

**Central Reclamation, Phase III
Environmental Monitoring & Audit
Monthly Report No. 41 – December 2006**



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ACL	Atkins China Limited
AL	Action Level
CEDD	Civil Engineering and Development Department
CRIII	Central Reclamation Phase III
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
EIAO	Environmental Impact Assessment Ordinance
EM&A	Environmental Monitoring and Audit
EPD	Environmental Protection Department
ER	Engineer's Representatives
ET	Environmental Team
IEC	Independent Environmental Checker
LCSD	Leisure and Cultural Services Department
LCSVO-JV	Leighton China State Van Oord Joint Venture
LL	Limit Level
TDD	Territory Development Department
TSP	Total Suspended Particulates
SS	Suspended Solids
WMP	Waste Management Plan

Not Used

EXECUTIVE SUMMARY

The Central Reclamation Phase III (CRIII) Works, Contract No. HK 12/02, was awarded to Leighton China State Van Oord Joint Venture (LCSVO-JV) by the Civil Engineering and Development Department (CEDD). (Previously called the Territory Development Department before merger with the Civil Engineering Department on 1 July 2004.)

The works under the Contract HK 12/02 commenced on 28 February 2003. Contract HK 16/03 for the CRIII Hinterland Drainage Improvement Works was awarded to Wang Kee Construction Co. Ltd., and works for this contract commenced on 17 December 2003.

Atkins China Limited (ACL) has been commissioned by CEDD as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme described in the approved EM&A Manual for the CRIII Project.

This is the 41st Monthly EM&A Report for the works specified in Section 1.3 of the CRIII EIA Report. This report summarises the findings and results of the EM&A during the reporting month in December 2006.

Environmental Monitoring and Audit Progress

The monthly EM&A programme has been undertaken in accordance with the approved EM&A Manual. A summary of the monitoring activities performed in this reporting month is listed below:

- Continuous 24-hour noise monitoring has been conducted throughout the monitoring period.
- TSP monitoring was carried out on 1, 7, 13, 19, 22 and 28 December 2006 for a 24-hour period and 4, 8, 14, 18, 19, 21, 22 and 27 December 2006 for 1-hour period.
- Water quality monitoring was conducted on the following days:
 - 1-December-06
 - 4-December-06
 - 6-December-06
 - 8-December-06
 - 11-December-06
 - 13-December-06
 - 15-December-06
 - 18-December-06
 - 20-December-06
 - 22-December-06
 - 25-December-06
 - 27-December-06
 - 29-December-06

Executive Summary

Exceedance of Action and Limit Levels

No exceedance in TSP level was recorded at the monitoring station during the sampling period.

1 exceedance in noise impact was recorded at the City Hall monitoring station during the nighttimes (19:00 ~07:00) of 15 December 2006, which may related to the project work.

Exceedances in marine water quality have been recorded at various Marine Impact Stations and Sea Water Intake Stations listed below:

Date	Tide	Parameter	Exceedance	Station
01-Dec-06	Mid-Ebb	DO	AL	M3, M4A, M5, M6, M11 and M12
	Mid-Flood	DO	AL	M1A, M2A, M4A, M5, M6 and M12
04-Dec-06	Mid-Ebb	DO	AL	M5
	Mid-Flood	DO	AL	M5
06-Dec-06	Mid-Flood	DO	AL	M5
08-Dec-06	Mid-Ebb	DO	AL	M3 and M5
	Mid-Flood	DO	AL	M5, M6 and M12
11-Dec-06	Mid-Ebb	DO	AL	M5, M8(B) and M10(B)
	Mid-Flood	DO	AL	M1A, M2A, M5, M6, M8(B), M10(B) and M11
13-Dec-06	Mid-Ebb	DO	AL	M1A, M2A, M3, M4A, M5, M6, M8(B), M10(B) and M12
	Mid-Flood	DO	AL	M1A, M2A, M3, M4A, M5, M6, M8(B), M10(B), M11 and M12
15-Dec-06	Mid-Ebb	DO	AL	M1A, M3, M4A, M5, M6, M11 and M12
	Mid-Flood	DO	AL	M1A, M2A, M3, M4A, M5, M6, M11 and M12
18-Dec-06	Mid-Ebb	DO	AL	M5
		DO	AL	M5
	Mid-Flood	SS	AL	M4A
19-Dec-06	Mid-Flood	SS	AL	M4A
20-Dec-06	Mid-Ebb	SS	AL	M4A
	Mid-Flood	SS	AL	M4A
22-Dec-06	Mid-Flood	SS	AL	M4A
		SS	LL	M3
23-Dec-06	Mid-Ebb	SS	AL	M4A
25-Dec-06	Mid-Ebb	DO	AL	M1A, M3, M4A, M5, M6, M11 and M12
	Mid-Flood	DO	AL	M2A, M3, M4A, M6 and M12
		SS	AL	M4A
27-Dec-06	Mid-Flood	DO	AL	M4A
29-Dec-06	Mid-Flood	DO	AL	M6

Complaint Log

There were no complaints received in relation to the environment impact during the reporting period.

Notifications of Summons and Prosecutions

There were no notifications of summons or prosecutions received in relation to the environmental impact during the reporting period.

Site Inspection and Audit

Environmental site inspections for the CRIII project works area were undertaken on 7, 15, 21 and 28 December 2006.

Key Works for the Coming Month

Future key works in the coming month (January 2007) are as follows:

- Dredging in FRAW
- Site Investigation in FRAW
- Demolition of the former Star Ferry Piers and Queens Pier;
- Remedial and outstanding works at and around Piers 7 & 8 and the CTB;
- Finishing works at Public Pier West;
- Final connection and the Testing and Commissioning and the trial run of Pump Stations P9.1;
- MYS Footbridge –roof construction;
- General filling works above +2.5 mPD in IRAE;
- Construction of storm and foul drainage in hinterlands for Road P2, Road D7 and Road D8;
- Remedial works to, and the extension of, Culvert F in existing land;
- Structural works for Culvert J extension in IRAE;
- Excavation for PLA cooling water intake in IRAE;
- Temporary works for Road P2 Underpass and;
- Finishing works to the piling at Eastern Seawall;

Not Used

1. INTRODUCTION

1.1 Basic Project Information

Civil Engineering and Development Department (CEDD) is the Project Proponent of the Central Reclamation Phase III Project (CRIII).

The Main Works Contract HK 12/02 for CRIII commenced on 28th February 2003 and was awarded to Leighton-China State-Van Oord Joint Venture (LCSVO-JV) for the construction of the CRIII Engineering Works. Contract HK 16/03 for the CRIII Hinterland Drainage Improvement Works was awarded to Wang Kee Construction Co. Ltd. and works for this contract commenced on 17 December 2003.

Atkins China Limited (ACL) has been commissioned by CEDD as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme described in the approved EM&A Manual and required under Clause 4 of the Further Environmental Permit (No. FEP-01/122/2003) issued to Leighton-China State-Van Oord Joint Venture in May 2005 for the CRIII Project. The CRIII Project Organisation is shown in **Annex A**.

This is the 41st Monthly EM&A Report for the works specified in Section 1.3 of the CRIII EIA Report. This report summarises the findings and results of the EM&A during the reporting period in December 2006.

Not Used

2. ENVIRONMENTAL STATUS

2.1 Works Undertaken

Details of main works in progress are as follows –

Pier 7 – The pier was opened to the Public and ferry services commenced on 12 November 2006, however the Public Viewing Deck and Roof Viewing Deck including the Link Bridge roof remain closed. Some minor outstanding/additional and remedial works items are still ongoing, and the Contractor continues to follow up any new problems and defects identified by Star Ferry Co. Ltd. during these first few weeks of operation.

Pier 8 – The pier was also opened to the Public and ferry services commenced on 12 November 2006, however the Public Viewing Deck, Roof Viewing Deck and Link Bridge roof as well as the Restaurant Area (Upper Deck east side) remain closed. Some minor outstanding/additional and remedial works are still ongoing.

Public Pier West – Damaged/defective glazing panels to the roof were replaced, application of joint sealant has been completed and water testing was successfully carried out on 13 December 2006. As the cathodic protection system is still under commissioning/testing, a separate handover meeting with Port Works will be held shortly. Some remedial works to concrete finishes at landing steps are still ongoing.

Central Terminal Building (CTB) – The CTB together with the ground level paved areas and planters were fully opened to the Public on 12 November 2006 when ferry services commenced at Piers 7 & 8. Some minor outstanding and remedial works are still ongoing.

Man Yiu Street Footbridge – All bridge trusses have been fabricated, delivered to Hong Kong and placed except for Span 2A which is directly above Culvert F Bay 1 where piling is yet to be carried out. Deck concreting for Spans 3 – 10 has been completed, false/ceiling/roofing is in progress and parapet and tiling works will commence shortly.

GPO Walkway Demolition – The initial phase of demolition has been completed and monitoring of the existing boundary wall will continue during the adjacent piling works for Culvert F.

Existing Culvert F – Bulkheads were installed in Cell 1 and desilting as well as Topographic and Condition Surveys have been carried out. A few leaking joints have also been repaired. The bulkheads are scheduled to be relocated to Cell 2 on 2 January 2007.

Culvert F Extension (on existing land) – 20 no. of pre-bored H-piles have been completed to date within Portion CR-4 of the Site, with no further work carried out this month. ACL carried out a review on the feasibility of deleting piles at Bay 1 and wrote to CEDD on 1 December 2006.

Environmental Status

Culvert J Extension (in IRAE) – All piling works including testing have been completed. Bays 3, 4 & 5 structures have been completed. Excavation of the cofferdam for Bay 2 has been completed and the pile caps have been cast. Pre-boring for installation of sheet piles for Bays 1, 6 & 7 at existing and new seawall mounds is nearing completion and installation of sheet piles at Bay 1 is in progress.

Drainage Works – The construction of a 300mm dia. foul sewer across Lung Wui Road (in front of PLA Barracks) as well as the storm interceptor in Tim Wa Ave (Road D8) and a length of 1200 dia. storm drain along Road P2 (also opposite PLA Barracks) continue. Road drainage works in Lung Wui Road in front of Citic Tower have just commenced.

Water Mains – Laying of the permanent pipework that will serve the pump houses in IRAE has commenced.

Roadworks – following the opening of Piers 7 & 8 on 12 November 2006 and the imminent opening of PPW, CEDD and TD are considering opening the dropping-off facility on the south side of the CTB as soon as possible, and a draft VO is currently under preparation for the installation of a temporary traffic-light controlled pedestrian crossing (until MYFB is opened) to facilitate this.

Demolition of Star Ferry Piers – Removal of the bells and clock faces by Star Ferry commenced by the evening on 11 December 2006 and the whole process was complete on 13 December 2006 with collection of the respective dismantled components by Star Ferry and LCSD accordingly. The clock tower had to be removed on 15 December 2006 and the Contractor employed saw cutting and heavy lifting method to remove the tower. Actual removal works were completed in two stages by noon on 16 December 2006. Stage 1 cover walkway was demolished on 1 December 2006 and all hoarding was complete on 4 December 2006. Scaffolds were completed on 13 December 2006. Breaking of the west and east piers commenced on 13 December 2006 and 18 December 2006 respectively. Breaking for the pier main building started on 20 December 2006 using an additional breaker and a crusher.

IRAW – Placing of general fill above +2.5mPD is mostly complete (up to required final finishing level). A handover inspection of the seawall CH95-CH155 with CEDD/Port Works was held on 9 October 2006. No other significant activities occurred in IRAW in December 2006.

IRAE – Sand filling and vibro-compaction are complete as is part of the seawall for which a pre-handover inspection between CH605 to CH765 with CEDD/Port/Works was held on 27 December 2006. Piling work for Road P2 Underpass has been completed and the detailed works design for the subsequent excavation is under preparation although JV advised that they have deferred the excavation of the underpass. Removal of the concrete apron of the former heliport, above the proposed underpass, is however proceeding.

P8.1 and P11.2 have been handed over to HSBC and MTRC respectively. The trial run for P11.1 was completed on 26 November 2006 and the pumping station was handed over to Swire on 7 December 2006. Works at Pumping Station P9.1 and the

cooling water main in IRAE are complete and the laying of the permanent water supply, to replace the temporary system, to all pump houses is underway.

Also concerning progress in IRAE in December 2006, laying of the remaining length of the southern PLA intake pipe was completed and construction of the manhole at the proposed connection point to the existing intake pipe (Manhole 2) was significantly advanced. However, no further progress was made with the construction of the northern outfall section for the permanent PLA intake, which is to be carried out in parallel with the construction of Culvert J for which pre-boring through rock mounds at Bays 1, 6 and 7 continued to permit cofferdam construction at these bays.

FRAE – Bored piling for the eastern seawall foundation was completed. Placing of the steel plate between the piles was also completed.

FRAW – Daytime dredging commenced on 13 November 2006 after relocation of the Piers. Dredging for the seawall area, demarcated as Area 1, on 24-hour basis commenced on 18 December 2006. Dredging of un-contaminated mud at Area 1 was mostly completed and grab samples at the required dredged level were collected for sand content test to confirm the finished dredged level. Rockfilling for the seawall trench in Area 1 and dredging of contaminated mud at Area 3 (just south of the seawall trench) were in progress.

Piling for Public Pier East (PPE) will commence in January 2007 and, due to the potential delay on the relocation of the Queen's Pier.

Pre-cast Works – At the pre-cast yard in Panyu, PRC, concreting for the last section of the pre-cast Culvert J outfall unit has stopped, awaiting details of the Omega joint. Casting of seawall blocks is also in progress at the Zhongshan pre-cast yard.

Road P2 Underpass – The concreting of all the bored piles (36 no.) including sonic testing and interface coring, for Road P2 underpass is complete. The Contractor is revising his works programme with consideration to the storage space currently available and with a view to deferring the commencement of excavation, perhaps until the diaphragm wall for the CWB is constructed.

Cooling Water Main to P5.1 for Hongkong Land – With the exception of the section of cooling mains to be laid after the reclamation of FRAW, all the permanent and interim Hongkong Land cooling water main laying is complete, inclusive of the replacement main along Man Yiu Street. The pumping station was handed over to HK Land on 14 August 2006. Based on the recently revised logic of Programme DW09, the remaining section of cooling water main, that is to replace the interim main, is currently scheduled for completion in September 2008. The abandoned pumping stations were handed over to the Contractor for demolition on 14 November 2006.

Cooling Water Mains to P8.1 for HSBC – With the exception of the sections of cooling mains and discharge pipeworks, that are to be laid after the reclamation of FRAW, all the permanent and interim HSBC pipeline installations are completed and tested. Pipeline AD was handed over to HSBC on 21 July 2006. Pipeline AC was handed over to HSBC on 20 November 2006. Based on the recently revised logic of Programme DW09, the remaining sections of cooling water mains (that are to

Environmental Status

replace the interim mains) and discharge pipework are currently scheduled for completion in November 2007 and December 2008 respectively.

Cooling Water Mains to P9.1 (Centralised Government Mains) – all pipework is complete and the pipelines are successfully pressure tested.

In **Lung Wui Road East**, the connection works for the Police Headquarters twin cooling water supply pipelines were completed on 2 December 2006 but minor leakage was observed in one of the steel couplings for the mains. The defective gasket was replaced and the two pipelines were re-tested on 11 December 2006 and 14 December 2006.

Although the full trial run of Pumping Station P9.1 could have commenced on 16 December 2006, it has been deferred until the risks of the pipe-bursting incident, as occurred with the existing pipe to the City Hall during the second T&C of the high-pressure mains on 21 October 2006, are negated. A pressure logging exercise commenced on 23 December 2006.

Cooling Main to P11.1 (Swire Mains) - The trial run was completed on 26 November 2006 and the re-provisioned cooling water pumping system was officially handed over to Swire on 7 December 2006.

Cooling Main to P12.1 (Admiralty/ MTRC Cooling Main) – MTRC Cooling system was completed and handed over to MTRC on 5 October 2006.

ESB Construction – All ESB's have been completed and all, except ESB S9.1, have been handed over to their respective operators. The Contractor is proceeding with the completion of the outstanding and remedial works at the ESBs.

Permanent Sea Water Intake System for PLA – Progress on the southern section continued throughout December 2006. At Manhole MH2, the blinding was concreted on 7 December 2006 and construction of the base slab is at an advanced stage. Pipes laying between Manhole MH2 and Manhole MH4 was completed on 15 December 2006. Due to delays in the construction of the cofferdam, the earliest estimated date the PLA Intake could be completed is late April 2006.

2.2 Environmental Permits

A summary of status of all environmental permits, licenses, and/or notifications to EPD for this project during the reporting period is presented in **Table 2.1**.

Table 2.1 - Summary of the Environmental License / Permit Status

Item	Item Description	Date of Application	Permit Status
1	Application of CNP -- Dredging and filling at FRAW (Areas 1 & 3) (GW-RS0763-06)	1 December 06	15 December 06
2	Application of CNP -- Desilting of Culvert F at Culvert F & CR-4 (GW-RS0779-06)	7 December 06	21 December 06
3	Application of CNP -- Percussive Piling at Public Pier East (PPE)	8 December 06	22 December 06
4	Application of CNP -- -- Construction work at Star Ferry Piers Near City Hall, Central, Hong Kong. (GW-RS0816-06)	15 December 06	15 December 06

2.3 Environmental Documents Submissions

A summary of the status of the submissions provided to the ER during the reporting month is presented in **Table 2.2**.

Table 2.2 - Summary of the Contractor's Environmental Related Document Submissions to the Engineer's Representatives (ER)

Item	Document Title	Version	Date of Submission to ER
1	Request for change in Action and Limit Levels for Seawater Intake M4A	-	5 December 06
2	Dredging and Filling at FRAW	-	19 December 06

A summary of Environmental Certification Sheet submissions during the reporting month is presented in **Table 2.3**.

Table 2.3 - Summary of Environmental Certification Sheet Submissions

No	Certification Subject	Letter Ref.	Date of Submission	Approved Status
1	Certification and Verification for Change of FEP Condition 3.2(a) – Advanced FRAW Dredging & Filling – Area 3 Daytime Dredging and Filling Operations	3128/M45/200/OC8820/JV/SB/ec	6 Dec 2006	Issued on 4 Dec 2006
2	Certification of Monthly Environmental Monitoring & Audit Report No. 40 November 2006	3128/M45/200/OC8814/SB/RL/KC/ec	14 Dec 2006	Issued on 14 Dec 2006
3	Certification and Verification for Change of FEP Condition 3.2(a) – Advanced FRAW Dredging & Filling at Area 1, 2, 3, 4a & 4b	3128/M45/200/OC8852/JV/SB/RL/ec	3 Jan 2007	Issued on 27 Dec 2006

Environmental Status

2.4 Environmental Meetings

Nil.

2.5 Environmental Monitoring Locations

The current environmental monitoring locations are shown in **Annex C**.

3. EM&A REQUIREMENTS

3.1 Summary of Impact EM&A Requirements

The EM&A programme requires environmental monitoring for air quality, noise, water quality, waste management, landscape and visual aspects as specified in the CRIII Project EIA. The EM&A requirements for each issue area are described in subsequent sections including:

- All required monitoring parameters;
- Action and Limit Levels; and
- Event/ Action Plans.

A summary of impact EM&A requirements is presented in **Table 3.1**.

Table 3.1 - Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies	Duration
TSP	24-Hour TSP	2 Locations	Once every 6 days	During dust generating construction works
	1-Hour TSP	2 Locations	Three times in every 6 days	During dust generating construction works
Noise	Leq (30 mins), L ₁₀ , L ₉₀ ,	1 Location	Continuous measurements	Two weeks before Construction and During Construction
Water Quality	Dissolved Oxygen; Salinity; Temp; Suspended Solids; Turbidity.	14 Locations	3 times a week, mid-ebb/ flood tides	During Marine Works
Waste	On-Site Waste Audit	Active Work Sites	Periodically	During Construction
	On-Site Waste Inspection			
Landscape and Visual	Audits to ensure effective implementation of mitigation measures			During Construction
General Site Conditions	Environmental Site Inspection	Works areas and areas affected by works	Periodically	During Construction

3.2 Environmental Quality Performance Limits

Environmental Quality Performance Limits for air, noise and water quality as provided in the Baseline Monitoring Report (Final) are shown in **Annex D**.

The Action Level and Limit Level for M4A were changed to 30mg/L and 40mg/L since 28 December 06. Relevant information is shown in **Annex E**.

3.3 Event Action Plan

The Event/ Action Plans for air, noise and water quality as provided in the Baseline Monitoring Report (Final) are shown in **Annex F**.

3.4 Implementation of Environmental Measures

The Contractor is required to implement mitigation measures listed in the EIA Report, EM&A Manual and Further Environmental Permit. During routine site inspections, the Contractor's implementation of mitigation measures was reviewed. With regard to mitigation measures for water quality, the Contractor has installed floating type impervious silt curtains for works at IRAE, culvert J to reduce SS dispersion. Further, the Contractor carried out daily visual inspection of the silt screens for seawater intakes. Floating debris in the project area was collected at least once everyday, and in the water body near cooling water intakes debris was collected at least three times a day. Monthly diving inspections for the silt screens were also carried out during the reporting month. The Contractor has implementing their Drainage Management Plan.

4. MONITORING RESULTS

4.1 Impact Monitoring Schedule in November 2006

Regular site inspections were carried out to assess whether the project's environmental protection and pollution control measures are in compliance with the contract specifications. Inspections were conducted on 7, 15, 21 and 28 December 2006.

TSP monitoring was carried out on 1, 7, 13, 19, 22 and 28 December 2006 for a 24-hour period and 4, 8, 14, 19, 21 and 27 December 2006 for 1-hour period.

Continuous 24-hour noise monitoring has been conducted during this reporting period.

Impact water quality monitoring at all monitoring stations has been carried out during this reporting month. The water quality monitoring programme for this reporting month is presented in **Table 4.1**.

Table 4.1 - Water Quality Monitoring Programme

Date of Sampling	Tidal State	Timing of Sampling		
12/1/2006	MID-EBB	7:36		10:57
	MID-FLOOD	13:45		16:26
12/4/2006	MID-EBB	10:20		13:45
	MID-FLOOD	15:31		18:09
12/6/2006	MID-EBB	11:59		14:59
	MID-FLOOD	6:50		10:34
12/8/2006	MID-EBB	12:28		15:33
	MID-FLOOD	7:13		11:00
12/11/2006	MID-EBB	7:03		10:16
	MID-FLOOD	14:14		17:00
12/13/2006	MID-EBB	7:32		10:35
	MID-FLOOD	12:15		14:51
12/15/2006	MID-EBB	7:14		10:55
	MID-FLOOD	12:39		15:42
12/18/2006	MID-EBB	9:32		12:53
	MID-FLOOD	14:16		16:55
12/20/2006	MID-EBB	10:34		13:43
	MID-FLOOD	15:22		17:59
12/22/2006	MID-EBB	12:01		14:40
	MID-FLOOD	7:20		10:02
12/25/2006	MID-EBB	14:14		17:12
	MID-FLOOD	9:09		12:49
12/27/2006	MID-EBB	15:32		18:06
	MID-FLOOD	10:20		13:50
12/29/2006	MID-EBB	7:16		10:33
	MID-FLOOD	12:06		14:40

Monitoring Results

4.2 Monitoring Methodology

4.2.1 Air Quality Monitoring

Air quality monitoring has been conducted in accordance with the methodology described in the EM&A Manual. The monitoring stations are located at the City Hall and the PLA Headquarters as shown in **Annex C**.

4.2.2 Noise Monitoring

Continuous 24-hour noise monitoring was conducted in accordance with the methodology described in the EM&A Manual in the reporting period. The noise monitoring station is located at the City Hall as shown in **Annex C**.

4.2.3 Water Quality Monitoring

Water quality monitoring was conducted in accordance with the methodology described in the EM&A Manual. Monitoring for the reporting month was conducted at all stations including 6 marine-based stations and 8 seawater intake stations. The locations of the monitoring stations are shown in **Annex C**.

4.3 Monitoring Equipment

4.3.1 Air Quality

The equipment used for air quality monitoring is listed in **Table 4.2**.

Table 4.2 - Equipment for Air Quality Monitoring

Parameter Measured	Equipment
24-Hour Sampling	High Volume Sampler Model GS2310 by Anderson Instruments
1-Hour Sampling	Microdust Pro IR Dust Sampler by Casella

4.3.2 Noise

The equipment used for continuous noise monitoring is listed in **Table 4.3**.

Table 4.3 - Noise Monitoring Equipment

Equipment	Model
Integrated Sound Level Meter (SLM)	B&K 2238
Calibrator	B&K 4231, Class 1

4.3.3 Water Quality

The equipment used for water quality monitoring is listed in **Table 4.4**.

Table 4.4 - Equipment Used for Marine Water Quality Monitoring

Parameter Measured	Equipment
Dissolved Oxygen and Temperature Measuring Equipment	<p>A Dissolved Oxygen meter YSI model 58 was used.</p> <ul style="list-style-type: none"> • This instrument was portable and weatherproof and used a DC power source. The equipment was capable of measuring: <ol style="list-style-type: none"> a) DO levels in the range of 0-20 mg/l and 0-200% saturation; and b) Temperature of between 0 - 45 degree Celsius. • The equipment had a membrane electrode with automatic temperature compensation complete with a cable. In addition, a Wirling Psychrometer was used as a reference thermometer during the sampling.
Turbidity Measurement Instrument	<p>A Turbidimeter, HACH model 2100P was used for determining turbidity levels. The instrument is portable and weatherproof and uses a DC power source. The instrument includes a photoelectric sensor capable of measuring turbidity between 0-1000 NTU.</p>
pH	<p>A HM-20P pH Meter was used to measure pH.</p>
Salinity / Conductivity Meter	<p>A Salinity / Conductivity meter YSI model 63 and model 30 was used for determining salinity concentrations.</p>
Sample Containers and Storage	<p>Water samples for SS analysis were stored in high-density polythene bottles with no preservative added, packed in ice and delivered to the laboratory, and analysed as soon as possible after collection.</p>

4.3.4 Equipment Calibration

The calibration frequencies of the monitoring equipment are provided in **Table 4.5**.

Table 4.5 - Equipment Calibration Frequencies

Equipment	Calibration Frequency	Latest Calibration Date
Dissolved Oxygen Meter	Every 6 months; meter is calibrated prior to each measurement	On last field use
Turbidimeter	Every 3 months for secondary standards; meter is calibrated prior to each measurement to the secondary standards	On last field use
pH Meter	Prior to each sampling day	On last field use
Psychrometer	Every 6 months	On last field use
Integrated SLM	Every year	24 October 2006
High Volume Sampler	Every two months	November 2006

Monitoring Results

4.4 Impact Monitoring Results

4.4.1 Air Quality & Noise Monitoring Results

Air quality monitoring was conducted at the PLA Barracks and City Hall monitoring stations.

The air quality monitoring results are presented in **Annex G**. Graphical representation of the air quality monitoring data is provided in **Annex H**.

Noise monitoring was conducted during the reporting period. The noise monitoring results are provided in **Annex I**. Graphical representation of the noise monitoring data is provided in **Annex J**.

4.4.2 Water Quality Monitoring Results

Water quality monitoring was conducted at all water quality monitoring locations during the reporting period. The water quality monitoring results for this reporting period are presented in **Annex K**. Graphical representation of the water quality data is provided in **Annex M**. Summaries of the results are provided in **Tables 4.6 to 4.9**.

Marine-Based Stations

Monitoring stations M8 and M10 were selected as the marine-based impact stations as they are located outside the predicted influence of dredging and reclamation works. The detection of water quality degradation at these two stations may indicate that project marine works are adversely affecting water quality in the Victoria Harbour. Stations M7 and M9 are within the expected influence of the reclamation activities and are located along the works area boundary (or extent of the predicted sediment plume). As such, M7 and M9 are used as indicating stations to note any significant elevations in SS, turbidity or reductions in DO that may affect the marine-based impact monitoring stations.

Table 4.6 shows a summary of the results monitored at marine-based stations during mid-ebb tide.

Table 4.6 - Summary of Mid-Ebb Results for Marine-Based Stations

Station		Parameter				
		DO (S&M) mg/l	DO (B) mg/l	DOS	NTU	SS
C1	min	4.7	4.6	64	2.4	3.8
	max	6.5	6.3	88	5.8	7.9
	avg	5.6	5.4	76	4.3	5.6
	sd	0.5	0.4	6	1.0	1.0
C2	min	4.5	4.6	63	2.2	3.6
	max	6.8	6.1	91	5.8	7.3
	avg	5.7	5.3	76	3.8	5.3
	sd	0.5	0.5	7	1.0	1.0

Station		Parameter				
		DO (S&M) mg/l	DO (B) mg/l	DOS	NTU	SS
M07	min	4.7	4.6	63	2.3	3.9
	max	6.3	6.1	84	5.8	8.0
	avg	5.4	5.3	74	4.0	5.3
	sd	0.4	0.4	5	1.0	0.9
M08	min	4.7	4.7	64	2.2	3.8
	max	6.6	6.3	88	5.8	7.8
	avg	5.6	5.4	75	4.0	5.1
	sd	0.5	0.5	6	1.0	0.9
M09	min	4.7	4.6	64	2.7	3.9
	max	6.5	6.3	87	5.6	7.6
	avg	5.5	5.3	75	4.2	5.5
	sd	0.4	0.5	6	0.9	0.9
M10	min	4.7	4.6	64	2.2	4.0
	max	6.6	6.3	87	5.7	7.8
	avg	5.6	5.4	76	4.1	5.4
	sd	0.5	0.5	6	0.8	0.8

As **Table 4.6** shows, DO levels at marine-based impact stations (M8 & M10) in the surface to middle layer during mid-ebb survey ranged between 4.7 and 6.6 mg/L with mean value about 5.6 mg/L and DO measurements in the bottom layer ranged from 4.6 to 6.3 mg/L with a mean value about 5.4 mg/L. Similar DO levels were recorded at the control stations (C1 & C2) at which DO levels in the surface to middle layer during mid-ebb survey ranged between 4.5 to 6.8 mg/L with a mean value of around 5.6 to 5.7 mg/L. DO measurements in the bottom layer ranged between 4.6 and 6.3 mg/L with a mean value of around 5.3 to 5.4 mg/L.

At M8 and M10, SS levels during mid-ebb tide ranged from 3.8 to 7.8 mg/L with mean values around 5.1 to 5.4 mg/L at the marine-based impact stations, this is comparable to results from the control stations in which SS content ranged from 3.6 to 7.9 mg/L with mean values ranged from 5.3 to 5.6 mg/L.

Table 4.7 shows a summary of results monitored at marine-based stations during mid-flood tide.

Table 4.7 - Summary of Mid-Flood Results for Marine-Based Stations

Station		Parameter				
		DO (S&M) mg/l	DO (B) mg/l	DOS	NTU	SS
C1	min	4.7	4.5	62	2.1	3.7
	max	6.4	7.6	87	5.9	8.9
	avg	5.6	5.5	76	4.3	5.7
	sd	0.4	0.8	5	1.0	1.4

Monitoring Results

Station		Parameter				
		DO (S&M) mg/l	DO (B) mg/l	DOS	NTU	SS
C2	min	4.7	4.6	64	2.5	3.3
	max	6.7	6.1	90	5.9	9.4
	avg	5.7	5.3	76	4.2	5.7
	sd	0.5	0.4	6	0.8	1.6
M07	min	4.6	4.6	62	2.5	3.7
	max	6.3	6.1	84	5.7	8.2
	avg	5.4	5.2	73	4.3	5.5
	sd	0.4	0.4	5	0.8	1.3
M08	min	4.8	4.6	64	2.7	4.0
	max	6.5	6.4	87	5.9	9.2
	avg	5.6	5.4	76	4.4	5.8
	sd	0.5	0.5	5	0.8	1.6
M09	min	4.5	4.7	62	2.7	3.7
	max	6.3	6.2	85	5.8	9.2
	avg	5.5	5.3	74	4.5	5.7
	sd	0.4	0.4	5	0.7	1.6
M10	min	4.5	4.5	63	2.7	3.6
	max	6.5	6.3	87	5.6	10.7
	avg	5.6	5.4	76	4.2	5.8
	sd	0.5	0.5	5	0.8	1.6

During mid-flood tide, DO levels at marine-based impact stations (M8 & M10) in the surface to middle layer ranged from 4.5 to 6.5 mg/L with a mean value about 5.6 mg/L, while DO values in the bottom layer ranged between 4.5 and 6.4 mg/L with a mean value around 5.4 mg/L. Similar DO concentrations were recorded at the control stations (C1 & C2) in the surface to middle layer during mid-flood survey and ranged between 4.7 and 6.7 mg/L with a mean value of range from 5.6 to 5.7 mg/L and DO results in the bottom layer ranged from 4.5 and 7.6 mg/L with a mean value of range between 5.3 and 5.5 mg/L.

SS content ranged from 3.6 and 10.7 mg/L (for stations M8 & M10) with a mean range around 5.8 mg/L during mid-flood tide and ranged from 3.3 to 9.4 mg/L with a mean value of around 5.7 mg/L at the control stations (C1 & C2).

Seawater Intake Stations

Table 4.8 shows a summary of the results monitored at the seawater intake stations during mid-ebb tide.

Table 4.8 - Summary of Mid-Ebb Results for Seawater Intake Stations

Station		Parameter			
		DO mg/l	DOS	NTU	SS
M01A	min	4.1	56	2	3.3
	max	5.3	74	5	8.3
	avg	4.8	65	3	6.2
	sd	0.4	5	1	1.1
M02A	min	3.8	49	2	3.0
	max	5.5	73	7	11.3
	avg	4.9	66	4	7.0
	sd	0.4	5	1	2.2
M03	min	4.2	57	3	6.4
	max	5.3	70	8	12.9
	avg	4.8	64	5	8.2
	sd	0.3	4	2	2.2
M04A	min	3.9	54	2	5.2
	max	5.2	69	7	13.9
	avg	4.7	63	4	7.8
	sd	0.3	4	2	2.6
M05	min	3.4	45	2	3.2
	max	4.9	67	4	6.4
	avg	4.3	58	3	5.0
	sd	0.4	6	1	0.9
M06	min	4.1	54	2	4.4
	max	5.3	73	5	9.0
	avg	4.6	63	3	5.8
	sd	0.4	5	1	1.3
M11	min	4.1	57	2	2.3
	max	5.4	72	7	7.8
	avg	4.9	66	4	6.3
	sd	0.3	4	1	1.4
M12	min	3.8	52	2	3.1
	max	5.1	72	5	6.7
	avg	4.6	62	3	5.3
	sd	0.4	5	1	0.9

Seawater intake results during mid-ebb tide, **Table 4.8**, shows that DO levels ranged from 3.4 to 5.5 mg/L with mean values ranged from 4.3 to 4.9 mg/L. SS ranged between 2.3 to 13.9 mg/L with mean values ranged from 5.0 to 8.2 mg/L.

Monitoring Results

Table 4.9 is a summary of results monitored at seawater intake stations during mid-flood tide.

Table 4.9 - Summary of Mid-Flood Results for Seawater Intake Stations

Station		Parameter			
		DO mg/l	DOS	NTU	SS
M01A	min	4.1	56	3	4.8
	max	5.5	73	6	8.8
	avg	4.9	66	4	6.5
	sd	0.4	5	1	1.1
M02A	min	4.0	55	2	5.0
	max	5.5	72	6	8.4
	avg	4.8	65	4	6.3
	sd	0.5	6	1	1.0
M03	min	4.0	55	2	4.7
	max	5.5	72	9	18.0
	avg	4.8	65	5	8.5
	sd	0.4	5	2	3.7
M04A	min	3.9	54	2	4.7
	max	5.2	70	10	12.7
	avg	4.6	63	5	7.9
	sd	0.4	5	2	2.3
M05	min	3.3	46	2	4.0
	max	5.2	69	6	8.4
	avg	4.5	61	3	5.6
	sd	0.5	5	1	1.4
M06	min	3.9	53	2	4.4
	max	5.7	71	5	9.1
	avg	4.9	62	4	6.2
	sd	0.5	5	1	1.3
M11	min	3.5	54	3	5.0
	max	5.6	75	7	9.8
	avg	4.6	67	4	6.8
	sd	0.6	5	1	1.2
M12	min	4.1	49	2	4.0
	max	5.5	73	5	7.6
	avg	4.9	63	3	5.8
	sd	0.4	7	1	1.2

During mid-flood survey, **Table 4.9** shows that DO levels at seawater intake stations ranged from 3.3 to 5.7 mg/L with a mean ranged from 4.5 to 4.9 mg/L. SS ranged from 4.0 to 18.0 mg/L with mean values ranged from 5.6 to 8.5 mg/L.

4.4.3 Waste Management

Table 4.10 - Monthly Summary Waste Flow Table

Month	Actual Quantities of Inert C&D Materials Generated Monthly				
	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects	Reused as Public Fill
	(in '000m ³)				
Jan	3.092	-	0.600	-	2.492
Feb	3.446	-	0.675	-	2.771
Mar	6.273	-	1.565	-	4.708
Apr	3.839	-	1.295	-	2.544
May	2.776	-	0.940	-	1.836
June	1.600	-	0.200	-	1.400
Sub-total	21.026	-	5.275	-	15.751
July	1.261	-	0.580	-	0.681
Aug	2.807	-	1.100	-	1.707
Sept	1.054	-	0.600	-	0.454
Oct	1.362	-	1.220	-	0.142
Nov	2.048	-	0.170	-	1.878
Dec	2.227	-	0.730	-	1.497
Total	31.785	-	9.675	-	22.11
Month	Actual Quantities of C&D Materials Generated Monthly				
	Metals	Paper/cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000 kg)	(in '000 kg)	(in '000 kg)		(in '000m ³)
Jan	-	0.325	-	-	0.032
Feb	-	0.435	-	0.29 m ³ *	0.032
Mar	-	0.470	-	-	0.04
Apr	4.09	0.216	-	-	0.032
May	-	0.225	-	-	0.032
June	-	0.178	-	-	0.040
Sub-total	4.09	1.849	-	0.29m³ *	0.208
July	-	0.192	-	-	0.050
Aug	-	0.215	-	-	0.048
Sept	-	0.264	-	-	0.050
Oct	-	0.145	-	#	0.060
Nov	-	0.220	-	0	0.060
Dec	-	3.120	-	2m ³ ^	0.762
Total	-	3.130	-	^	0.762

Notes:

1. The performance targets are given in PS-clause 2(5)(c).
2. The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
3. Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
4. Broken concrete for recycling into aggregates.

Monitoring Results

- * Asbestos waste generated from cooling water pipeline connection work.
- # 1000L of spent lube oil and 5000 pieces of waste batteries
- ^ Asbestos waste generated from the demolition of Star Ferry Piers.
- ** Including 226m³ of non-inert C&D Waste
- ^^ 2.29m³ of asbestos waste, 1000L of spent lube oil and 5000pieces of waste batteries

4.4.4 Landscape and Visual

As major construction activities undertaken during the reporting month were low-rise to ground level infrastructure works, the landscape and visual impacts are considered minimal.

5. ENVIRONMENTAL COMPLAINTS AND NON-COMPLIANCE

5.1 Environmental Exceedances

The total number of exceedances for air quality, noise and water quality are presented in the following sections.

5.1.1 Air Quality

No exceedance in TSP level was recorded at the monitoring station during the sampling period.

5.1.2 Noise Impact

One exceedance in noise impact was recorded at the City Hall monitoring station in during nighttimes (19:00 ~07:00) of 15 December 2006, which may or may not be related to the project works.

5.1.3 Water Quality

Exceedances were recorded at some marine-based stations and seawater intake stations and are tabulated below.

Table 5.1 - Summary of Water Quality Exceedances at Marine and Seawater Intake Stations

Date	Tide	Parameter	Exceedance	Station
01-Dec-06	Mid-Ebb	DO	AL	M3, M4A, M5, M6, M11 and M12
	Mid-Flood	DO	AL	M1A, M2A, M4A, M5, M6 and M12
04-Dec-06	Mid-Ebb	DO	AL	M5
	Mid-Flood	DO	AL	M5
06-Dec-06	Mid-Flood	DO	AL	M5
08-Dec-06	Mid-Ebb	DO	AL	M3 and M5
	Mid-Flood	DO	AL	M5, M6 and M12
11-Dec-06	Mid-Ebb	DO	AL	M5, M8(B) and M10(B)
	Mid-Flood	DO	AL	M1A, M2A, M5, M6, M8(B), M10(B) and M11
13-Dec-06	Mid-Ebb	DO	AL	M1A, M2A, M3, M4A, M5, M6, M8(B), M10(B) and M12
	Mid-Flood	DO	AL	M1A, M2A, M3, M4A, M5, M6, M8(B), M10(B), M11 and M12
15-Dec-06	Mid-Ebb	DO	AL	M1A, M3, M4A, M5, M6, M11 and M12
	Mid-Flood	DO	AL	M1A, M2A, M3, M4A, M5, M6, M11 and M12
18-Dec-06	Mid-Ebb	DO	AL	M5
		DO	AL	M5
	Mid-Flood	SS	AL	M4A
19-Dec-06	Mid-Flood	SS	AL	M4A

Date	Tide	Parameter	Exceedance	Station
20-Dec-06	Mid-Ebb	SS	AL	M4A
	Mid-Flood	SS	AL	M4A
22-Dec-06	Mid-Flood	SS	AL	M4A
		SS	LL	M3
23-Dec-06	Mid-Ebb	SS	AL	M4A
25-Dec-06	Mid-Ebb	DO	AL	M1A, M3, M4A, M5, M6, M11 and M12
	Mid-Flood	DO	AL	M2A, M3, M4A, M6 and M12
		SS	AL	M4A
27-Dec-06	Mid-Flood	DO	AL	M4A
29-Dec-06	Mid-Flood	DO	AL	M6

Exceedances of the AL for DO were observed on the 1, 4, 6, 8, 11, 13, 15, 18, 25 and 27-December 2006. All exceedances recorded were considered not directly related to project works as no marine works nor run-off from the site were observed during the days. The exceedances could be attributed to natural variation in ambient conditions rather than the project works.

Exceedances of the AL for SS were observed at M4A (on 18, 19, 20, 22, 23 and 25-December 2006). Exceedances of LL were recorded at M3 (on 22-December 2006). The exceedances for SS may have been affected by the advanced dredging works at FRAW. In accordance with the Event and Action Plan for Water Quality, the ET Leader has:

1. Confirmed the results from the Laboratory.
2. Confirmed that there were no other works in the project area.
3. Informed the IC(E) and Contractor.
4. Checked the monitoring data and confirmed that working methods were in accordance with their method statement and as described in the Certification for advanced dredging.
5. Discussed the situation with the IC(E) and Contractor with regard to improvement that could be taken.
6. Asked the Contractor to check the silt screen geotextile to ensure it was operating properly and was in place without gaps to allow entry of SS

5.1.4 Waste Management

No non-compliances with regard to waste management were recorded in the reporting month.

5.1.5 Landscape and Visual Impact

No non-compliances with regard to landscape and visual impacts were recorded in the reporting month.

5.1.6 Site Environmental Audit

No non-compliances with regard to site environmental audit were recorded for the reporting month.

A summary of findings from site inspections conducted during the reporting month is provided in **Table 5.2** below.

Table 5.2 - Summary of Environmental Site Inspections

Date of Inspection	Observations	Action(s)
7 December 2006	1. A cylinder of refrigerant “Friogas” (HCFC-22) was found inside the Star Ferry building being prepared for demolition. It is worth noting that HCFC-22 is scheduled substance under the Ozone Layer Protection Ordinance. The Ozone Layer Protection (Controlled Refrigerants) Regulation prohibits deliberate venting of scheduled substances, which are declared “controlled refrigerants”. No other unusual events observed.	1. The Contractor is therefore advised to check the statutory obligation in the handling of this cylinder and dismantled condenser units containing residual HCFC-22.
15 December 2006	No unusual events observed.	N/A
21 December 2006	1. Severe fugitive dust emission was observed at the Star Ferry pier though water was sprayed to control dust. The water pressure was not enough, resulting in very weak water jet. 2. A power pack was found at IRAE near the coast without resting on a tray to control possible land contamination by fuel. This should be fixed ASAP. 3. Silt curtain near the mouth of Culvert J was found detached. It should be fixed ASAP to control muddy water generated from H-pile drilling works.	1. The Contractor should rectify this to control dust generation. 2. The contractor should fix the problem of power pack as soon as possible. 2. The contractor should fix the silt curtain as soon as possible to control muddy water generated from H-pile drilling works.
28 December 2006	1. Fugitive dust was observed during the removal of construction wastes from the Star Ferry pier onto the barge. 2. The access road (cul-de-sac) near the culvert J was observed very dry.	1. The contractor was reminded to spray enough water during the demolition process 2. The contractor was reminded to increase frequency of water spaying.

5.2 Environmental Complaint and Prosecution

No environmental complaints were received during the reporting month.

5.3 Environmental Enquiries

No environmental enquiries were received during the reporting month.

5.4 Unusual Events

No unusual events were recorded during the reporting month.

6. FORECAST AND SCHEDULE

6.1 Key Engineering Works for the Coming Month

Expected key works in the next reporting month will be as follows:

- Dredging in FRAW
- Site Investigation in FRAW
- Demolition of the former Star Ferry Piers and Queens Pier;
- Remedial and outstanding works at and around Piers 7 & 8 and the CTB;
- Finishing works at Public Pier West;
- Final connection and the Testing and Commissioning and the trial run of Pump Stations P9.1;
- MYS Footbridge –roof construction;
- General filling works above +2.5 mPD in IRAE;
- Construction of storm and foul drainage in hinterlands for Road P2, Road D7 and Road D8;
- Remedial works to, and the extension of, Culvert F in existing land;
- Structural works for Culvert J extension in IRAE;
- Excavation for PLA cooling water intake in IRAE;
- Temporary works for Road P2 Underpass and;
- Finishing works to the piling at Eastern Seawall;

6.2 Monitoring Schedules for the Coming Months

Based on the Contractor's programme, the Environmental Monitoring Programme for the following months is planned as follows:

TSP (24-hr and 1-hr monitoring)

TSP will be sampled once every 6 days, during the entire construction period. On each of the sampling day a single continuous 24-hour sample shall be taken, together with 3 separate 1-hr samples.

Noise (Continuous Measurements)

Noise monitoring will be round the clock throughout the entire construction period.

Water Quality Monitoring

The water quality monitoring schedule for the upcoming months is provided in **Table 6.1** below.

Table 6.1 - Water Quality Monitoring Programme

Date	Day	Sampling Time	
2-Jan-07	(Tuesday)	11:27	16:23
4-Jan-07	(Thursday)	12:00	17:00
6-Jan-07	(Saturday)	9:13	14:10
8-Jan-07	(Monday)	10:20	15:32
10-Jan-07	(Wednesday)	11:23	17:00
12-Jan-07	(Friday)	12:00	17:00
15-Jan-07	(Monday)	10:03	15:00
17-Jan-07	(Wednesday)	11:19	15:48
19-Jan-07	(Friday)	12:00	17:00
22-Jan-07	(Monday)	9:20	14:53
24-Jan-07	(Wednesday)	10:32	16:32
26-Jan-07	(Friday)	11:53	17:00
29-Jan-07	(Monday)	9:59	17:00
31-Jan-07	(Wednesday)	11:27	16:17
2-Feb-07	(Friday)	12:00	17:00
5-Feb-07	(Monday)	8:46	14:18
7-Feb-06	(Wednesday)	9:31	15:22
9-Feb-07	(Friday)	10:21	16:47
12-Feb-07	(Monday)	8:59	17:00
14-Feb-07	(Wednesday)	10:16	17:00
16-Feb-07	(Friday)	11:54	16:45
21-Feb-07	(Wednesday)	9:00	15:06
23-Feb-07	(Friday)	10:06	16:47
26-Feb-07	(Monday)	8:46	17:00
28-Feb-07	(Wednesday)	10:36	17:00
2-Mar-07	(Friday)	11:58	17:00
5-Mar-07	(Monday)	8:30	13:17
7-Mar-07	(Wednesday)	8:12	14:14
9-Mar-07	(Friday)	8:48	15:14
12-Mar-07	(Monday)	8:30	17:00
14-Mar-07	(Wednesday)	8:55	17:00

Date	Day	Sampling Time	
16-Mar-07	(Friday)	10:56	15:42
19-Mar-07	(Monday)	12:00	17:00
21-Mar-07	(Wednesday)	8:30	13:57
23-Mar-07	(Friday)	8:45	15:26
26-Mar-07	(Monday)	8:30	17:00
28-Mar-07	(Wednesday)	9:14	17:00
30-Mar-07	(Friday)	11:05	16:24

6.3 Construction Programme for the Next 3 Months

The construction programme for the next 3 months is provided in **Annex B**.

The ET will follow up with the Contractor's proposed programme to ensure compliance in environmental performance and proper implementation of all necessary mitigation measures.

Not Used

7. CONCLUSION

There was no exceedance recorded at the City Hall and the PLA air quality monitoring station during the reporting month.

There was one noise exceedance recorded at the City Hall monitoring station during the reporting month but cannot be ascertain to be project related or not.

Exceedances of the AL for SS were observed at M4A (on 18, 19, 20, 22, 23 and 25-December 2006). Exceedances of LL were recorded at M3 (on 22-December 2006). The exceedances for SS may have been affected by the advanced dredging works at FRAW. Proper actions have been taken in accordance with provisions in the EM&A Manual.

Environmental impacts arising from site activities have been under controlled and properly rectified.

Annex A

***Project Organisation /
Contact Information***

Annex B

Contractor's Work Programme

Annex C

Location of Monitoring Stations and Outfalls

Annex D

***Environmental Quality Performance
Limits for Air, Noise and Water
Quality***

Annex E

***Revised Action and Limit Levels
for SS at M4A***

Annex F

***Event and Action Plan for
Air, Noise and Water Quality***

Annex G

Air Quality Monitoring Results

Annex H

***Graphical Representation of
Air Quality Monitoring Results***

Annex I

Noise Monitoring Results

Annex J

***Graphical Representation of
Noise Monitoring Results***

Annex K

Water Quality Monitoring Results

Annex L

***Graphical Representation of
Water Quality Monitoring Results***

Annex M

Water Quality Exceedance Review