDD),
Sunny Chan (Contractor)

Weather : Sunny/Fine/ Cloudy /Overcast/Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 22°C
Humidity : High / Moderate / Low

	Implementation Stages*			Remark
	Yes	No	N/A	
	Environmental Checklist			
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪ Water sprays shall be provided and used to dampen materials.	✓			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓			
▪ Unpaved areas should be watered regularly to avoid dust generation.	✓			
▪ The designated site main haul road shall be paved or regular watering.	✓			
▪ The public road around the site entrance should be kept clean and free from dust.	✓			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓			
▪ Vehicle and equipment should be switched off while not in use.	✓			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
▪ Open burning should be prohibited.	✓			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪ The constructions works should be scheduled to minimize noise nuisance.	✓			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪ Air compressors and hand held breakers should have noise labels.	✓			
▪ Compressors and generators should operate with door closed.	✓			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	✓			

Environmental Checklist		Implementation Stages*			Remark
		Yes	No	N/A	
Water Quality					
	▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.	√			
	▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	√			
	▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
	▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
	▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
	▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
	▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
	▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
	▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
	▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
	▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
	▪ The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.			√	
	▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.			√	
	▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.			√	
	▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.		√		Item 9
	▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
	▪ A waste collection vessel shall be deployed to remove floating debris.			√	
	▪ Landscape and Visual				
	▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD.			√	
	▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.			√	
	▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable.			√	
	▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level.			√	
	▪ Lighting shall be set to minimise night-time glare.			√	

Waste Management		
Construction Waste Management		
Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.		✓
Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.		✓
Mud and debris should be removed from waterworks access roads and associated drainage systems.		✓
Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.		✓
Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		✓
Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.		✓
In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.		✓
Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.		✓
Chemical Waste Management		
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.		✓
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.		✓
Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.		✓
Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.		✓
Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.		✓
The designated chemical waste storage area should only be used for storing chemical wastes.		✓
The set-up of chemical waste storage area should		✓
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.		✓
Be enclosed on at least 3 sides and securely closed.		✓
Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.		✓
Have adequate ventilation.		✓
Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).		✓
Be arranged so that incompatible materials are adequately separated.		✓
Warning panels should be displayed at the waste storage area.		✓
Waste storage area should be cleaned and maintained regularly.		✓
Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste.		✓

CEDD Contract No.: CV/2006/02
Project: Fill Bank at Tuen Mun Area 38

<ul style="list-style-type: none"> ▪ All generators, fuel and oil storage should be within bundle areas. 	✓			
<ul style="list-style-type: none"> ▪ Oil leakage from machinery, vehicle and plant should be prevented. 	✓			
<ul style="list-style-type: none"> ▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed. 	✓			
<ul style="list-style-type: none"> ▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place. 	✓			
<ul style="list-style-type: none"> ▪ Good Site Practices <ul style="list-style-type: none"> ○ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. ○ Training of site personnel in proper waste management and chemical handling procedures should be provided. ● Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment. ● Proper storage and site practices to minimise the potential for damage or contamination of construction materials. ● The Environmental Permit should be displaced conspicuously on site. ● Construction noise permits should be posted at site entrance or available for site inspection. ○ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. ○ Chemical storage area provided with lock and located on sealed areas. ○ All chemicals should be placed at the banded area with adequate band capacity (>110% of largest tank). ○ Any unused chemicals or those with remaining functional capacity should be recycled. ○ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors. ▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce. ▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods. ▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be banded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system. ▪ Remove wastes in a timely manner. 	✓	✓		

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Follow up action to previous item 1 on 15/11/06, Chemical oil tank was removed. No further action is required.	Photo 061121_001	No
2	Follow up action to previous item 2 on 15/11/06, idled Wooden waste was removed. No further action is necessary	Photo 061121_002	No
3	Follow up action to previous item 4 on 15/11/06, 20 L oil bucket and idle machines were removed. No further action is necessary	Photo 061121_003	No
4	Follow up action to previous item 5 on 15/11/06, trash container was being evacuated more frequently. No further action is necessary	Photo 061121_004	No
5	Follow up action to previous item 6 on 15/11/06, no waste oil and stagnant water was ponding on the ground. No further action is needed	Photo 061121_005	No
6	Follow up action to previous item 7 on 15/11/06, Oil container was discarded in rubbish skip at 'full checking area' instead of proper chemical waste station.	Photo 061121_006	Yes
7	An appropriate label was provided for chemical waste storage at TP1	Photo 061121_007	No
8	Follow up action to previous item 10 on 15/11/06, oversize stockpile area was removed	Photo 061121_008	No
9	Follow up action to previous item 8 on 15/11/06, dropping of sands and gravels was carry-on on hurdle at TP2 and TP3. Contractors should clean up asap and provide suitable mitigation measures to avoid drops of sand and gravels during barges loading and unloading.	Photo 061121_009	Yes
10	Follow up action to previous item 11 on 15/11/06, Rubbish and debris at the u-channel at 'WPB-3', was cleaned up	Photo 061121_010	No

Remark

Signature		Date
Inspected by	H. T. Chow	21 November 2006
Checked by	Louisa Fung	22 November 2006

Photos



Photo 061121_001

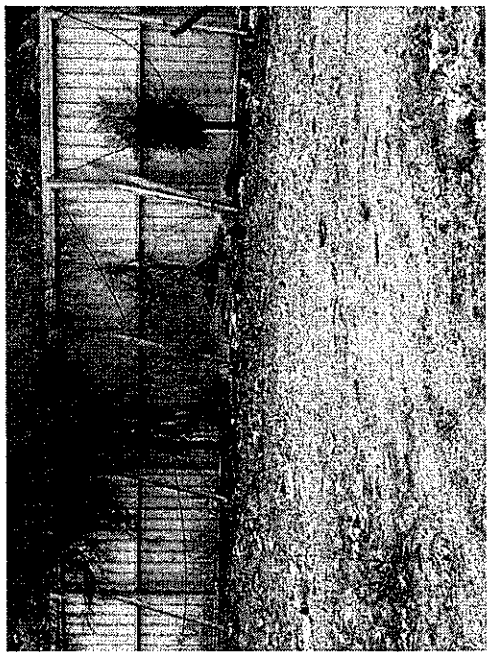


Photo 061121_002

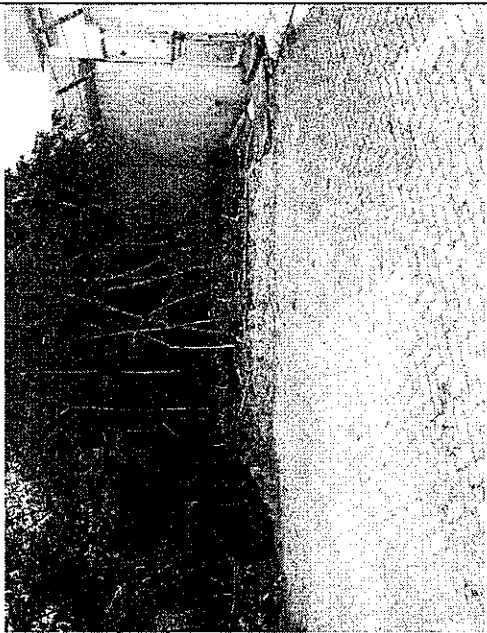


Photo 061121_003



Photo 061121_004



Photo 061121_005



Photo 061121_006

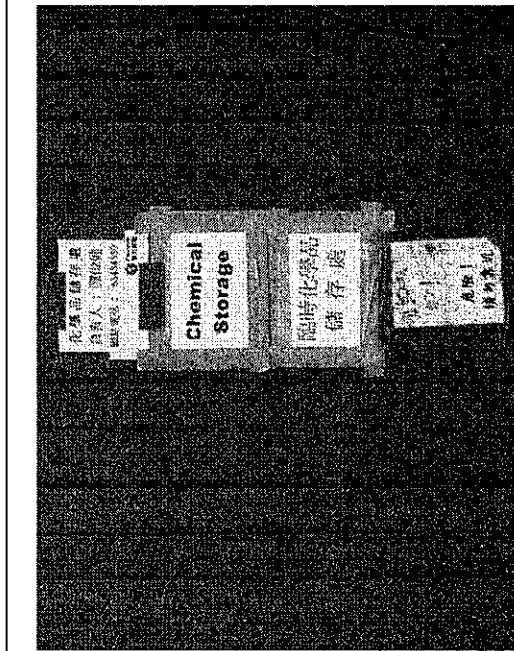


Photo 061121_007

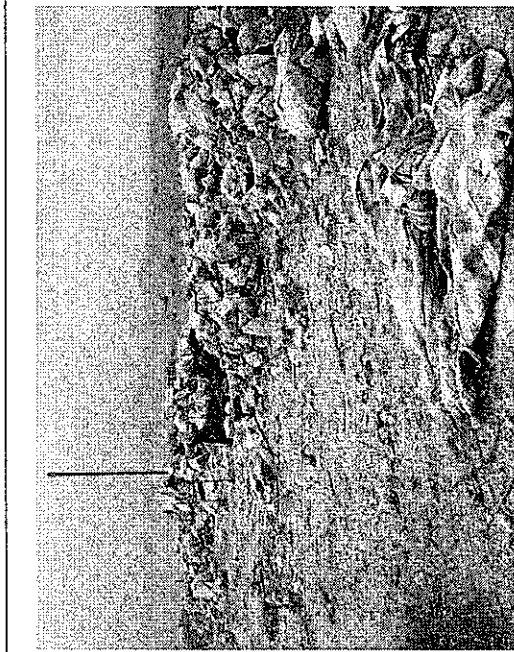


Photo 061121_008

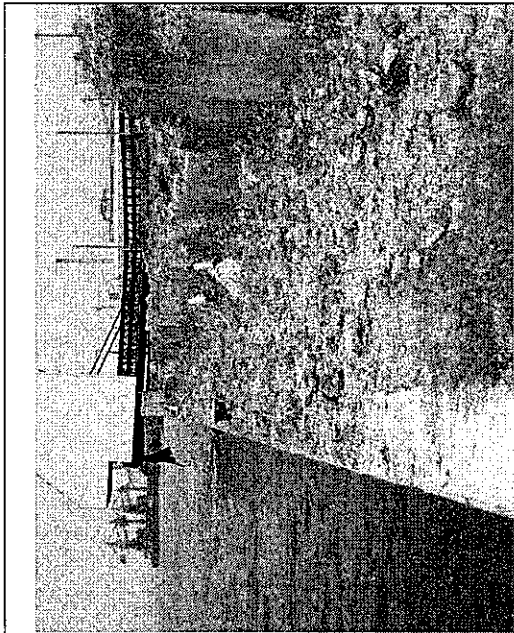


Photo 061121_009



Photo 061121_010

CEDD Contract No.: CV/2006/02
Project: Fill Bank at Tuen Mun Area 38

Inspection Date : 27 November 2006
Time : 11:00

Witnessed by: T.W. Chang (CEDD),
Sunny Chan (Contractor)

Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong

Temperature : 21°C
Humidity : High / Moderate / Low

Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Fugitive Dust Emission				
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪ Water sprays shall be provided and used to dampen materials.	✓			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	✓			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓			
▪ Unpaved areas should be watered regularly to avoid dust generation.	✓			
▪ The designated site main haul road shall be paved or regular watering.	✓			
▪ The public road around the site entrance should be kept clean and free from dust.	✓			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	✓			
▪ Vehicle and equipment should be switched off while not in use.	✓			
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
▪ Open burning should be prohibited.	✓			
Noise Impact				
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪ The constructions works should be scheduled to minimize noise nuisance.	✓			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪ Air compressors and hand held breakers should have noise labels.	✓			
▪ Compressors and generators should operate with door closed.	✓			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	✓			

Environmental Checklist		Implementation Stages*			Remark
		Yes	No	N/A	
Water Quality					
	▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained.	√			
	▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	√			
	▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√			
	▪ The material shall be properly covered to prevent washed away especially before rainstorm.	√			
	▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	√			
	▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
	▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√			
	▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√			
	▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√			
	▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided.	√			
	▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√			
	▪ The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.			√	
	▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.			√	
	▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.			√	
	▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.		√		Item 5
	▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√			
	▪ A waste collection vessel shall be deployed to remove floating debris.			√	
	▪ Landscape and Visual				
	▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD.			√	
	▪ Surface of outer slopes of the Fill Bank shall preferably be hydroseeded.			√	
	▪ Stockpile of public fill shall be removed in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable.			√	
	▪ Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level.			√	
	▪ Lighting shall be set to minimise night-time glare.			√	

Waste Management			
Construction Waste Management			
Relevant licence / permits for disposal of construction waste or excavated materials available for inspection.	✓		
Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal.	✓		
Mud and debris should be removed from waterworks access roads and associated drainage systems.		✓	
Provision of sufficient waste disposal points and regular collection for disposal. Appropriate measures should be employed to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.	✓		
Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.	✓		
Prior to disposal of C&D waste, recyclable materials should be salvaged for reuse (such as wood and metal) and inert waste utilised as public fill to minimise the quantity of waste to be disposed of to landfill.	✓		
In order to monitor the disposal of C&D material and solid wastes at public filling areas and landfills, and to control fly-tipping, a trip-ticket system should be included as one of the contractual requirements.	✓		
Any soil contaminated with chemicals/oils shall be removed from site and the void created shall be filled with suitable materials.	✓		
Chemical Waste Management			
It is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	✓		
After use, chemical wastes (e.g. cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	✓		
Spent chemicals should be stored and collected by an approved operator for disposal at the Chemical Waste Treatment Facility or other licensed facility in accordance with the Chemical Waste (General) Regulation.	✓		
Chemical wastes should be separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility.	✓		
Chemical wastes including waste oil should be stored properly in designated areas, e.g. chemical waste storage area.	✓		
The designated chemical waste storage area should only be used for storing chemical wastes.	✓		
The set-up of chemical waste storage area should	✓		
Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition.	✓		
Be enclosed on at least 3 sides and securely closed.	✓		
Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest.	✓		
Have adequate ventilation.	✓		
Be covered to prevent rainfall entering (water collected within the bund must be tested and disposal as chemical waste if necessary).	✓		
Be arranged so that incompatible materials are adequately separated.	✓		
Warning panels should be displayed at the waste storage area.	✓		
Waste storage area should be cleaned and maintained regularly.	✓		
Chemical waste should be transported by a registered chemical waste collector to a facility licensed to receive chemical waste.	✓		

<ul style="list-style-type: none"> ▪ All generators, fuel and oil storage should be within bundle areas. 	✓		
<ul style="list-style-type: none"> ▪ Oil leakage from machinery, vehicle and plant should be prevented. 	✓		
<ul style="list-style-type: none"> ▪ In the event of chemical waste / dangerous goods / chemicals spillage or leakage, the procedures as outlined in the Spillage Response Plan should be followed. 	✓		
<ul style="list-style-type: none"> ▪ The dangerous goods / chemical spillage or leakage procedures (including equipments) should be in place. 	✓		
<ul style="list-style-type: none"> ▪ Good Site Practices <ul style="list-style-type: none"> ○ Nomination of approved personnel, such as site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. ○ Training of site personnel in proper waste management and chemical handling procedures should be provided. • Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment. • Proper storage and site practices to minimise the potential for damage or contamination of construction materials. • The Environmental Permit should be displaced conspicuously on site. • Construction noise permits should be posted at site entrance or available for site inspection. ○ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. ○ Chemical storage area provided with lock and located on sealed areas. ○ All chemicals should be placed at the banded area with adequate band capacity (> 110% of largest tank). ○ Any unused chemicals or those with remaining functional capacity should be recycled. ○ Regular cleaning and maintenance programme for waste storage area, drainage systems, silt traps, sumps and oil interceptors. ▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce. ▪ A recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be used, e.g. trip ticket system for chemical waste disposal. Quantities could be determined by weighing each load or other suitable methods. ▪ A collection area should be provided where waste can be stored and loaded prior to removal from site. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material. If an open area is unavoidable for the storage or loading/unloading of wastes, then the area should be banded and all the polluted surface run-off collected within this area should be diverted into wastewater treatment system. ▪ Remove wastes in a timely manner. 	✓	✓	Item 1
		✓	Item 1

Summary of the Weekly Site Inspection:





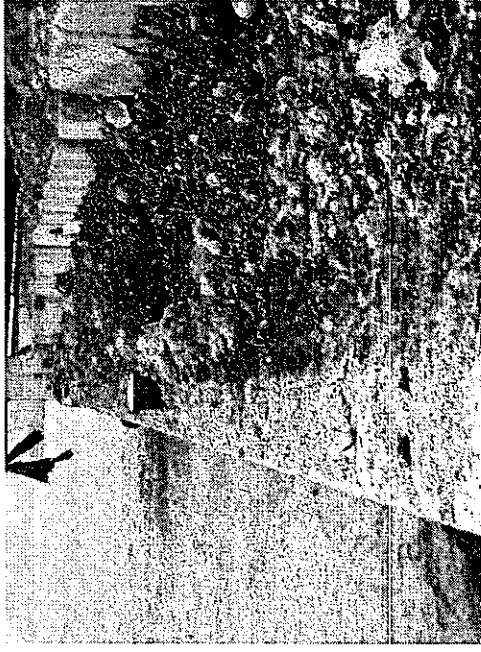
Item	Details of defective works or observations	Photo Ref.	Further Action Required (Yes/No)
1	Rubbish collection point should cover with suitable lit or tarpaulin sheet to reduce flies and water trap.	Photo 061127_001	Yes
2	Follow up action to previous item 6 on 21 November 2006, item 7 on 15/11/06, Oil container was discarded in rubbish skip at 'full checking area' instead of proper chemical waste station.	Photo 061127_002	Yes
3	Rain water ponded nearby "WPB2". Contractor was advised to drain stagnant water away via proper sept tank before direct discharge and fill up unused channel to avoid water reservoir under rainy days.	Photo 061127_003 Photo 061127_004	Yes
4	Follow up action to previous item 9 on 21 November 2006 and item 8 on 15/11/06, dropping of sands and gravels was carry-on on hurdle at TP2 and TP3. Contractors should clean up asap and provide suitable mitigation measures to avoid drops of sand and gravels during barges loading and unloading.	Photo 061127_005	Yes

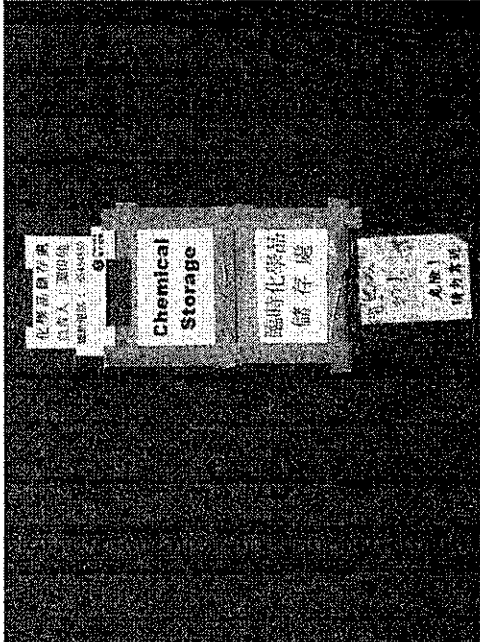
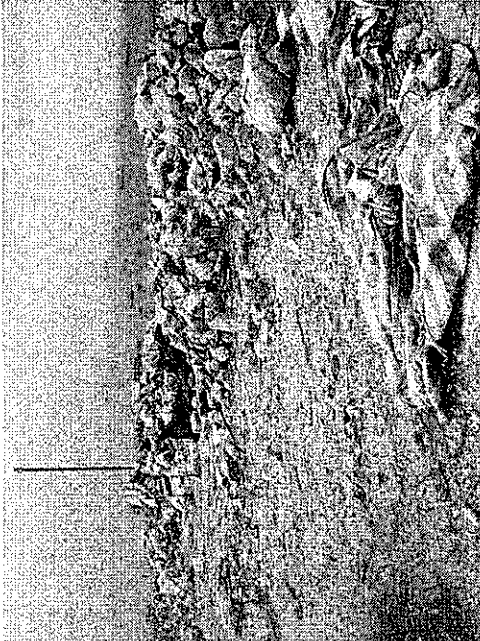


Remark

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Name	Signature	Date
Inspected by H. T. Chow		27 November 2006
Checked by Louisa Fung		28 November 2006

Photos

 <p>Photo 061127_001</p>	 <p>Photo 061127_002</p>	 <p>Photo 061127_003</p>
 <p>Photo 061127_004</p>	 <p>Photo 061127_005</p>	

 <p>Photo 061121_007</p>	 <p>Photo 061121_008</p>	 <p>Photo 061121_009</p>
 <p>Photo 061121_010</p>		



Appendix H

Implementation Schedule of Mitigation Measures

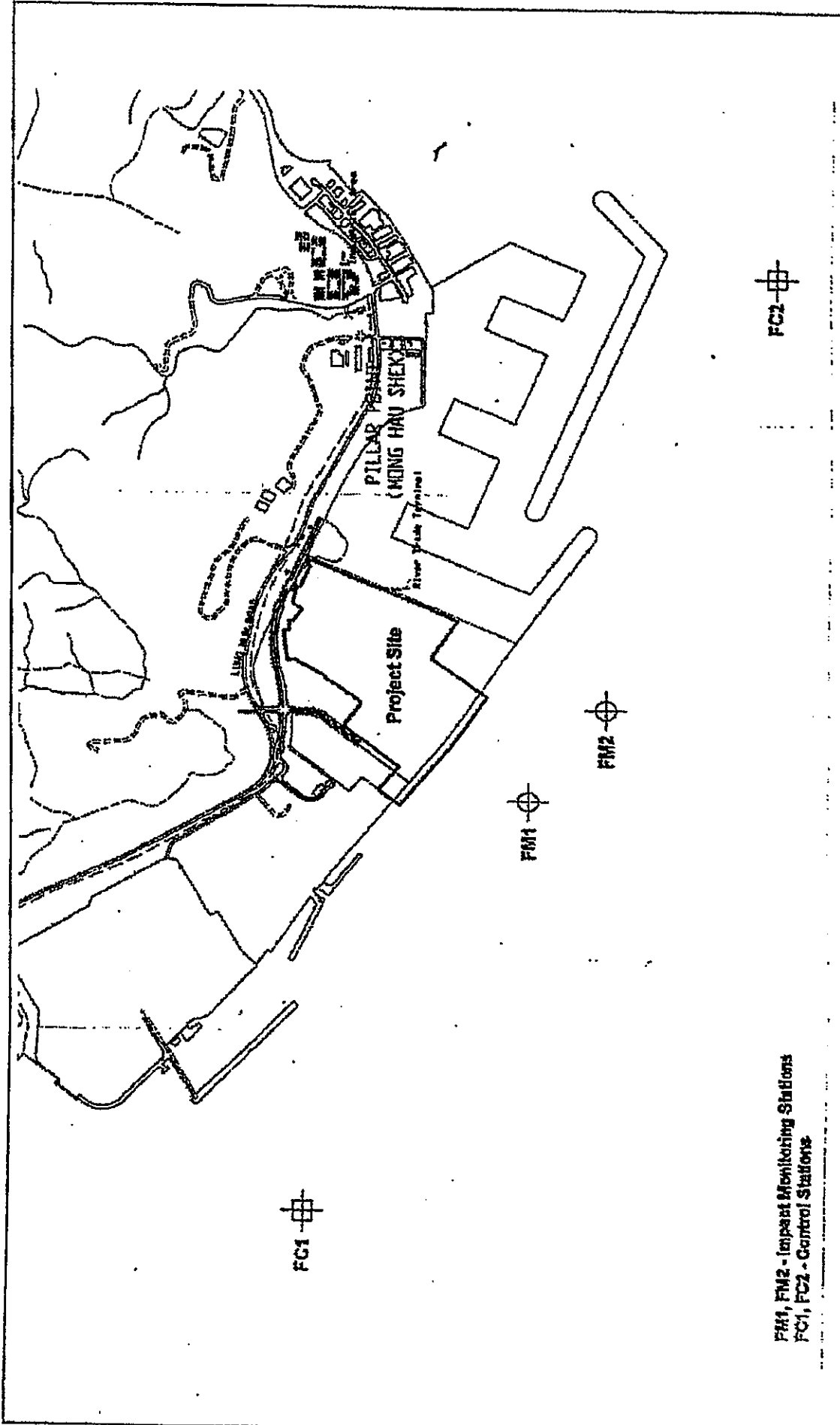
Environmental Mitigation Implementation Schedule

	Location	Implementation Status			
		Implemented	Partially implemented	Not implemented	Not Applicable
Environmental Protection Measures					
Air Quality					
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	All areas	√			
▪ Water sprays shall be provided and used to dampen materials.	All areas	√			
▪ All stockpile of aggregate or spoil should be enclosed or covered and water applied in dry or windy condition.	All areas	√			
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	All areas	√			
▪ Unpaved areas should be watered regularly to avoid dust generation.	Site Egress	√			
▪ The designated site main haul road shall be paved or regular watering.	All haul roads	√			
▪ The public road around the site entrance should be kept clean and free from dust.	All areas	√			
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	Site Egress	√			
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	Site Egress	√			
▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water.	All areas	√			
▪ Vehicle and equipment should be switched off while not in use.	All areas	√			√
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	All areas	√			
▪ Open burning should be prohibited.	All areas	√			
Noise Impact					
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	All areas	√			
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	All areas	√			
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	All areas	√			
▪ Air compressors and hand held breakers should have noise labels.	All areas	√			
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	All areas	√			
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	All areas	√			

	Location	Implementation Status		
		Implemented	Partially implemented	Not implemented
Water Quality				
<ul style="list-style-type: none"> ▪ The existing / realigned intercepting channels and the sand / silt removal facilities shall be used and maintained. ▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels. ▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge. ▪ The material shall be properly covered to prevent washed away especially before rainstorm. ▪ The temporary slope surfaces shall be covered with impermeable sheet or sprayed with water. ▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. ▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains. ▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. ▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. ▪ The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities. ▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer. ▪ A waste collection vessel shall be deployed to remove floating debris. 				
Landscape and Visual				
<ul style="list-style-type: none"> • The maximum stockpiling height at the fill bank shall be limited to a maximum of +40mPD. • Surface of outer slopes of the Fill Bank shall preferably be hydroseeded. • Stockpile of public fill shall be removed in a sequence to allow the outer hydroseeded to be removed later than other portions as far as practicable. • Casuarina equisetifolia were planted as buffer tree along the northern perimeter of the Site. The height of Casuarina equisetifolia was maintained at least 3m above soil level. • Lighting shall be set to minimise night-time glare. 				
Waste Management				
Construction Waste Management				
<ul style="list-style-type: none"> ▪ Relevant licence / permits for disposal of construction waste or excavated materials available for inspection. ▪ Excavated material to be generated from construction works to be re-used on-site as far as practicable to reduce off-site disposal. ▪ Mud and debris should be removed from waterworks access roads and associated drainage systems. 				



Appendix I
Site General Layout plan



FM1, FM2 - Impact Monitoring Stations
 FC1, FC2 - Control Stations

CEDD Contract No. CV/2006/02 Operation of Public Fill Reception Facilities
 at Tuen Mun Area 38, Tseung Kwan O Area 137, Quarry Bay and Mui Wo

Figure 3 Water Quality Monitoring Stations - Tuen Mun Area 38

Scale : ---

Revised Date :
 September
 2006


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Appendix J

QA/QC Results of Laboratory Analysis



QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample Analysis	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
02/11/06	93.1	FC1-S	0.0	FM2-M	98.2
	100.9	FM2-B	0.0	EM1-S	104.9
	104.0	EM1-M	0.0	EC2-B	101.7
04/11/06	100.4	FC1-S	0.0	FM2-M	93.1
	104.1	FM2-B	0.0	EM1-S	101.9
	106.7	EM1-M	0.0	EC2-B	107.1
07/11/06	101.5	FC1-S	0.0	FM2-M	105.3
	100.8	FM2-B	0.0	EM1-S	93.8
	107.7	EM1-M	0.0	EC2-B	109.4
09/11/06	104.2	FC1-S	0.0	FM2-M	98.1
	105.7	FM2-B	0.0	EM1-S	108.5
	105.5	EM1-M	0.0	EC2-B	110.6
11/11/06	100.6	FC1-S	0.0	FM2-M	96.4
	107.5	FM2-B	0.0	EM1-S	101.5
	92.9	EM1-M	0.0	EC2-B	96.8
14/11/06	102.5	FC1-S	0.0	FM2-M	105.9
	99.4	FM2-B	0.0	EM1-S	110.8
	102.9	EM1-M	0.0	EC2-B	108.6
16/11/06	102.9	FC1-S	0.0	FM2-M	94.3
	102.6	FM2-B	0.0	EM1-S	102.9
	96.5	EM1-M	0.0	EC2-B	96.6
18/11/06	104.3	FC1-S	0.0	FM2-M	107.7
	101.2	FM2-B	0.0	EM1-S	107.9
	94.7	EM1-M	0.0	EC2-B	105.9
21/11/06	97.0	FC1-S	0.0	FM2-M	100.0
	103.8	FM2-B	0.0	EM1-S	103.0
	102.1	EM1-M	0.0	EC2-B	105.9
23/11/06	95.5	FC1-S	0.0	FM2-M	93.1
	106.5	FM2-B	0.0	EM1-S	103.4
	104.8	EM1-M	0.0	EC2-B	107.1

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



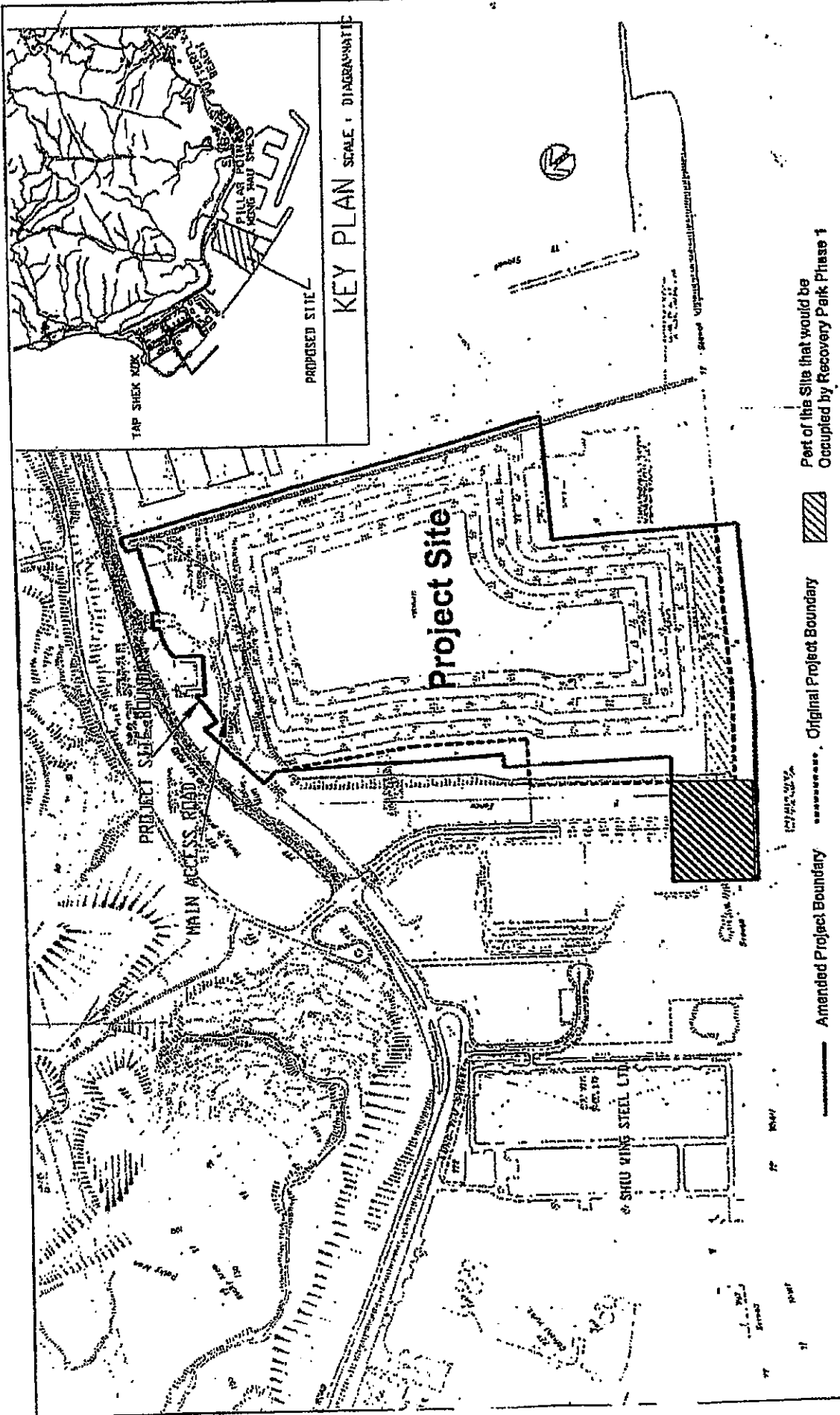
QA/QC Results of Laboratory Analysis of Total Suspended Solids

25/11/06	92.8	FC1-S	0.0	FM2-M	104.5
	98.5	FM2-B	0.0	EM1-S	109.1
	104	EM1-M	0.0	EC2-B	110.7
28/11/06	96.4	FC1-S	0.0	FM2-M	94.1
	94.9	FM2-B	0.0	EM1-S	103.2
	99.6	EM1-M	0.0	EC2-B	94.9
30/11/06	93.3	FC1-S	0.0	FM2-M	95.2
	105.8	FM2-B	0.0	EM1-S	103.2
	105.2	EM1-M	0.0	EC2-B	105.3

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



Figures



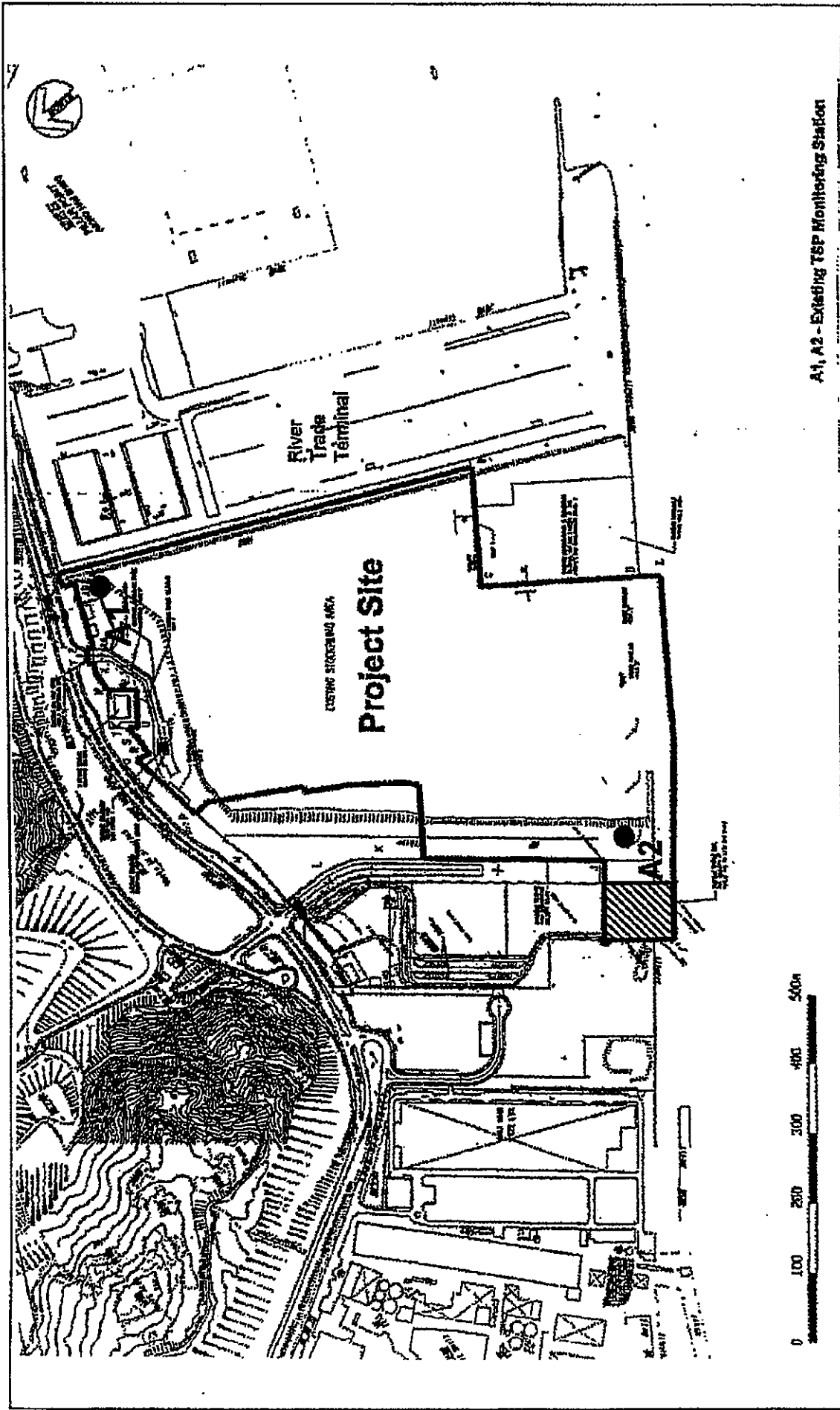
CEDD Contract No. CV/2006/02 Operation of Public Fill Reception Facilities at Tuen Mun Area 38, Tseung Kwan O Area 137, Quarry Bay and Mui Wo

Figure 1 Site Layout Plan - Tuen Mun Area 38

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A1, A2 - Existing TSP Monitoring Station

CEDD Contract No. CV/2006/02 Operation of Public Fill Reception Facilities at Tuen Mun Area 38, Tseung Kwan O Area 137, Quarry Bay and Mui Wo

Figure 2 Air Quality Monitoring Stations - Tuen Mun Area 38

Scale : ---

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