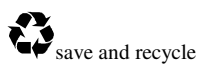


**Central Reclamation, Phase III  
Environmental Monitoring & Audit  
Monthly Report No. 53 – December 2007**





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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 1<sup>st</sup> July 2004.)

The works under the Contract HK 12/02 commenced on 28<sup>th</sup> 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<sup>th</sup> 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 53<sup>rd</sup> 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 2007.

### ***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 has been conducted throughout the monitoring period.
- 1-hour and 24-hour TSP monitoring was carried out on 4<sup>th</sup>, 10<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup>, 24<sup>th</sup> and 27<sup>th</sup> December 2007.
- Water quality monitoring was conducted during the mid-ebb and mid-flood tide periods on 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> (mid-flood and part of mid-ebb only due to equipment failure at intake stations), 10<sup>th</sup>, 12<sup>th</sup>, 14<sup>th</sup>, 17<sup>th</sup>, 19<sup>th</sup>, 21<sup>st</sup>, 25<sup>th</sup>, 27<sup>th</sup>, 29<sup>th</sup> and 31<sup>st</sup> December 2007.

### ***Exceedance of Action and Limit Levels***

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

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

Exceedances in marine water quality have been recorded at various marine-based impact stations and seawater intake stations during the reporting period as summarised in the following table:

Date	Tide	Parameter	Exceedance	Station
14 <sup>th</sup> December 2007	Mid-ebb	DO	AL	M1A, M2A, M4B, M5B, M6, M11 and M12
	Mid-flood	DO	AL	M1A, M2A, M3_M5A, M4B, M5B, M6, M11 and M12
21 <sup>st</sup> December 2007	Mid-ebb	SS	LL	M11
27 <sup>th</sup> December 2007	Mid-flood	SS	AL	M6
31 <sup>st</sup> December 2007	Mid-ebb	DO	AL	M1A, M2A, M3_M5A, M4B, M5B, M6, M11 and M12
	Mid-flood	DO	AL	M1A, M2A, M3_M5A, M4B, M5B, M6, M11 and M12

### ***Complaint Log***

There was no complaint received in relation to the environment impact during the reporting period.

**Executive Summary**

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***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 6<sup>th</sup>, 13<sup>th</sup>, 20<sup>th</sup> and 28<sup>th</sup> December 2007.

***Key Works for the Coming Month***

Future key works in the coming month (January 2008) are as follows:

- Dredging in FRAW;
- Rockfilling for the seawall mound in FRAW and placement seawall blocks;
- Reclamation filling in FRAW;
- Placement of seawall blocks in FRAE
- Rockfilling in FRAE;
- Pile cap construction for Public Pier East (Pier No.10);
- Preservation works at Queen's Pier;
- Excavation of temporary drainage channel at the former Star Ferry;
- Remedial and outstanding works at and around Piers 7 & 8 and the CTB;
- Remedial and outstanding works at Public Pier West;
- Remedial and outstanding works at MYS Footbridge;
- General filling works above +2.5 mPD in IRAE;
- Construction of storm and foul drainage in hinterlands for Road P2, Road D7, Road D8 and Road D9 and adjacent to the GPO;
- Reinstatement of existing Culvert J
- Temporary works and excavation for Road P2 Underpass;
- Pipe jointing associated with the stabilisation of the U-Trap structure;
- Roadworks along Lung Wui Road and Tim Wa Avenue (Road) D8
- Demolition of former pump stations at CR-18.
- Temporary works, excavation and piling for Culvert F extension; and
- Temporary works and excavation for Culvert K extension

## **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 28<sup>th</sup> 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<sup>th</sup> 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 53<sup>rd</sup> 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 2007.

*Not Used*

## **2. ENVIRONMENTAL STATUS**

### **2.1 Works Undertaken**

Details of main works in progress are as follows:–

**Removal and Preservation of Queen’s Pier** – Segments A and B were successfully delivered and placed at the permanent storage locations at Kau Shat Wan (KSW) on 2 December 2007 and 5 December 2007, respectively. Removal of remaining preserved items, namely columns, landing steps, bollards, benches and planters, continued during the month. All columns were removed on 13 December 2007 and the delivery to KSW commenced on 19 December 2007. Removal landing steps and the preparation works for the removal of planters were in progress. Instruction of construction for the shed structures B and C was given on 20 December 2007.

**Piers 7, 8 & CTB** – All outstanding and remedial civil & ABWF works have been completed with the exception of the additional tactile paths at the GFL of the CTB recently requested by CEDD/TD. Submissions of warranties for many architectural items as well as the independent glazing expert’s report on the recent breakage of a wind-breaker panel at Pier 8 Upper Deck are still outstanding. E&M defects items have also been substantially cleared except for the cold cathode neon lighting and the Contractor has again been urged to replace all the defective lights as soon as possible.

Concerning the problems with the cathodic protection system at Pier 8 which is yet to be taken over by CEDD/Port Works, the remedial works recommended by the CP designer / Maunsell have recently been completed, and future decay testing to determine the performance/acceptability of the system is in progress. Maunsell’s final report is expected around end January.

**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. The remedial works recommended by the CP designer/Maunsell have been completed and analysis of data from the further testing to determine the performance/acceptability of the system is in hand. Maunsell’s final report is expected around early January 2008.

Also, the independent glazing expert’s report on the recent spontaneous breakage of roofing panels is awaited.

**Public Pier East (PPE)** – All piles have been driven and load tested. All 92 piles have been concreted, with coring and sonic logging of the concrete infills also carried out and satisfactory test results obtained. The Contractor has now advised that pile cap construction will commence in early January 2008, once the tower crane has been erected on the adjacent seawall caisson.

**Man Yiu Street Footbridge** – The footbridge (excluding the lift at Pier A and staircase at Pier H) was opened to the Public on 23 June 2007. Following rectification of minor leaks at three movement joints at deck level, HyD/Structures carried out future inspections on 5&7 December 2007 and subsequently requested cleaning the deck & glass parapets prior to their taking over the superstructure. This cleaning operation was carried out overnight 20/21 December 2007 and handover inspection is arranged for 21 December 2007 afternoon. Concerning the unacceptable F5 concrete finishes at column and crossheads, HyD/Structures have indicated that painting would be acceptable, and the Contractor’s formal proposals are awaited.

**Stabilisation of U-trap Structure** – Delivery of the 2 no. special flexible pipe joints have recently been delivered to site and following a liaison meeting with HK Land on 17 December 2007, installation works have been tentatively scheduled for 12 & 19 January 2008.

**Environmental Status**

**MTRC Entrusted Works - 40m Extended Overrun Tunnel** – The Contractor’s revised method statements for diaphragm wall and barrette construction are now essentially acceptable subject to some minor comments / clarification, whilst discussions concerning their temporary flood protection wall proposals are ongoing. The Contractor’s updated detailed programme has been received; however their detailed method statement for the remainder of EOT construction is still awaited. Pre-drilling works for confirmation of founding levels for the diaphragm wall and barrette panels commenced on 16 November 2007 and all 35 no. drillholes have recently been completed. Mobilisation for diaphragm wall & barrette construction is scheduled for early January 2008.

**Existing Culvert F** – Both Topographic and Condition surveys have recently been completed and the Contractor’s reports are awaited.

**Culvert F Extension** – The Contractor’s method statement and temporary works proposals for Bay 2 construction are now essentially approved subject to some minor amendments, and cofferdam construction have been driven. The Contractor’s preliminary method statement for Bay 1 construction was received and commented on, and their revised submission is awaited. Pre-bored H piling works for Bays 3-6 are also now in progress with approx. 25 % of piles already completed.

Concerning DIA submissions, approval of Stage II diversion for the next wet season is becoming a serious / critical issue as DSD are insisting on “Zero Impact”. DSD are also now refusing to accept the site handover condition (i.e. 9 No. pipes at existing outfall) as the baseline for DIA comparison. Future to the unproductive meeting between DSD/CEDD/ACL on 16 November 2007, ACL held a follow-up meeting with LCSVOJV and their temporary diversions designer Maunsell on 26 November 2007, and future substantiation has recently been received from LCSVOJV to explain that their proposed scheme is the optimum arrangement taking account of all the site constraints. ACL subsequently wrote to CEDD on 13 December requesting their assistance to resolve the issue at a more senior level.

**Culvert J Extension (in IRAE)** – The new culvert structure has been completed and cover / stop-log installation works have just commenced. However the Contractor has still not commenced the extensive connection / reinstatement works at the southern end which are scheduled to be carried out this dry season, and their detailed proposals in this respect are still awaited.

Concerning the Contractor’s “Omega” joint proposals, the Contractor’s has appointed the international inspection and testing company SGS to supervise/oversee the production process at Guangzhou factory, and fabrication of the Culvert J joints is expected to commence at end of December 2007. ACL responded to the queries raised recently in CEDD’s letter of 7 December 2007 & DSD’s memo of 29 November 2007 via their 11 December 2007 letter, however, DSD’s formal acceptance is still awaited.

**Culvert K Extension** – Construction within the existing land for Bay 1-3 has commenced and the Contractor’s detailed method statement and temporary works details for the interface / connection with the existing culvert are still awaited. The Contractor’s DIA submission for the temporary flow diversion required during Culvert K construction and the ongoing reclamation was discussed at the meeting CEDD/DSD/ACL on 16 November 2007, and (similar to culvert F Extension) DSD are insisting on “Zero Impact”. CEDD’s assistance to resolve at a more senior level has also been requested via ACL’s letter of 13 December 2007.

DSD have confirmed their agreement in principle to the Contractor’s proposed alternative design involving the use of precast units for the new culvert works within the reclaimed area, and the Contractor’s detailed proposals in this respect are still awaited.

**Drainage Works** – Some revised drawings concerning the layout and vertical profile of Road P2 have recently been issued which will now enable the storm drainage manholes at the section in front of the PLA barracks to be completed.

Concerning the 2100mm diameter bypass pipe connecting the HK16/03 storm drain to the new Culvert F, the site area was handover to HEC on 14 November 2007 and HEC's contractor has removed the top half of the cement bonded sand surround to the 275KV cables. HEC are now arranging temporary power suspensions for their subsequent raising/slewing of the cables, and it is expected that HEC should complete all their works around end March 2008. Construction of the adjacent 500mm diameter foul pipeline (DSD entrustment work) connecting to the existing deep trunk sewer manhole continues.

Construction of the additional manhole (D10/7) requested by DSD at the connection of the existing 1650mm diameter & 900mm diameter storm drains in Lung Wui Road in front of Citic Tower continues slowly due to presence of existing concrete surround and adjacent large traffic sign footing and high voltage cables.

Foul drainage works behind cooling water pumping stations at IRAE is now complete.

**Water Mains** – Nothing to report this month.

**Roadworks** – Roadworks and associated drainage at Road D8 as well as at Lung Wui Road (in front of Citic Tower) continue. Revised layout and vertical profile details for the section of Road P2 in front of the PLA barracks were issued to the Contractor on 6 December 2007, and the revised road drainage /gully drawing were sent to CEDD for approval on 19 December 2007 prior to issue to the Contractor, so it is expected these roadworks can resume shortly. ACL are currently finalising the vertical profile and drainage for the remainder of Road P2. ACL has also written to CEDD concerning the requirement for the addition land to be allocated for laying new utilities due to new footpath being either already occupied by existing cooling mains or not being wide enough, and this matter is yet to be resolved concerning the final access arrangement to City Hall, a VO has been issued deleting the western access road towards Edinburgh Place, and CEDD's direction on how to proceed is still awaited.

**Demolition of Star Ferry Piers** – For the remaining piles that will be within the envelope of the proposed location of Culvert F pile caps, the Contractor has advised that he will request ACL to revise the pile cap/pile design to avoid conflicts with these piles. DSD has confirmed no objection to the proposal. CEDD advised MTRC that the associated cost will be incorporated in the Airport Railway Project.

**IRAW** – Removal of the armour in the temporary seawall continues in IRAW in December 2007.

**In IRAE** – Progress has been made on Road P2 Underpass temporary works, sewerage works and Culvert J Extension in December 2007. This is described under separate headings elsewhere within the report.

**In FRAW** – Installation of Caisson C15 carried out on 30 November 2007. All seawall caisson units are now installed in their final locations. At the western portion of FRAW, at its interface with the existing seawall, the Contractor is removing the armour rock to this seawall prior to filling against it.

The Contractor and CEDD had made application to EPD for approval of a variation to the FEP for the commencement of the filling Type A material after the completion of the seawall caisson, but before the seawall is fully enclosed with the remaining seawall blocks and culvert F outfall unit. It is anticipated that filling will start in early January 20078 in areas 70m from the seawall, after the approval has been obtain.

**Environmental Status**

**In FRAE** – Laying of the seawall blocks continues to the north side. The Contactor has mobilized and addition gang for the laying of levelling stones and seawall blocks on the south side near the existing seawall. Removal of temporary seawall in IRAE was carried out and mirror sand filling took place. The sand fill was the material excavated from the Road P2 Underpass.

**Pre-cast Works** – Progress of the casting of seawall blocks at the Zhongshan precast yard continues.

**Road P2 Underpass** – Sheetpiling for the cofferdam at the pump sump area of the underpass was completed. Excavation of the pump sump area has slowed considerably as the Contractor had problems in controlling the water ingress. Dewatering has just resumed after grouting was carried out on 8 December 2007. Design drawings, including the general layout, profiles, and the RC drawing for the tunnel were passed to the Contractor to proceed with the structural works. For the west side of the underpass, the Contractor has excavated down to the second strut level to the west side of the underpass as a few sheetpiles on the east corner had still to be completed. These are now complete. To the south of the underpass, the Contractor has completed extending the sheetpiles to retain the slopes for the raised platform, to be handed over for the Tamar development project and filling of the platform is in progress.

**Cooling Water Pumping System for P8.1 (HSBC)** – HSBC objected to the proposed change in the alignment of the discharge pipes resulting from a conflict with Culvert F foundation. A further review of the design, to amend the pile cap of Culvert F is being carried out.

A trial pit at the proposed connection point was carried out under the recently implemented TTA/TPA but only part of the existing pipes could be exposed. Future investigation is required to verify the connection details at these locations.

**Cooling Water Pumping System for P9.1 (Centralised Government Mains)** – EMSD reported on 7 November 2007 that the operation of main seawater pump no. SWP-6-7 was suspended as a result of serious leakage. On 13 November 2007, EMSD further reported leakage problem on pump no. SWP-6-6. Series of breakdown and tripping incidents for the Variable Speed Drive (VSD) were also reported on 20 October, 5 November, 6 November and 17 November 2007.

Rectification works for VSD No. 4 has been completed and operation resumed on 30 November 2007.

For main seawater pump SWP-6-7, the Contractor advised that the new mechanical seal and bearing for replacement have been delivered. Detail rectification methods will be agreed with EMSD before the commencement of the rectification works. .

**Demolition of Former Pumping Stations** – The Contractor has completed the demolition of the above ground structure of Swire pump station, ESB of the EMSD pump station. Sheetpiling for demolition of the underground structure is in progress.

**Permanent Sea Water Intake System for PLA** – Daily inspections and routine diving inspections carried out to ensure that the intake screen is not obstructed. Laying of dosing and silt pipes is in progress.

**ESB Construction** – The outstanding & remedial works at ESB 8.1 have been completed and final inspection at end of maintenance period held. Concerning ESB 8.1, outstanding & remedial works are nearing completion.

**Refloating of Caissons** – Installation of last caisson C15 on 30 November 2007. Placing of ballast material is in progress and in-situ concrete works for the caissons are in hand.

## 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 Marine Dumping Permit - Uncontaminated Sediment from FRAW & FRAE (EP/MD/08-062)	15 <sup>th</sup> November 2007	4 <sup>th</sup> December 2007
2	Variation of Environmental Permit No. FEP-01/122/2003 Condition 3.3 (EP-01/122/2003/A)	27 <sup>th</sup> November 2007	27 <sup>th</sup> December 2007
3	New Marine Dumping Permit - Contaminated Sediment from FRAW & FRAE (EP/MD/08-066)	30 <sup>th</sup> November 2007	14 <sup>th</sup> December 2007
4	Variation of Environmental Permit No. EP-122/2002 Condition 3.3 (EP-122/2002/A)	30 <sup>th</sup> November 2007	27 <sup>th</sup> December 2007
5	Application of Construction Noise Permit for Man Yiu Street & Culvert F (CNP No. GW-RS0819-07)	4 <sup>th</sup> December 2007	20 <sup>th</sup> December 2007
6	Application of Construction Noise Permit for Marine Works at FRAW (CNP No. GW-RS0818-07)	4 <sup>th</sup> December 2007	20 <sup>th</sup> December 2007
7	Application of Construction Noise Permit for Marine Works at Final Reclamation Area West	15 <sup>th</sup> December 2007	Pending
8	Application for the permit to Dump Material (Category M&H Dredged Sediment) at Sea Under the Dumping at Sea Ordinance	27 <sup>th</sup> December 2007	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	Gold Wastewi\$e Logo Certificate	-	3 <sup>rd</sup> December 2007
2	New Marine Dumping Permit(EP/MD/08-062)	-	7 <sup>th</sup> December 2007
3	New Marine Dumping Permit(EP/MD/08-066)	-	17 <sup>th</sup> December 2007
4	New Construction Noise Permits GW-RS0818-07 and GW-RS0819-07	-	22 <sup>nd</sup> December 2007
5	Environmental Permit No. EP-01/122/2003/A	-	28 <sup>th</sup> December 2007
6	Water Quality Monitoring Programme for EP No. EP-01/122/2003/A Condition 3.3	-	31 <sup>st</sup> December 2007

**Environmental Status**

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**

No	Certification Subject	Letter Ref.	Date of Submission	Approved Status
1	Certification of Monthly Environmental Monitoring & Audit Report No. 52 November 2007	3128/M45/200/OC9914/S B/WW/KC/ec	14 <sup>th</sup> December 2007	Issued on 14 <sup>th</sup> December 2007
2	Certification Sheet - Additional water monitoring programme for VEP Condition 3.3	3128/M45/200/OC9988/J V/SB/ww/ec	31 <sup>st</sup> December 2007	Issued on 31 <sup>st</sup> December 2007

**2.4 Environmental Meetings**

Nil.

**2.5 Environmental Monitoring Locations**

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

*Not Used*

### 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 <sub>10</sub> , L <sub>90</sub> ,	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 for works at FRAW and culvert J to reduce SS dispersion. Further, 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. The Contractor has implementing their Drainage Management Plan.

**4. MONITORING RESULTS**

**4.1 Impact Monitoring Schedule in December 2007**

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 6<sup>th</sup>, 13<sup>th</sup>, 20<sup>th</sup> and 28<sup>th</sup> December 2007.

1-hour and 24-hour TSP monitoring was carried out on 4<sup>th</sup>, 10<sup>th</sup>, 14<sup>th</sup>, 20<sup>th</sup>, 24<sup>th</sup> and 27<sup>th</sup> December 2007.

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 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		
3-Dec-07	MID-EBB	07:22	-	10:42
	MID-FLOOD	12:47	-	15:30
5-Dec-07	MID-EBB	08:01	-	10:32
	MID-FLOOD	14:02	-	16:13
7-Dec-07	MID-EBB	08:33	-	13:57
	MID-FLOOD	13:48	-	17:36
10-Dec-07	MID-EBB	10:34	-	15:33
	MID-FLOOD	12:17	-	18:16
12-Dec-07	MID-EBB	10:50	-	15:24
	MID-FLOOD	07:00	-	13:20
14-Dec-07	MID-EBB	11:32	-	16:28
	MID-FLOOD	07:42	-	15:29
17-Dec-07	MID-EBB	13:48	-	18:12
	MID-FLOOD	10:35	-	13:48
19-Dec-07	MID-EBB	07:02	-	12:29
	MID-FLOOD	11:30	-	15:40
21-Dec-07	MID-EBB	07:42	-	15:45
	MID-FLOOD	08:30	-	16:26
25-Dec-07	MID-EBB	10:28	-	14:59
	MID-FLOOD	06:42	-	13:15
27-Dec-07	MID-EBB	11:45	-	16:15
	MID-FLOOD	07:55	-	14:32
29-Dec-07	MID-EBB	13:03	-	17:34
	MID-FLOOD	09:15	-	15:22
31-Dec-07	MID-EBB	13:51	-	18:06
	MID-FLOOD	10:34	-	13:51

## 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 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

**Monitoring Result**

**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"> <li>• This instrument was portable and weatherproof and used a DC power source. The equipment was capable of measuring: <ul style="list-style-type: none"> <li>a) DO levels in the range of 0–20 mg/l and 0–200% saturation; and</li> <li>b) Temperature of between 0–45 degree Celsius.</li> </ul> </li> <li>• 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.</li> </ul>
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	16 <sup>th</sup> October 2007
High Volume Sampler	Every two months	27 <sup>th</sup> December 2007

## **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 F*. Graphical representation of the air quality monitoring data is provided in *Annex G*.

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

### **4.4.2 Water Quality Monitoring Results**

Water quality monitoring was conducted at all water quality monitoring locations during the reporting period. On-site measurement results of intake stations during the mid-ebb tide on 7<sup>th</sup> December 2007 were unavailable due to equipment failure. The water quality monitoring results 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.

**Monitoring Result**

**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	5.3	5.2	69	2.4	3.1
	max	7.6	7.0	102	6.2	9.0
	avg	6.2	6.0	81	4.3	5.5
	sd	0.5	0.4	7	1.0	1.4
C2	min	4.8	4.7	62	1.9	3.3
	max	7.6	6.8	102	5.4	6.3
	avg	6.3	6.0	83	3.7	4.7
	sd	0.6	0.6	8	0.9	0.7
M07	min	4.8	4.5	61	1.7	3.3
	max	6.8	6.5	91	5.9	7.4
	avg	5.6	5.5	74	4.0	5.2
	sd	0.5	0.6	7	1.0	0.9
M08	min	5.0	5.1	67	1.9	3.9
	max	6.8	6.4	92	6.8	10.1
	avg	5.9	5.8	78	4.2	5.3
	sd	0.5	0.5	7	1.2	1.1
M09	min	5.0	4.9	66	2.0	3.9
	max	7.2	6.7	96	6.0	7.9
	avg	5.8	5.6	76	3.9	5.2
	sd	0.5	0.5	7	1.0	0.9
M10	min	5.1	5.3	68	2.5	3.8
	max	7.4	6.4	98	6.6	10.7
	avg	6.0	5.8	79	4.3	5.8
	sd	0.5	0.4	7	0.9	1.4

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 5.0 and 7.4 mg/L with mean value about 5.9 to 6.0 mg/L and DO measurements in the bottom layer ranged from 5.1 to 6.4 mg/L with a mean value about 5.8 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 to 7.6 mg/L with a mean value of about 6.2 to 6.3 mg/L. DO measurements in the bottom layer ranged between 4.7 and 7.0 mg/L with a mean value of about 6.0 mg/L.

At M8 and M10, SS levels during mid-ebb tide ranged from 3.8 to 10.7 mg/L with mean values about 5.3 to 5.8 mg/L at the marine-based impact stations. This is comparable to results from the control stations in which SS content ranged from 3.1 to 9.0 mg/L with mean values ranged about 4.7 to 5.5 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
C1	min	5.3	5.1	67	2.3	3.7
	max	7.2	6.8	96	5.7	8.3
	avg	6.2	6.0	81	4.2	5.6
	sd	0.5	0.5	7	0.9	1.1
C2	min	5.0	4.8	63	1.7	3.3
	max	7.3	6.6	98	6.2	8.8
	avg	6.3	6.0	82	3.9	5.4
	sd	0.5	0.5	7	1.1	1.5
M07	min	4.4	4.3	57	2.3	3.3
	max	6.0	6.0	80	5.9	7.0
	avg	5.3	5.2	71	4.3	5.4
	sd	0.4	0.5	6	0.8	0.9
M08	min	5.1	5.0	65	1.9	3.9
	max	6.9	6.9	91	6.8	8.7
	avg	6.0	5.8	79	4.5	5.6
	sd	0.5	0.5	7	1.1	1.1
M09	min	4.8	4.8	63	3.0	3.6
	max	6.6	6.2	89	7.2	8.1
	avg	5.7	5.4	74	4.7	5.8
	sd	0.6	0.5	7	1.1	1.2
M10	min	5.3	5.2	68	2.1	3.9
	max	7.0	6.8	95	6.0	7.9
	avg	6.1	5.9	80	4.4	5.7
	sd	0.5	0.5	7	0.9	1.0

During mid-flood tide, DO levels at marine-based impact stations (M8 and M10) in the surface to middle layer ranged from 5.1 to 7.0 mg/L with a mean value about 6.0 to 6.1 mg/L, while DO values in the bottom layer ranged between 5.0 and 6.9 mg/L with a mean value about 5.8 to 5.9 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 5.0 and 7.3 mg/L with a mean value of range around about 6.2 to 6.3 mg/L and DO results in the bottom layer ranged from 4.8 and 6.8 mg/L with a mean value of range around 6.0 mg/L.

At M8 and M10, SS levels during mid-flood tide ranged from 3.9 to 8.7 mg/L with mean values about 5.6 to 5.7 mg/L. This is comparable to results from the control stations (C1 and C2) in which SS content ranged from 3.3 to 8.8 mg/L with mean values ranged around 5.4 to 5.6 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
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**Monitoring Result**

		DO mg/L	DOS %	NTU	SS mg/L
M01A	min	4.4	57	1.9	3.9
	max	6.4	84	6.9	7.8
	avg	5.5	73	4.1	6.0
	sd	0.6	8	1.4	1.2
M02A	min	4.0	53	1.9	4.9
	max	6.5	85	9.5	14.7
	avg	5.4	72	4.3	7.0
	sd	0.7	9	1.9	2.5
M03_M5A	min	4.2	55	2.1	4.7
	max	6.2	82	7.4	11.9
	avg	5.4	72	4.0	6.7
	sd	0.6	8	1.4	1.8
M04B	min	4.2	55	2.1	4.6
	max	6.4	85	7.4	9.2
	avg	5.5	73	4.0	6.4
	sd	0.6	9	1.4	1.4
M05B	min	4.3	56	2.0	4.2
	max	6.2	82	6.9	8.7
	avg	5.3	71	4.0	6.4
	sd	0.6	8	1.4	1.1
M06	min	4.0	52	2.1	4.6
	max	5.9	80	8.5	8.9
	avg	5.0	67	4.4	6.0
	sd	0.5	7	1.7	1.1
M11	min	4.3	56	2.1	4.9
	max	6.5	85	7.6	16.6
	avg	5.4	72	4.1	7.0
	sd	0.6	8	1.3	3.0
M12	min	4.4	58	2.5	4.2
	max	6.1	82	5.8	7.1
	avg	5.2	69	4.1	5.9
	sd	0.5	7	1.1	0.9

The seawater intake monitoring results during mid-ebb tide, **Table 4.8**, shows that the DO levels ranged from 4.0 to 6.5 mg/L with mean values ranged from 5.0 to 5.5 mg/L. The SS levels ranged from 3.9 to 16.6 mg/L with mean values ranged from 5.9 to 7.0 mg/L.

**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

Station		Parameter			
		DO mg/L	DOS %	NTU	SS mg/L
M01A	min	4.3	56	1.9	4.2
	max	6.3	84	6.7	9.0
	avg	5.4	72	4.7	6.9
	sd	0.6	8	1.7	1.5
M02A	min	4.4	58	2.3	5.0
	max	6.4	86	7.8	9.9
	avg	5.4	71	4.9	7.3
	sd	0.5	7	1.4	1.4
M03_M5A	min	4.4	57	2.9	5.3
	max	6.2	83	6.4	10.1
	avg	5.3	71	4.7	7.3
	sd	0.5	7	1.2	1.3
M04B	min	4.4	58	1.6	4.6
	max	6.3	84	8.0	10.4
	avg	5.4	72	4.8	6.9
	sd	0.6	7	2.1	1.6
M05B	min	4.2	55	3.3	4.7
	max	6.1	82	6.6	9.9
	avg	5.2	70	5.0	7.4
	sd	0.5	7	0.9	1.4
M06	min	4.1	53	1.7	5.1
	max	5.8	78	7.9	11.7
	avg	5.1	68	4.8	7.3
	sd	0.5	7	1.9	1.9
M11	min	4.3	55	2.0	4.6
	max	6.1	81	9.5	9.1
	avg	5.4	72	4.7	6.5
	sd	0.6	8	2.1	1.5
M12	min	4.2	57	2.1	5.3
	max	5.8	78	8.5	9.8
	avg	5.1	68	4.8	7.3
	sd	0.4	6	1.7	1.4

The seawater intake monitoring results during mid-flood tide, **Table 4.9**, shows that the DO levels ranged from 4.1 to 6.4 mg/L with mean values ranged from 5.1 to 5.4 mg/L. The SS levels ranged from 4.2 to 11.7 mg/L with mean values ranged from 6.5 to 7.4 mg/L.

#### 4.4.3 Waste Management

Table 4.10 - Monthly Summary Waste Flow Table for December 2007

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 <sup>3</sup> )				
December 2007	1.535	-	0.950	-	0.525
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 <sup>3</sup> )
December 2007	-	0.260	-	-	0.085*

**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 45 m<sup>3</sup> of non-inert C&D Waste and 40 m<sup>3</sup> of general refuse.

#### 4.4.4 Landscape and Visual

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

*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 exceedance in TSP level was recorded at the monitoring stations during the reporting period.

#### **5.1.2 Noise Impact**

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

#### **5.1.3 Water Quality**

Exceedances in marine water quality have been recorded at various marine-based impact stations and seawater intake stations. These are summarised in **Table 5.1**.

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

<b>Date</b>	<b>Tide</b>	<b>Parameter</b>	<b>Exceedance</b>	<b>Station</b>
14 <sup>th</sup> December 2007	Mid-ebb	DO	AL	M1A, M2A, M4B, M5B, M6, M11 and M12
	Mid-flood	DO	AL	M1A, M2A, M3_M5A, M4B, M5B, M6, M11 and M12
21 <sup>st</sup> December 2007	Mid-ebb	SS	LL	M11
27 <sup>th</sup> December 2007	Mid-flood	SS	AL	M6
31 <sup>st</sup> December 2007	Mid-ebb	DO	AL	M1A, M2A, M3_M5A, M4B, M5B, M6, M11 and M12
	Mid-flood	DO	AL	M1A, M2A, M3_M5A, M4B, M5B, M6, M11 and M12

Exceedances of the Action Levels for DO were recorded on the 14<sup>th</sup> and 31<sup>st</sup> December 2007. All exceedances recorded were considered to have been not related to the project works.

Exceedance of the Action Level for SS was recorded on the 27<sup>th</sup> December 2007. Exceedance of Limit Level for SS was recorded on the 21<sup>st</sup> December 2007. All exceedances recorded were considered to have been not 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**

<b>Date of Inspection</b>	<b>Observations</b>	<b>Action(s)</b>
6 <sup>th</sup> December 2007	None negative.	Not applicable.
13 <sup>th</sup> December 2007	None negative.	Not applicable.
20 <sup>th</sup> December 2007	None negative.	Not applicable.
28 <sup>th</sup> December 2007	None negative.	Not applicable.

## **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**

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

- Dredging in FRAW;
- Rockfilling for the seawall mound in FRAW and placement seawall blocks;
- Reclamation filling in FRAW;
- Placement of seawall blocks in FRAE
- Rockfilling in FRAE;
- Pile cap construction for Public Pier East (Pier No.10);
- Preservation works at Queen's Pier;
- Excavation of temporary drainage channel at the former Star Ferry;
- Remedial and outstanding works at and around Piers 7 & 8 and the CTB;
- Remedial and outstanding works at Public Pier West;
- Remedial and outstanding works at MYS Footbridge;
- General filing works above +2.5 mPD in IRAE;
- Construction of storm and foul drainage in hinterlands for Road P2, Road D7, Road D8 and Road D9 and adjacent to the GPO;
- Reinstatement of existing Culvert J
- Temporary works and excavation for Road P2 Underpass;
- Pipe jointing associated with the stabilisation of the U-Trap structure;
- Roadworks along Lung Wui Road and Tim Wa Avenue (Road) D8
- Demolition of former pump stations at CR-18.
- Temporary works, excavation and piling for Culvert F extension; and
- Temporary works and excavation for Culvert K extension

### **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**.

**Table 6.1 - Water Quality Monitoring Programme**

Date	Day	Sampling Time	
02/01/2008	(Wednesday)	08:30	13:30
04/01/2008	(Friday)	09:32	14:32
07/01/2008	(Monday)	11:37	16:37
09/01/2008	(Wednesday)	08:30	13:30
11/01/2008	(Friday)	09:09	14:25
14/01/2008	(Monday)	10:52	16:49
16/01/2008	(Wednesday)	12:00	17:00
18/01/2008	(Friday)	08:30	13:30
21/01/2008	(Monday)	11:32	16:32
23/01/2008	(Wednesday)	08:30	13:30
25/01/2008	(Friday)	08:58	14:25
28/01/2008	(Monday)	10:17	16:15
30/01/2008	(Wednesday)	11:14	17:00
01/02/2008	(Friday)	09:23	17:00
04/02/2008	(Monday)	10:41	15:41
06/02/2008	(Wednesday)	07:19	12:19
08/02/2008	(Friday)	08:30	13:30
11/02/2008	(Monday)	09:17	15:20
13/02/2008	(Wednesday)	10:21	16:59
15/02/2008	(Friday)	11:38	17:00
18/02/2008	(Monday)	10:37	15:37
20/02/2008	(Wednesday)	12:00	17:00
22/02/2008	(Friday)	08:30	13:30
25/02/2008	(Monday)	08:47	14:51
27/02/2008	(Wednesday)	09:31	16:05
29/02/2008	(Friday)	08:30	17:00
03/03/2008	(Monday)	08:30	17:00
05/03/2008	(Wednesday)	11:21	16:21
07/03/2008	(Friday)	12:00	17:00
10/03/2008	(Monday)	08:30	14:11
12/03/2008	(Wednesday)	08:59	15:37
14/03/2008	(Friday)	09:51	17:00
17/03/2008	(Monday)	09:36	17:00
19/03/2008	(Wednesday)	11:17	16:43
21/03/2008	(Friday)	12:00	17:00
25/03/2008	(Tuesday)	08:30	14:17
27/03/2008	(Thursday)	08:30	15:15
29/03/2008	(Friday)	08:30	17:00

### **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.

## **7. CONCLUSION**

There were no exceedances recorded at the City Hall and the PLA air quality monitoring stations during the reporting period.

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

Exceedances of the Action Levels for DO were recorded on the 14<sup>th</sup> and 31<sup>st</sup> December 2007. All exceedances recorded were considered to have been not related to the project works.

Exceedance of the Action Level for SS was recorded on the 27<sup>th</sup> December 2007. Exceedance of Limit Level for SS was recorded on the 21<sup>st</sup> December 2007. All exceedances recorded were considered to have been not related to the project works.

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



***Annex A***

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***Project Organisation /  
Contact Information***



***Annex B***

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***Contractor's Work Programme***



***Annex C***

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***Location of  
Monitoring Stations and Outfalls***

***Annex D***

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

***Annex E***

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



*Annex F*

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*Air Quality Monitoring Results*



***Annex G***

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

***Annex H***

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***Noise Monitoring Results***

***Annex I***

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



*Annex J*

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*Water Quality Monitoring Results*

***Annex K***

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

***Annex L***

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***Water Quality Exceedance Review***