

**Central Reclamation, Phase III
Environmental Monitoring & Audit
Monthly Report No. 65 – December 2008**

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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
PLA	People's Liberation Army Forces Hong Kong
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 1st July 2004.)

The works under the Contract HK 12/02 commenced on 28th 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 17th 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 65th 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 2008.

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 period is listed below:

- Continuous 24-hour noise monitoring was conducted throughout the monitoring period.
- 1-hour and 24-hour TSP monitoring was carried out on 3rd, 9th, 15th, 19th, 23rd and 29th December 2008.
- Water quality monitoring was conducted by the ET during the mid-ebb and mid-flood tide periods on 1st, 3rd, 5th, 8th, 10th, 12th, 15th, 17th, 19th, 22nd, 24th, 26th, 29th and 31st December 2008.

Exceedance of Action and Limit Levels

No exceedances in TSP level were recorded at the monitoring stations during the reporting period.

No exceedances in noise level were recorded at the City Hall monitoring station during the reporting period.

Exceedances in marine water quality were recorded at various seawater intake stations. Details are summarised below:

Date	Tide	Parameter	Exceedance	Station
Water Quality Monitoring in Accordance with EM&A Manual				
1 st December 2008	Mid-flood	SS	AL,LL	M6 and M12
3 rd December 2008	Mid-ebb	DO	AL	M6
5 th December 2008	Mid-ebb	DO	AL	M6
8 th December 2008	Mid-ebb	DO	AL	M2A

Executive Summary

Date	Tide	Parameter	Exceedance	Station
10 th December 2008	Mid-ebb	DO	AL	M1A, M2A, M4B and M5B
	Mid-flood	DO	AL	M6 and M12
12 th December 2008	Mid-ebb	DO	AL	M6 and M12
	Mid-flood	DO	AL	M1A, M6, M10(B), M11 and M12
19 th December 2008	Mid-ebb	DO	AL	M4B, M5B, M6 and M12
	Mid-flood	DO	AL	M2A, M4B, M6 and M12
22 nd December 2008	Mid-ebb	DO	AL	M6 and M12
	Mid-flood	DO	AL	M6

Complaint Log

There was no complaint received in relation to the environmental 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 4th, 11th, 18th, 24th and 31st December 2008. The observations and findings of the site inspection are summarised as below:

4th December 2008

Notification was provided by RE to the Contractor on 2nd December where it was reported that the silt curtain at FRAW was not installed appropriately resulting in leakage of silt. Remedial action took place by the Contractor whereby the silt curtain was properly installed. Appropriate installation was further clarified during the site inspection with no discolouration of water outside the silt curtain observed.

11th December 2008

Muddy discharge was observed in culvert J near the works area of the underpass. The muddy discharge was trapped by various silts curtains in the vicinity of culvert J and no muddy discharge was seen to have dispersed to the Harbour. The Contractor was reminded to provide additional silt curtains to ensure such muddy discharge is localised, if muddy discharge is unavoidable. Further to this, notification was provided by the Contractor on 12th December 2008 whereby it was informed that no further muddy discharge was observed on the same day

Notification was provided by RE to the Contractor on 11th December where it was reported that large amounts of muddy water were being discharged into Culvert F Temporary Diversion Channel from various work fronts along the channel. The follow-up observation to this was conducted with the IEC during the site inspection whereby no muddy water was observed. Further to this, remedial action took place by the Contractor whereby 2 additional silt curtains were installed at culvert F near the General Post Office for precaution. It was reported by the Contractor on 12th December 2008 that further to such installation, no muddy discharge was dispersed to the Harbour.

18th December 2008

Patches of soil contaminated with oil were observed due to machine maintenance in the works area of the former Queen's Pier. The contractor was reminded to collect and dispose of the contaminated soils as chemical waste.

24th December 2008

Part of the access roads were observed dry with dust emissions in the works area of former Queen's Pier. The contractor was reminded to prevent dust emissions from the access roads by sufficient watering.

Key Works for the Coming Month

Future key works in the coming month (January 2009) are as follows:

- Rockfilling and geotextile layer behind the seawall in FRAW;
- Type A filling in FRAW and FRAE above +2.5mPD;
- Surcharging in FRAW and FRAE;
- Rockfilling behind the seawalls in FRAE;
- Installation of seawall blocks in FRAE & FRAW
- Construction of cantilever slab at caisson
- Pre-drilling and piling for Culvert F;
- Sheet piling, Excavation and Structural works for Culvert F;
- Structural works for Public Pier East (Pier No.10);
- Structural works for the MTRC 40 metre EOT;
- Remedial and outstanding works at and around Piers 7 & 8, Public Pier West and the CTB;
- Remedial and outstanding works at MYS Footbridge;
- General filling works above +2.5 mPD in IRAE;
- Construction of storm and foul drainage and gullies in hinterlands for Road P2, Road D7, Road D8 and Road D9 and adjacent to the GPO;
- Structural works for Eastern tunnel and Pump Sump and sheetpiling for Western Ramp at Road P2 Underpass;
- Roadworks along Lung Wui Road, Tim Wa Avenue (Road D8) and Road P2;
- Excavation and structural works for Culvert K extension ;
- Precasting for Culvert K, seawall blocks and retaining wall (offsite);
- Installation of cooling water mains for Tamar Development Project at IRAE;
- Reinstatement works for Culvert J;
- Construction of New ER Office.

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 17th 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 Variation of Further Environmental Permit (No. EP-01/122/2003/A) issued to Leighton-China State-Van Oord Joint Venture in December 2007 for the CRIII Project. A variation of the Further Environmental Permit for the Project (EP-01/122/2003/B) was granted on 26 May 2008. This was then superseded by another variation of Further Environmental Permit for the Project (No. EP-01/122/2003/C) granted on 17 July 2008. The CRIII Project Organisation is shown in **Annex A**.

This is the 65th 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 2008.

Not Used

2. ENVIRONMENTAL STATUS

2.1 Works Undertaken

Details of the main works in progress are as follows:

Piers 7, 8 & CTB – Construction of the additional tactile paths at GFL of the CTB requested by CEDD/TD is complete with some defects yet to be rectified (following erection of railings along footpath by HyD to prevent illegal vehicle access), and handovers to HyD & ArchSD will be arranged shortly. The Contractor is yet to replace several delaminated glazing panels at the large semi-circular windows of the CTB, however the delaminated panel at Lift No. 4 was recently replaced. Replacement of the delaminated windbreaker panels at the Pier 7 restaurant area is still outstanding and the Contractor is also still to rectify some leaks at the Clock Tower of the CTB.

Concerning the problems with the cathodic protection (CP) system at Pier 8 which is yet to be taken over by CEDD/Port Works, a meeting between the Contractor's CP designer/Maunsell and Babbie/Jacob's CP specialist was held on 26 May 2008 to review/discuss the report received from the Contractor's CP specialist in Australia. Further testing, as recommended by the Contractor's CP specialist has been completed and detailed proposals concerning acceptance criteria and any further remedial measures are still awaited. The Contractor has yet again been urged to expedite this submission so that a follow-up meeting between both/respective CP specialists can be held, after which a meeting with CEDD/Port Works will be arranged.

Public Pier West (PPW) – Similar to Pier 8, the cathodic protection system has experienced problems and has yet to be taken over by CEDD/Port Works – see above for current status of further testing and review by respective CP specialists.

The Contractor replaced the three shattered roof glazing panels (discovered on 26 July 2008) on 29 September 2008, and the recently received glazing expert's report indicates that NiS inclusions are the likely cause. A further roof glazing panel shattered on 20 October 2008, and the Contractor has yet again been urged to investigate and replace as soon as possible.

Public Pier East (PPE) – Pile-caps, tie beam and deck construction continue, and the substructure is approximately 85% complete. Construction of columns and roof canopy structure is also in progress and is approximately 15% complete.

Man Yiu Street Footbridge – The Contractor has again been urged to repair roof leaks and also carry out the recently instructed improvement measures.

Stabilisation of U-trap Structure – The perimeter dwarf walls at the U-trap base and the modification of the access door remain the only outstanding works. HK Land have yet to confirm the commencement date for their refurbishment/replacement works concerning the U-trap steelwork frame and cladding, however it is expected that this will be carried out around mid-2009 once access is available.

MTRC Entrusted Works - 40m Extended Overrun Tunnel – The Contractor has informally submitted a draft/revised programme showing overall completion of the structure in October 2009. Installation of the 4th layer of walings/struts at -15mPD as well as bulk excavation to -19mPD have been completed and blinding concrete placed. Laying of waterproofing membrane and preparation of construction joint between D-wall and base slab are in progress. At the interface with the existing pipe-pile wall on the south side, the Contractor has continued with injection/pressure grouting to keep the water ingress problem under control. The Contractor continues to maintain close liaison with MTRC concerning instrumentation, and daily settlement monitoring continues for the GPO wall and

Environmental Status

HK Land cooling-water main, with further minor movements recorded this month. The action level of 25mm has just been reached at two points on the large thrust blocks for the HK Land interim cooling main at the NE corner of the GPO boundary wall, and the Contractor has prepared all the necessary repair materials as a contingency measure in the event that the pipe leaks and an emergency repair is needed. Additional tell-tales for monitoring movement/rotation of pipe joints have been installed, and the Contractor has again been urged to further review his ELS works and settlement predictions/AAA levels for the EOT and adjacent Culvert F ELS works.

Regarding the Contractor's alternative flood protection measures, construction of the periphery walls and erection of full-height hoarding inside the existing EOT are in progress, however a new safety scheme recently implemented by MTRC requiring all workers at track levels to obtain a 'MTR Safety Green Card' has caused some problems/delays, although not yet critical, and MTR have arranged some additional training sessions for LCSVOJV and its subcontractors to facilitate their gaining of this new safety qualification.

Culvert F Extension – Bored piling at Bays 20-24 (i.e. MTR NIL Protection Slab) continues with 24 no. (out of a total of 26) concreted to date. Pre-bored H-piling at Bays 7-11 is now complete with 63 no. (out of a total of 75) piles completed, the outstanding 12 no. piles being located within the current temporary diversion channel. Load testing of 3 no. pre-bored H piles is in progress. Pre-boring and sheet pile installation for Bays 6-7 are in progress. The 1.9m dia. bored piles for Bays 13-19 (covered by VO 988) being carried out by the new subcontractor/Gammon are progressing well with 7 no. (out of a total of 16) concreted to date.

ELS work for Bays 3-5 (adjacent to 40m EOT) has been completed and pilecaps construction is in progress.

Concerning the cofferdam for Bays 19-24, a 6m length of sheetpiling is still outstanding at the south side of Bay 20 adjacent to the HSBC cooling mains/valve pit, and advance grouting for ground stabilisation has been completed. Preboring for the outstanding sheetpiling will resume shortly after completion of the adjacent bored piles. Close monitoring of ground movements and pipe joints continues.

The Contractor's revised temporary works proposals for Bays 19-24 are still awaited, however some temporary works proposals for the construction of Bays 1 and 2 were recently received and excavation works for installation of dry tanks and concrete plugs have been completed. The continued occupation of a cell of the box culvert upstream by the HK 16/03 contractor had resulted in modification to the Contractor's plans at the interface for diversion of water flows. The slow progress at Bays 1 and 2 is still a serious concern as work must be completed this dry season.

DSD's approval of Stage 2 DIA diversion for the 2008 wet season is still outstanding. A further senior level meeting with CEDD/DSD/ACL/LCSVOJV/Maunsell was held on 26 November 2008, and LCSVOJV have yet to resubmit their revised DIA.

Culvert J Extension – The new culvert structure has been completed except for the installation of multipart covers. A demonstration of the installation of stop logs in the presence of DSD was satisfactorily carried out, and DSD have now inspected primary and secondary seals in all cells (1, 2, 3 & 4) at both upstream and down stream joints. Whilst DSD have yet to confirm acceptance of the secondary seals (due to their concern that they encroach slightly into the culvert cross section), cells 2, 3 & 4 were recently flooded and a diving inspection indicated that the secondary seals remain within the recesses. Further diving inspections under different tide conditions were requested by DSD (before deciding whether or not stainless steel restraining ties need to be fixed to the culvert walls) and these will be conducted shortly.

The Contractor recently resubmitted their revised DIA concerning the reinstatement/connection works taking account of DSD's comments as discussed at the senior level meeting between CEDD/DSD/ACL/LCSVOJV/Maunsell on 26 November 2008.

Culvert K Extension – Construction within the existing land for Bays 4, 5 and 6 are complete and backfilling is in progress. At Bay 3 where existing cooling mains conflict with the roof slab, excavation is down to the formation level.

The Contractor's revised DIA Stage I proposals were recently resubmitted taking account of DSD's comments as discussed at the senior level meeting between DSD/CEDD/ACL/LCSVOJV/Maunsell on 26 November 2008.

A total of six precast units (Bay 26 to 21) have been concreted. The first batch of the precast units (total of 7) is scheduled for delivery by mid January 2009. Pile-cap construction is now in progress with 9 nos. cast out of 13.

Drainage Works – Concerning the 2100mm diameter storm bypass pipe connecting the HK16/03 storm drain to the new Culvert F and the adjacent 500mm diameter sewer (DSD Entrustment Works) connecting to the recently completed HK 16/03 sewer, the outstanding length of 500mm sewer is now substantially complete and final inspection/handover to DSD will be arranged shortly. The outstanding length of 2100mm diameter storm pipe is in progress and expected to be completed by end of January 2009. The Contractor has been urged to expedite the downstream connection to Culvert F (Bay 7) so that flow can be diverted through the new 2100mm pipe as soon as possible.

Due to serious conflicts with existing HEC 132kV cables and water mains, the interceptor drains in Edinburgh Place have been relocated to nearer the P2/D7 junction (where the abandoned ESB/pump house is currently located). However this work cannot commence until the HSBC interim cooling main is removed and ESB/pumphouse demolished. This work is currently programmed to commence in April 2009.

Water Mains – No further progress on the laying of 100mm diameter SW main at PLA Access Road this month.

Roadworks – Roadworks at Road P2 eastbound in front of the PLA barracks as well as at Lung Wui Road (in front of Citic Tower) continue. Due to the imminent design change to P2/D8 junction to incorporate a right-turn from P2 into D8 for the proposed phased opening of P2, permanent works at this junction are still on hold.

Revised combined underground services drawings for P2 between Man Yiu Street and D7 have been issued to the Contractor and utilities companies, and regular meetings with utility undertakers are being held to ensure that they adhere to the Contractor's programme for this critical section of P2. ACL has again recently contacted DLO urging them to expedite issue of Excavation Permits in this regard.

Environmental Status

Concerning the final access arrangements to City Hall, discussions between ACL/TD/CEDD regarding revised details for the Road P2 / Road D7 junction are still on-going and the design for the new permanent eastern access to City Hall is also yet to be finalized.

Details of the Man Yiu Street/P2 junction have yet to be finalized. TD have requested the provision of a left-turn lane into P2 which could impact on the proposed opening of P2 by the end of 2009 due to the adjacent HK Land interim cooling main. This matter is under review and excavation of trial pits to investigate the need for diversion/lowering of existing utilities will be carried out shortly.

In FRAW – Type A filling is in progress above +2.5mPD using land access only and approx. 1.23Mm³ of type A has been placed. Rockfilling at the seawall openings using the type E and G (filter) material is in progress. Underwater filling within 50m-100m will resume after the seawall has been filled to +2.5mPD.

In FRAE – Placing of additional seawall blocks for the smaller size retaining wall is complete for two bays and installation of the precast retaining wall will commence in January 2009. Placing of seawall blocks in the north seawall is in progress. Filling of type G material at the 50m zone is in progress using land plant.

Pre-cast Works – Casting of seawall blocks in China is in progress. Precasting for the retaining wall continues only for the special type (4 nos. cast this month), with 68 nos. panels cast. Precast work for Culvert K is in progress and 6 units have been concreted.

Road P2 Underpass – Backfilling and waterproofing work for the tunnel section (west) are in progress. Concreting for the base slab of the Eastern part of the tunnel was completed on 2 December 2008 and wall construction is in progress. Sheetpiling for the east ramp was stopped on 2 December 2008 due to the potential clash with the CWB.

Demolition of Former Pumping Stations – Demolition of the underground structures of the former Swire pump station to -2.5mPD necessary for the construction of Culvert K is complete. The demolition of the other remaining works will be carried out later, after the reclamation is completed and the temporary cooling water mains have been relocated.

Permanent Sea Water Intake System for PLA – Daily inspections and frequent diving inspections are carried out to check that the intake screen is not obstructed. The Contractor continues to maintain the additional fine screens at the intake location to minimize the risk of blockage by leaves and other debris. Remaining cells of Culvert J are in operation and no adverse silting problem was observed at the intake.

ESB Construction – Concerning ESB 9.1, repairs to the minor leaks in the roof inside the transformer room have been completed and inspected by HEC, and final inspection with ArchSD will be arranged shortly.

Seawall Caissons and Pumping Stations – Concrete remedial work for the Pumping Station P6.1 and P7.1 is in progress. Remedial works to pumping station P10.1 are substantially complete although the handover date has not been confirmed.

Tamar Entrustment Works – For the section of Alignment 2 discharge pipe in the adjacent reclaimed area (IRAE), laying of approximately 30m pipe is completed and construction of thrust blocks is completed. For the section of Alignment 2 discharge pipe using pipe-jacking method, the construction of one of the jacking pits is in progress.

Revised drawings to realign Alignment 2 and Alignment 3 cooling-water intake pipes (to the top slab of Road P2 Underpass) are pending the formal acceptance from ArchSD / CEDD.

Tamar / CRIII Interfacing – Regular monthly interface meeting continues. Updating of access areas/dates also continues with the potential mis-match at the interface with potential CWB protection work/Road P2 being kept in view.

Pumping Station P10.1 is due to be handed over to the Tamar contractor in January 2009 but confirmation is awaited from ArchSD.

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	New Construction Noise Permit for Desilting for existing Culvert F & General construction works for Bay 1-6, GW-RS0919-08	3 rd December 2008	Issued on 24 th December 2008
2	Application of Construction Noise Permit for Installation of Precast Units for Culvert K	22 nd December 2008	Pending

2.3 Environmental Document Submission

A summary of the status of the submissions provided to the ER during the reporting period 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	Application of Construction noise Permit for De-silting and General Construction Works for Culvert F	-	3 rd December 2008
2	Chai Wan Public Fill Barging Point	-	4 th December 2008
3	Test Report for Treated Effluent	-	5 th December 2008
4	Application of Construction Noise Permit for Installation of Precast Units for Culvert K	-	22 nd December 2008
5	Advance Notification of Night-time Construction Works	-	24 th December 2008

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

Table 2.3 - Summary of Environmental Certification Sheet Submissions

Environmental Status

No	Certification Subject	Letter Ref.	Date of Submission	Approved Status
1	Certification of Monthly Environmental Monitoring & Audit Report No. 64, December 2008	3128/M45/200/OC10841/SB/WW/KC/ec	14 th December 2008	Issued on 14 th December 2008

2.4 Environmental Meetings

No environmental meeting was held in this reporting.

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*.

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 E*.

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 at the gap between the caissons at FRAW and culvert J to reduce SS dispersion. Further, floating debris in the project area was collected at least once everyday. The Contractor has implemented their Drainage Management Plan and Silt Curtain Operation Plan for VEP (rev 1).

4. MONITORING RESULTS

4.1 Impact Monitoring Schedule in December 2008

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 carried out on 4th, 11th, 18th, 24th and 31st December 2008.

1-hour and 24-hour TSP monitoring was carried out on 3rd, 9th, 15th, 19th, 23rd, 29th December 2008. The dust sampler for undertaking 1-hour TSP measurement (Microdust Pro IR Dust Sampler by Casella) has been out of operation since 24th October 2008. Therefore 1-hour monitorings were operated by High Volume Sampler method during this sampling period. Continuous 24-hour noise monitoring has been conducted during this reporting period.

Impact water quality monitoring at all monitoring stations in accordance with the EM&A Manual has been carried out during this reporting period. The water quality monitoring programme for this reporting period is presented in **Table 4.1**.

Table 4.1 - Water Quality Monitoring Programme

Date of Sampling	Tidal State	Time of Sampling	
01/12/2008	MID-EBB	12:52	15:33
	MID-FLOOD	08:05	11:17
03/12/2008	MID-EBB	13:59	17:06
	MID-FLOOD	09:03	12:52
05/12/2008	MID-EBB	15:20	18:00
	MID-FLOOD	10:43	13:22
08/12/2008	MID-EBB	07:16	10:26
	MID-FLOOD	13:00	15:38
10/12/2008	MID-EBB	08:08	11:55
	MID-FLOOD	13:23	16:36
12/12/2008	MID-EBB	09:45	13:36
	MID-FLOOD	14:50	17:55
15/12/2008	MID-EBB	12:45	15:50
	MID-FLOOD	08:20	11:02
17/12/2008	MID-EBB	14:02	17:07
	MID-FLOOD	09:00	12:47
19/12/2008	MID-EBB	15:01	18:05
	MID-FLOOD	10:03	13:52
22/12/2008	MID-EBB	07:43	10:27
	MID-FLOOD	12:50	15:33
24/12/2008	MID-EBB	08:30	12:22
	MID-FLOOD	13:28	16:33
26/12/2008	MID-EBB	10:42	13:20
	MID-FLOOD	15:02	17:46
29/12/2008	MID-EBB	12:10	14:55
	MID-FLOOD	07:18	10:28
31/12/2008	MID-EBB	12:53	15:57
	MID-FLOOD	08:00	11:48

Monitoring Results

4.2 Monitoring Methodology

4.2.1 Air Quality Monitoring

Air quality monitoring was conducted in accordance with the methodology described in the EM&A Manual. The monitoring stations are located at the City Hall and the PLA Barracks 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 period 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: <ul 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	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.
pH	A HM-20P pH Meter was used to measure pH.
Salinity / Conductivity Meter	A Salinity / Conductivity meter YSI model 63 and model 30 was used for determining salinity concentrations.
Sample Containers and Storage	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.

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	Prori to each sampling day	On last field use
Psychrometer	Every 6 months	On last field use
Integrated SLM	Every year	16 th October 2008
High Volume Sampler	Every two months	24 th December 2008

Monitoring Results

4.4 Impact Monitoring Results

4.4.1 Air Quality & Noise Monitoring Results

The air quality monitoring results at the PLA Barracks and City Hall monitoring stations are presented in *Annex F*. Graphical representation of the air quality monitoring data is provided in *Annex G*.

The noise monitoring results at the City Hall monitoring station is provided in *Annex H*. Graphical representation of the noise monitoring data is provided in *Annex I*.

4.4.2 Water Quality Monitoring Results

The water quality monitoring results at all water quality monitoring locations for this reporting period are presented in *Annex J*. Graphical representation of the water quality data is provided in *Annex K*. 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 mg/L
C1	min	4.9	4.8	67	2.6	3.9
	max	7.7	7.4	101	5.6	7.8
	avg	5.8	5.6	77	4.5	5.3
	sd	0.6	0.6	7	0.8	0.8
C2	min	4.8	4.7	65	2.8	3.3
	max	7.7	7.2	101	6.0	7.1
	avg	6.1	5.8	80	4.2	5.1
	sd	0.6	0.6	7	0.8	0.9
M07	min	4.7	4.7	63	3.0	4.1
	max	7.2	7.0	95	6.2	6.3
	avg	5.5	5.4	73	4.4	5.2
	sd	0.6	0.6	7	0.8	0.6
M08	min	5.0	5.0	66	2.7	3.8
	max	7.7	7.5	102	6.7	7.3
	avg	5.8	5.7	77	4.3	5.4
	sd	0.7	0.7	8	1.0	0.9
M09	min	4.8	4.8	64	2.5	3.8
	max	7.3	7.1	97	6.0	7.7
	avg	5.6	5.6	75	4.5	5.6
	sd	0.6	0.5	7	0.8	0.9
M10	min	4.8	4.9	65	2.5	4.0
	max	7.6	7.4	100	5.1	6.8
	avg	5.7	5.6	76	4.2	5.5
	sd	0.6	0.6	8	0.7	0.7

As **Table 4.6** shows, DO levels at marine-based impact stations (M8 and M10) in the surface to middle layer during mid-ebb survey ranged between 4.8 and 7.7 mg/L with mean value from 5.7 to 5.8 mg/L and DO measurements in the bottom layer ranged from 4.9 to 7.5 mg/L with a mean value from 5.6 to 5.7 mg/L. Similar DO levels were recorded at the control stations (C1 and C2) at which DO levels in the surface to middle layer during mid-ebb survey ranged between 4.8 and 7.7 mg/L with a mean value of about 5.8 to 6.1 mg/L. DO measurements in the bottom layer ranged between 4.7 and 7.4 mg/L with a mean value from 5.6 to 5.8mg/L.

At M8 and M10, SS levels during mid-ebb tide ranged from 3.8 to 7.3 mg/L with mean values of about 5.4 to 5.5 mg/L at the marine-based impact stations. This is comparable to results from the control stations in which SS content ranged from 3.3 to 7.8 mg/L and mean values ranged from 5.1 to 5.3 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 mg/L

Monitoring Results

Station		Parameter				
		DO (S&M) mg/L	DO (B) mg/L	DOS %	NTU	SS mg/L
C1	min	4.8	4.8	67	3.0	3.8
	max	7.8	7.5	103	5.9	8.1
	avg	5.9	5.6	77	4.6	5.9
	sd	0.7	0.6	8	0.7	1.1
C2	min	4.9	4.6	65	3.0	3.9
	max	7.8	7.1	104	5.8	9.7
	avg	6.1	5.7	80	4.2	5.7
	sd	0.6	0.6	8	0.6	1.3
M07	min	4.7	4.6	63	3.0	3.6
	max	7.3	7.0	96	6.5	10.0
	avg	5.4	5.4	72	4.9	6.2
	sd	0.7	0.7	9	0.8	1.2
M08	min	4.6	5.0	62	3.1	3.3
	max	7.9	7.6	105	6.5	9.3
	avg	5.8	5.7	77	4.5	5.8
	sd	0.8	0.7	10	0.8	1.5
M09	min	4.7	4.7	63	3.5	4.4
	max	7.5	7.2	98	6.9	10.9
	avg	5.6	5.5	75	5.1	6.4
	sd	0.7	0.7	8	0.8	1.3
M10	min	4.9	4.7	63	2.5	4.7
	max	7.9	7.6	104	6.2	9.9
	avg	5.8	5.7	77	4.5	6.0
	sd	0.7	0.7	8	0.9	1.1

During mid-flood tide, DO levels at marine-based impact stations (M8 and M10) in the surface to middle layer ranged from 4.6 to 7.9 mg/L with a mean value of about 5.8, while DO values in the bottom layer ranged between 4.7 and 7.6 mg/L with a mean value of about 5.7 mg/L. Similar DO concentrations were recorded at the control stations (C1 and C2) in the surface to middle layer during mid-flood survey and ranged between 4.8 and 7.8 mg/L with a mean value which ranged from 5.9 to 6.1 mg/L. DO results in the bottom layer ranged between 4.6 and 7.5 mg/L with a mean value which ranged from 5.6 to 5.7 mg/L.

At M8 and M10, SS levels during mid-flood tide ranged from 3.3 to 9.9 mg/L with mean values about 5.8 to 6.0 mg/L. This is comparable to results from the control stations (C1 and C2) in which SS content ranged from 3.8 to 9.7 mg/L with mean values around 5.7 to 5.9 mg/L.

Seawater Intake Stations

The locations of monitoring stations are provided in *Annex C*.

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 mg/L

Station		Parameter			
		DO mg/L	DOS %	NTU	SS mg/L
M01A	min	4.5	61	2.1	4.6
	max	6.8	90	6.3	7.4
	avg	5.1	69	4.5	6.1
	sd	0.6	8	1.0	0.9
M02A	min	4.4	60	1.9	4.3
	max	6.4	88	9.1	11.8
	avg	5.1	69	5.0	7.2
	sd	0.6	8	1.7	1.7
M03_M5A	min	4.6	61	2.0	3.8
	max	6.6	87	8.8	11.4
	avg	5.2	70	5.1	7.4
	sd	0.5	7	1.8	2.1
M04B	min	4.4	59	2.3	3.8
	max	6.4	84	7.4	8.2
	avg	5.2	70	4.9	6.5
	sd	0.5	7	1.4	1.2
M05B	min	4.3	59	1.9	4.3
	max	6.5	86	7.9	11.3
	avg	5.2	69	5.1	7.2
	sd	0.6	8	1.7	1.7
M06	min	4.1	56	2.5	4.8
	max	5.7	78	8.0	11.0
	avg	4.7	63	5.2	7.1
	sd	0.4	6	1.4	1.9
M11	min	4.3	61	2.4	4.9
	max	6.7	88	7.6	10.4
	avg	5.1	69	5.0	7.0
	sd	0.6	7	1.3	1.4
M12	min	4.2	57	2.9	4.0
	max	6.0	83	9.0	9.8
	avg	4.9	65	5.3	6.8
	sd	0.5	6	1.4	1.6

The seawater intake monitoring results during mid-ebb tide, **Table 4.8**, shows that the DO levels ranged from 4.1 to 6.8 mg/L and mean values ranged from 4.7 to 5.2 mg/L. The SS levels ranged from 3.8 to 11.8 mg/L with mean values ranging from 6.1 to 7.4 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 mg/L
M01A	min	4.4	60	3.2	4.9
	max	6.9	91	5.8	8.3
	avg	5.3	71	5.0	6.5
	sd	0.6	7	0.6	0.9
M02A	min	4.5	60	2.6	5.0
	max	6.8	90	7.1	9.4
	avg	5.2	69	5.1	7.0
	sd	0.6	7	1.3	1.4
M03_M5A	min	4.6	62	2.5	5.3
	max	6.7	88	6.9	9.9
	avg	5.1	69	4.6	7.0
	sd	0.5	7	1.2	1.3
M04B	min	4.5	60	2.7	4.6
	max	6.7	88	8.5	16.8
	avg	5.2	70	5.2	7.7
	sd	0.6	7	1.4	2.8
M05B	min	4.6	62	3.0	5.1
	max	6.7	89	6.5	8.2
	avg	5.1	69	4.7	6.6
	sd	0.5	7	1.1	0.8
M06	min	4.0	54	3.6	4.8
	max	6.2	83	8.8	11.7
	avg	4.9	66	5.6	8.1
	sd	0.6	8	1.2	1.9
M11	min	4.5	61	3.4	4.8
	max	6.9	91	7.3	8.9
	avg	5.3	71	5.2	6.8
	sd	0.5	7	1.0	1.2
M12	min	4.2	57	2.6	4.9
	max	6.4	88	8.0	12.9
	avg	5.1	68	5.9	8.3
	sd	0.6	9	1.5	2.2

The seawater intake monitoring results during mid-flood tide, **Table 4.9**, shows that the DO levels ranged from 4.0 to 6.9 mg/L and mean values ranged from 4.9 to 5.3 mg/L. The SS levels ranged from 4.67 to 16.8 mg/L with mean values ranging from 6.5 to 8.3 mg/L.

4.4.3 Waste Management

Table 4.10 - Monthly Summary Waste Flow Table for December 2008

Month	Actual Quantities of Inert C&D Materials Generated Monthly
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	Total Quantity Generated	Broken Concrete (see Note 4)	Reused in the Contract	Reused in other Projects	Reused as Public Fill
	(in '000 m ³)				
December 2008	4.820	-	0.300	-	4.520
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 '000 m ³)
December 2008	11.07	0.250	-	-	0.127*

Notes:

- (1) The performance targets are given in PS Sub-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
 * Comprised of 95 m³ of non-inert C&D waste and 32 m³ of general refuse.

4.4.4 Landscape and Visual

As major construction activities undertaken during the reporting period were ground level infrastructure works and fillings works, the landscape and visual impacts are considered minimal.

Monitoring Results

Not Used

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 exceedances in TSP level were recorded at the monitoring stations during the reporting period.

5.1.2 Noise Impact

No exceedances in noise level were recorded at City Hall monitoring station during the reporting period.

5.1.3 Water Quality

Exceedances in marine water quality have been recorded during the reporting period as summarised in *Table 5.1*.

Table 5.1 - Summary of Water Quality Exceedances

Date	Tide	Parameter	Exceedance	Station
Water Quality Monitoring in Accordance with EM&A Manual				
1 st December 2008	Mid-flood	SS	AL,LL	M6 and M12
3 rd December 2008	Mid-ebb	DO	AL	M6
5 th December 2008	Mid-ebb	DO	AL	M6
8 th December 2008	Mid-ebb	DO	AL	M2A
10 th December 2008	Mid-ebb	DO	AL	M1A, M2A, M4B and M5B
	Mid-flood	DO	AL	M6 and M12
12 th December 2008	Mid-ebb	DO	AL	M6 and M12
	Mid-flood	DO	AL	M1A, M6, M10(B), M11 and M12
19 th December 2008	Mid-ebb	DO	AL	M4B, M5B, M6 and M12
	Mid-flood	DO	AL	M2A, M4B, M6 and M12
22 nd December 2008	Mid-ebb	DO	AL	M6 and M12
	Mid-flood	DO	AL	M6

Exceedances of Action Level for DO were recorded on 3rd, 5th, 8th, 10th, 12th, 19th and 22nd December 2008 during the water quality monitoring conducted by the ET. The exceedances were not considered to be related to the project works.

Exceedance of Action and Limit Level for SS was recorded on 1st December 2008 during the water quality monitoring conducted by the ET. The exceedances were not considered to be related to the project works.

5.1.4 Waste Management

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

5.1.5 *Landscape and Visual Impact*

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

5.1.6 *Site Environmental Audit*

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

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

Table 5.2 - Summary of Environmental Site Inspections

Date of Inspection	Observations	Action(s)
4 th December 2008	N/A. Note – notification was provided by RE to the Contractor on 2 nd December where it was reported that the silt curtain at FRAW was not installed appropriately resulting in leakage of silt. Remedial action took place by the Contractor whereby the silt curtain was properly installed. Appropriate installation was further clarified during the site inspection with no discolouration of water outside the silt curtain observed	N/A.
11 th December 2008	N/A. Note: Muddy discharge was observed in culvert J near the works area of the underpass. The muddy discharge was trapped by various silts curtains in the vicinity of culvert J and no muddy discharge was seen to have dispersed to the Harbour. The Contractor was reminded to provide additional silt curtains to ensure such muddy discharge is localised, if muddy discharge is unavoidable. Further to this, notification was provided by the Contractor on 12 th December 2008 whereby it was informed that no further muddy discharge was observed on the same day. Further Note: notification was provided by RE to the Contractor on 11 th December where it was reported that large amounts of muddy water were being discharged into Culvert F Temporary Diversion Channel from various work fronts along the channel. The follow-up observation to this was conducted with the IEC during this site inspection whereby no muddy water was observed. Further to this, remedial action took place by the Contractor whereby 2 additional silt curtains were installed at culvert F near the General Post Office for precaution. It was reported by the Contractor on 12 th December 2008 that further to such installation, no muddy discharge was dispersed to the Harbour.	N/A.
18 th December 2008	Patches of soil contaminated with oil were observed due to machine maintenance in the works area of the former Queen's Pier.	The contractor was reminded to collect and dispose of the contaminated soils as chemical waste.
24 th December 2008	Part of access roads was observed dry with dust emissions in the works area of former Queen's Pier.	The contractor was reminded to prevent dust emissions from the access roads by sufficient watering.
31 st December 2008	N/A.	N/A.

5.2 Environmental Complaint and Prosecution

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

5.3 Environmental Enquiries

No environmental enquiries were received during the reporting period.

5.4 Unusual Events

No unusual events were recorded during the reporting period.

6. FORECAST AND SCHEDULE

6.1 Key Engineering Works for the Coming Month

Future key works in the coming month (January 2009) are as follows:

- Rockfilling and geotextile layer behind the seawall in FRAW;
- Type A filling in FRAW and FRAE above +2.5mPD;
- Surcharging in FRAW and FRAE;
- Rockfilling behind the seawalls in FRAE;
- Installation of seawall blocks in FRAE & FRAW
- Construction of cantilever slab at caisson
- Pre-drilling and piling for Culvert F;
- Sheet piling, Excavation and Structural works for Culvert F;
- Structural works for Public Pier East (Pier No.10);
- Structural works for the MTRC 40 metre EOT;
- Remedial and outstanding works at and around Piers 7 & 8, Public Pier West and the CTB;
- Remedial and outstanding works at MYS Footbridge;
- General filling works above +2.5 mPD in IRAE;
- Construction of storm and foul drainage and gullies in hinterlands for Road P2, Road D7, Road D8 and Road D9 and adjacent to the GPO;
- Structural works for Eastern tunnel and Pump Sump and sheetpiling for Western Ramp at Road P2 Underpass;
- Roadworks along Lung Wui Road, Tim Wa Avenue (Road D8) and Road P2;
- Excavation and structural works for Culvert K extension ;
- Precasting for Culvert K, seawall blocks and retaining wall (offsite);
- Installation of cooling water mains for Tamar Development Project at IRAE;
- Reinstatement works for Culvert J;
- Construction of New ER Office.

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 days 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**.

Table 6.1 - Water Quality Monitoring Programme

Date	Day	Sampling Time	
02/01/09	Friday	10:47	16:25
05/01/09	Monday	12:00	17:00
07/01/09	Wednesday	08:30	13:49
09/01/09	Friday	10:38	15:38
12/01/09	Monday	08:30	13:30
14/01/09	Wednesday	09:22	14:50
16/01/09	Friday	10:34	16:23
19/01/09	Monday	12:00	17:00
21/01/09	Wednesday	10:07	17:00
23/01/09	Friday	10:36	15:36
26/01/09	Monday	12:00	17:00
27/01/09	Tuesday	08:30	13:30
28/01/09	Wednesday	08:30	13:53
29/01/09	Thursday	08:46	14:25
30/01/09	Friday	09:10	15:00
31/01/09	Saturday	09:39	15:39
02/02/09	Monday	10:39	17:00
04/02/09	Wednesday	11:56	17:00
06/02/09	Friday	09:49	17:00
09/02/09	Monday	12:00	17:00
11/02/09	Wednesday	08:30	13:42
13/02/09	Friday	08:57	14:54
16/02/09	Monday	10:20	17:00
18/02/09	Wednesday	08:30	17:00
20/02/09	Friday	09:50	17:00
23/02/09	Monday	11:56	16:57
25/02/09	Wednesday	12:00	17:00
27/02/09	Friday	08:30	13:53
02/03/09	Monday	09:10	15:45
04/03/09	Wednesday	09:56	17:00
06/03/09	Friday	08:30	17:00
09/03/09	Monday	11:25	16:52
11/03/09	Wednesday	12:00	17:00
13/03/09	Friday	08:30	13:45
16/03/09	Monday	08:55	15:35
18/03/09	Wednesday	08:30	17:00
20/03/09	Friday	08:30	17:00
23/03/09	Monday	10:55	15:55
25/03/09	Wednesday	11:54	17:00
27/03/09	Friday	12:00	17:00
30/03/09	Monday	08:30	14:41

6.3 Construction Programme for the Next 3 Months

The Contractor's works 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 were no exceedances recorded at the City Hall and the PLA air quality monitoring stations during the reporting period.

There were no noise exceedances recorded at the City Hall monitoring station during the reporting period.

Exceedances of Action Level for DO were recorded on 3rd, 5th, 8th, 10th, 12th, 19th and 22nd December 2008 during the water quality monitoring conducted by the ET. The exceedances were not considered to be related to the project works.

Exceedance of Action and Limit Level for SS was recorded on 1st December 2008 during the water quality monitoring conducted by the ET. The exceedances were not considered to be related to the project works.

Environmental site inspections for the CRIII project works area were undertaken on 4th, 11th, 18th, 24th and 31st December 2008. The observation and findings of the site inspection are outlined below:

4th December 2008

Notification was provided by RE to the Contractor on 2nd December where it was reported that the silt curtain at FRAW was not installed appropriately resulting in leakage of silt. Remedial action took place by the Contractor whereby the silt curtain was properly installed. Appropriate installation was further clarified during the site inspection with no discolouration of water outside the silt curtain observed.

11th December 2008

Muddy discharge was observed in culvert J near the works area of the underpass. The muddy discharge was trapped by various silts curtains in the vicinity of culvert J and no muddy discharge was seen to have dispersed to the Harbour. The Contractor was reminded to provide additional silt curtains to ensure such muddy discharge is localised, if muddy discharge is unavoidable. Further to this, notification was provided by the Contractor on 12th December 2008 whereby it was informed that no further muddy discharge was observed on the same day

The notification was provided by RE to the Contractor on 11th December where it was reported that large amounts of muddy water were being discharged into Culvert F Temporary Diversion Channel from various work fronts along the channel. The follow-up observation to this was conducted with the IEC during this site inspection whereby no muddy water was observed. Further to this, remedial action took place by the Contractor whereby 2 additional silt curtains were installed at culvert F near the General Post Office for precaution. It was reported by the Contractor on 12th December 2008 that further to such installation, no muddy discharge was dispersed to the Harbour.

18th December 2008

Patches of soil contaminated with oil were observed due to machine maintenance in the works area of the former Queen's Pier. The contractor was reminded to collect and dispose of the contaminated soils as chemical waste.

24th December 2008

Part of the access roads was observed dry with dust emissions in the works area of former Queen's Pier. The contractor was reminded to prevent dust emissions from the access roads by sufficient watering.

Overall, environmental impacts arising from site activities have been controlled and properly rectified.

