

**Central Reclamation, Phase III
Environmental Monitoring & Audit
Monthly Report No. 99 – October 2011**

	Page
1. INTRODUCTION	1
1.1 Basic Project Information	1
2. Environmental Status	3
2.1 Works Undertaken	3
2.2 Environmental Permits	4
2.3 Environmental Document Submission	4
2.4 Environmental Meetings.....	4
2.5 Environmental Monitoring Locations.....	4
3. EM&A Requirements	5
3.1 Summary of Impact EM&A Requirements	5
3.2 Environmental Quality Performance Limits	6
3.3 Event Action Plan	6
3.4 Implementation of Environmental Measures	6
4. Monitoring Results.....	7
4.1 Impact Monitoring Schedule in October 2011	7
4.2 Monitoring Methodology	7
4.3 Monitoring Equipment	8
4.4 Impact Monitoring Results.....	10
5. Environmental Complaints and Non-Compliance	15
5.1 Environmental Exceedances	15
5.2 Environmental Complaint and Prosecution	16
5.3 Environmental Enquiries	16
5.4 Unusual Events.....	16
6. Forecast and Schedule.....	18
6.1 Key Engineering Works for the Coming Month	18
6.2 Monitoring Schedules for the Coming Months	19
6.3 Construction Programme for the Next 3 Months	19
7. Conclusion.....	21

List of Annexes

Annex A	Project Organisation / Contact Information
Annex B	Contractor’s Work Programme
Annex C	Location of Monitoring Stations & Outfalls
Annex D	Environmental Quality Performance Limits for Air, Noise and Water Quality
Annex E	Event and Action Plan for Air, Noise and Water Quality
Annex F	Air Quality Monitoring Results
Annex G	Graphical Representation of Air Quality Monitoring Results
Annex H	Noise Monitoring Results
Annex I	Graphical Representation of Noise Monitoring Results
Annex J	Water Quality Monitoring Results
Annex K	Graphical Representation of Water Quality Monitoring Results
Annex L	Additional DO Water Monitoring Results

List of Tables

Table 2.1 - Summary of the Environmental License / Permit Status.....	4
Table 2.2 - Summary of Environmental Certification Sheet Submissions.....	4
Table 3.1 - Summary of Impact EM&A Requirements.....	5
Table 4.1 - Equipment for Air Quality Monitoring.....	8
Table 4.2 - Noise Monitoring Equipment.....	8
Table 4.3 - Equipment Used for Marine Water Quality Monitoring.....	8
Table 4.4 - Equipment Calibration Frequencies.....	10
Table 4.5 - Summary of Mid-ebb Results for Seawater Intake Stations.....	11
Table 4.6 - Summary of Mid-flood Results for Seawater Intake Stations.....	11
Table 4.7 - Summary of Mid-ebb Results for Reference Stations.....	12
Table 4.8 - Summary of Mid-flood Results for Reference Stations.....	12
Table 4.9 - Monthly Summary Waste Flow Table for October 2011.....	13
Table 5.1 - Summary of Environmental Site Inspections.....	15

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

Executive Summary

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 99th 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 October 2011.

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 4th, 10th, 14th, 20th and 26th October 2011.
- The compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on 3rd, 5th, 7th, 10th, 12th, 14th, 17th, 19th, 21st, 24th, 26th, 28th and 31st October 2011 by the ET during the mid-ebb and mid-flood tide periods.
- Additional water quality monitoring for the “the water quality of embayment area between the eastern seawall and the Hong Kong Convention and Exhibition Centre (HKCEC) upon completion of eastern seawall”, in accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9. Water monitoring was conducted on 7th, 10th, 17th, 24th and 31st October 2011.

Exceedance of Action and Limit Levels

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

24 noise exceedances were recorded at the monitoring station on 1st, 7th, 8th, 11th, 25th, 27th and 28th October 2011. On 1st October 2011, fireworks display was carried out at night. As such, the noise exceedances are considered to be attributed by external factors and unlikely to be related to project works. On 7th, 8th and 11th October 2011, the major noise source was noise generated from concrete breaking for City Hall maintenance works at the ground floor near the monitoring location during the monitoring period. On 25th, 27th and 28th October 2011, excavation and breaking activities by hand-held breakers were undertaken in the works area of former Queen’s Pier during monitoring period. Therefore, the exceedances were considered to be attributed to the Project works, possibly due to noise generated by the hand-held breakers. ET communicated

this with the Contractor representative on 28th October 2011 (approx. 16:30). According to site observations and Contractor record, adopting the use of single hand-held breaker and decreasing the frequency of breaking in the works area of former Queen's Pier were undertaken to reduce the nuisance to the NSR.

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 6th, 13th, 20th and 27th October 2011. The observations and findings of the site inspection are summarised as below:

6th October 2011

Nil.

13th October 2011

Nil.

20th October 2011

Oil barrels and small containers filled with lubricates were observed near the general post office area. The contractor was reminded to provide drip trays for barrels containing lubricants.

27th October 2011

Workers were found to remove the crushed stones by the water jet at the seafront near the pumping room of portion 4. The contractor was reminded to avoid the trashes or crushed stones fall to sea form the seafront during the cleaning process.

Key Works for the Coming Month

Future key works in the coming month (November 2011) are as follows:

- Type A filling in FRAW and FRAE above +2.5mPD
- General filling works above +2.5mPD in IRAE
- Surcharging in FRAW and FRAE
- Construction of GPO boundary wall
- Construction of PLA boundary wall
- Construction of Promenade enhancement works
- Construction of buildings at PLA berth
- Installation of cooling mains discharge pipes in FRAE and FRAW
- Construction of CWB structure
- Backfilling of CWB structure
- Importation of fill material
- Strengthening of Man Yiu Street Footbridge

Not Used

1. INTRODUCTION

1.1 Basic Project Information

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

The Main Works Contract HK 12/02 for CRIII commenced on 28th February 2003 and was awarded to Leighton-China State-Van Oord Joint Venture (LCSVO-JV) for the construction of the CRIII Engineering Works. Contract HK 16/03 for the CRIII Hinterland Drainage Improvement Works was awarded to Wang Kee Construction Co. Ltd. and works for this contract commenced on 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) and (EP-01/122/2003/C) were granted on 26 May 2008 and 17 July 2009. This was then superseded by another variation of Further Environmental Permit for the Project (EP-01/122/2003/D) granted on 1 September 2009. The CRIII Project Organisation is shown in **Annex A**.

This is the 99th 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 October 2011.

Not Used

2. ENVIRONMENTAL STATUS

2.1 Works Undertaken

Details of the main works in progress are as follows:

Man Yiu Street Footbridge – Concrete to the lower first stage of the enlarged pilecap was cast on 27 October 2011.

Culvert F Extension – Nothing to report.

Drainage Works – The construction of the stormwater drains and sewers behind the footpath of Road P2 eastbound carriageway between Road D9 and Lung Wui Road, at the GMB facility, in the vicinity of the advance promenade and outside the PLA berth and the Central Barracks are in progress.

Water Mains – The connection works for the fresh and salt water mains from the junction of Lung Wui Road / Road D11 to Road D8 through the top of P2 underpass area is complete. The installation of the irrigation water supply systems along Road P2 between Man Yiu Street and Road D8 is in progress.

Roadworks – Roadworks at Road P2 eastbound carriageway between Road D8 & Lung Wui Road were substantially complete. Repaving works at Edinburgh Place fronting City Hall is in progress. The southern footpath of P2 underpass was opened on 10 October 2011.

Road P2 Advance Landscaping Works – Tree planting along Road P2 has commenced and 39 trees have been planted.

CWB Works – Tunnel structure construction is complete at Portions 1, 2, 3, 4, 6a, 6b, 6c and 7. Construction of the external insitu walls and roof slab at Portion 5 is in progress.

Promenade Enhancement Works – Waterproofing works on top of the pumping stations are in progress. Works at the rear portion of P11.1 and P11.2 will commence after the drainage work and cable trough are complete. Construction of Shelter P and staircase is in progress.

PLA Berth – Washroom, office building, ESB, foam tank and FS pump house are structurally complete and ABWF and E&M works are in progress.

PLA Boundary Wall – The hoarding inside and outside the PLA, and the temporary wheel washing facilities / refuse collection point inside the PLA were complete. The demolition of the existing boundary wall at the northwest corner of the PLA is in progress.

GPO Wall – Portion A: The modification of the existing E&M room is complete. Portion B: During the meeting among GPO / CEDD / LCSVOJV / ER on 17 October 2011, GPO commented that the proposed occupation of the access road in front of the loading/unloading bays would adversely affect the daily operation of GPO. The method of the installation of temporary support to the existing canopy was reviewed and another meeting with GPO was held on 28 October 2011 to further discuss this issue. Portion C: Demolition of the foundation of the GPO boundary wall and the former Hongkong Land pump house is in progress.

In FRAW – Nothing to report.

In FRAE – Nothing to report.

Environmental Status

Road P2 Underpass – All structural works are complete and HyD inspection was carried out on 27 October 2011. Road P2 eastbound opening is scheduled for 31 October 2011.

Cooling-Water Mains for HSBC Discharge Pipes – Nothing to report.

Permanent Sea Water Intake System for PLA – Installation of the dosing pipe is complete except for the section across CWB tunnel. Modification work for the intake screen is complete. Cleaning of the GRP screens is being carried out on a bi-weekly basis.

Seawall Caissons and Pumping Stations – Installation of the removable panels at caisson C13-C18 and in-situ concrete on the top is complete. Application of the Scubapox coating is in progress at C23 and C26.

Tamar Interface – At the east ramp area and west ramp area, the permanent footpaths were opened to the public on 10 October 2011 to access the “Green Carpet”.

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 GW-RS0899-11	15th September 2011	Issued on 29 th September 2011

2.3 Environmental Document Submission

No submissions was provided to the ER during the reporting period .

A summary of Environmental Certification Sheet submissions during the reporting period is presented in **Table 2.2**.

Table 2.2 - 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.98, September 2011	3128/M45/200/ OC13185/SB/WW/TWC/fl	14 th October 2011	Issued on 14 th October 2011

2.4 Environmental Meetings

No environmental meeting was held in this reporting period.

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	L _{eq} (30 mins), L _{eq} (15 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	Since 11 th Jan 2010: 3 Locations ⁽¹⁾	3 times a week, mid-ebb/ flood tides	The compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on October 2011.
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

Note (1) Seawater Intake M01A, M04B and land based Monitoring Station "Culvert F" was monitored since 11th January 2010

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 to reduce SS dispersion. 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 October 2011

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 6th, 13th, 20th and 27th October 2011.

1-hour and 24-hour TSP monitoring was carried out on 4th, 10th, 14th, 20th and 26th October 2011.

24 noise exceedances were recorded at the monitoring station on 1st, 7th, 8th, 11th, 25th, 27th and 28th October 2011. On 1st October 2011, fireworks display was carried out at night. As such, the noise exceedances are considered to be attributed by external factors and unlikely to be related to project works. On 7th, 8th and 11th October 2011, the major noise source was noise generated from concrete breaking for City Hall maintenance works at the ground floor near the monitoring location during the monitoring period. On 25th, 27th and 28th October 2011, excavation and breaking activities by hand-held breakers were undertaken in the works area of former Queen's Pier during monitoring period. Therefore, the exceedances were considered to be attributed to the Project works, possibly due to noise generated by the hand-held breakers. ET communicated this with the Contractor representative on 28th October 2011 (approx. 16:30). According to site observations and Contractor record, adopting the use of single hand-held breaker and decreasing the frequency of breaking in the works area of former Queen's Pier were undertaken to reduce the nuisance to the NSR.

The compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on October 2011. The post project water quality monitoring result for this reporting period is presented in **Annex J**.

Additional water quality monitoring for the "the water quality of embayment area between the eastern seawall and the Hong Kong Convention and Exhibition Centre (HKCEC) upon completion of eastern seawall", in accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9. Water monitoring was conducted on 7th, 10th, 17th, 24th and 31st October 2011.

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**.

Monitoring Results

4.2.3 Water Quality Monitoring

Water quality monitoring was conducted in accordance with the methodology described in the EM&A Manual. Accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9, the compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on October 2011. 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 4.1**.

Table 4.1 - Equipment for Air Quality Monitoring

Parameter Measured	Equipment
24-Hour Sampling	High Volume Sampler Model GS2310 by Anderson Instruments
1-Hour Sampling	High Volume Sampler Model GS2310 by Anderson Instruments

4.3.2 Noise

The equipment used for continuous noise monitoring is listed in **Table 4.2**.

Table 4.2 - 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 4.3**.

Table 4.3 - 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	<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>

Parameter Measured	Equipment
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 4.4**.

Table 4.4 - 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	26 th September 2011
High Volume Sampler	Every two months	8 th September 2011

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

Accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9, the compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on October 2011. 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 4.5 to 4.6**.

Seawater Intake Stations

Station M1A and M4B are used as the seawater intake station.

Table 4.5 shows a summary of the results monitored at the seawater intake stations during mid-ebb tide.

Table 4.5 - Summary of Mid-ebb Results for Seawater Intake Stations

Station		Parameter			
		DO mg/L	DOS %	NTU	SS mg/L
M01A	min	4.2	59	4.2	7.1
	max	5.5	76	8.1	12.1
	avg	4.7	68	5.5	8.8
	sd	0.4	5	1.1	1.3
M04B	min	4.2	63	3.3	4.8
	max	5.4	78	7.8	12.7
	avg	4.8	69	5.3	8.6
	sd	0.4	5	1.4	2.5

The seawater intake monitoring results during mid-ebb tide, **Table 4.5**, shows that the DO levels ranged from 4.2 to 5.5 mg/L and mean values from 4.7 to 4.8 mg/L. The SS levels ranged from 4.8 to 12.7 mg/L with mean value ranged from 8.6 to 8.8 mg/L.

Table 4.6 is a summary of results monitored at seawater intake stations during mid-flood tide.

Table 4.6 - Summary of Mid-flood Results for Seawater Intake Stations

Station		Parameter			
		DO mg/L	DOS %	NTU	SS mg/L
M01A	min	4.1	61	4.3	7.1
	max	6.0	91	8.6	12.5
	avg	4.7	69	6.3	9.9
	sd	0.5	8	1.1	1.4
M04B	min	4.2	61	4.3	7.0
	max	5.7	83	10.0	15.2
	avg	4.7	69	6.6	10.0
	sd	0.4	6	1.5	2.2

The seawater intake monitoring results during mid-flood tide, **Table 4.6**, shows that the DO levels ranged from 4.1 to 6.0 mg/L and mean values about 4.7 mg/L. The SS levels ranged from 7.0 to 15.2 mg/L with mean values ranging from 9.9 to 10.0 mg/L.

Land-Based Stations

Monitoring stations Culvert F was selected as the land-based reference stations. As such, Culvert F is used as reference station to note any significant elevations in SS, turbidity or reductions in DO that may affect the seawater intake stations. **Table 4.7** shows a summary of the results monitored at reference stations during mid-ebb tide. **Table 4.8** shows a summary of the results monitored at reference stations during mid-flood tide.

Monitoring Results

Table 4.7 - Summary of Mid-ebb Results for Reference Stations

Station		Parameter			
		DO (M) mg/L	DOS %	NTU	SS mg/L
Culvert F	min	4.0	56	2.9	5.9
	max	5.7	79	10.3	14.0
	avg	4.7	69	5.1	8.1
	sd	0.5	7	1.9	2.1

The monitoring results at reference station (Culvert F) during mid-ebb tide, **Table 4.7**, shows that the DO levels at surface layer ranged from 4.0 to 5.7 mg/L and mean value was 4.7 mg/L. The SS levels ranged from 5.9 to 14.0 mg/L with mean value of 8.1 mg/L.

Table 4.8 - Summary of Mid-flood Results for Reference Stations

Station		Parameter			
		DO (M) mg/L	DOS %	NTU	SS mg/L
Culvert F	min	4.2	61	5.1	6.3
	max	6.0	91	10.7	14.3
	avg	4.8	70	7.1	10.4
	sd	0.5	8	1.5	2.5

The monitoring results at reference station (Culvert F) during mid-flood tide, **Table 4.8**, shows that the DO levels at surface layer ranged from 4.2 to 6.0 mg/L and mean value was 4.8 mg/L. The SS levels ranged from 6.3 to 14.3 mg/L with mean value of 10.4 mg/L.

Additional DO Water Sampling

The additional DO water monitoring results, under the “the water quality of embayment area between the eastern seawall and the Hong Kong Convention and Exhibition Centre (HKCEC) upon completion of eastern seawall”, in accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9, are presented in **Annex L**.

4.4.3 Waste Management

Table 4.9 - Monthly Summary Waste Flow Table for October 2011

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 '000 m ³)				
October 2011	0.534	-	0.156	-	0.378
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)
October 2011	80	0.363	0	-	0.136*

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 96 m³ of non-inert C&D waste and 40 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

22 noise exceedances were recorded at the monitoring station on 5th, 6th, 8th, 16th, 17th and 19th September 2011. On 5th, 6th and 8th September 2011, the exceedances may have been attributed to the Project works, possibly due to the breaking concrete rubbles activities. The contractor implement noise mitigation measures such as use of portable noise barriers and install a muffler around the breaker head. No further exceedances due to project related were recorded since 9th September 2011. On 16th, 17th and 19th September 2011, the noise exceedances were considered to be attributed to maintenance works of city Hall rather than the project works.

5.1.3 Water Quality

Accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9, the compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on October 2011.

No exceedances in additional DO water monitoring were recorded during the reporting period.

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 5.1**.

Table 5.1 - Summary of Environmental Site Inspections

Date of Inspection	Observations	Action(s)
--------------------	--------------	-----------

Date of Inspection	Observations	Action(s)
6 th October 2011	Nil	Nil
13 th October 2011	Nil	Nil
20 th October 2011	1. Oil barrels and small containers filled with lubricates were observed near the general post office area.	1. The contractor was reminded to provide drip trays for barrels containing lubricants.
27 th October 2011	1. Workers were found to remove the crushed stones by the water jet at the seafront near the pumping room of portion 4.	1. The contractor was reminded to avoid the trashes or crushed stones fall to sea form the seafront during the cleaning process.

5.2 Environmental Complaint and Prosecution

No environmental complaint was received 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.

Not Used

6. FORECAST AND SCHEDULE

6.1 Key Engineering Works for the Coming Month

Future key works in the coming month (November 2011) are as follows:

- Type A filling in FRAW and FRAE above +2.5mPD
- General filling works above +2.5mPD in IRAE
- Surcharging in FRAW and FRAE
- Construction of GPO boundary wall
- Construction of PLA boundary wall
- Construction of Promenade enhancement works
- Construction of buildings at PLA berth
- Installation of cooling mains discharge pipes in FRAE and FRAW
- Construction of CWB structure
- Backfilling of CWB structure
- Importation of fill material
- Strengthening of Man Yiu Street Footbridge

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 compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was completed on October 2011.

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

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

24 noise exceedances were recorded at the monitoring station on 1st, 7th, 8th, 11th, 25th, 27th and 28th October 2011. On 1st October 2011, fireworks display was carried out at night. As such, the noise exceedances are considered to be attributed by external factors and unlikely to be related to project works. On 7th, 8th and 11th October 2011, the major noise source was noise generated from concrete breaking for City Hall maintenance works at the ground floor near the monitoring location during the monitoring period. On 25th, 27th and 28th October 2011, excavation and breaking activities by hand-held breakers were undertaken in the works area of former Queen's Pier during monitoring period. Therefore, the exceedances were considered to be attributed to the Project works, possibly due to noise generated by the hand-held breakers. ET communicated this with the Contractor representative on 28th October 2011 (approx. 16:30). According to site observations and Contractor record, adopting the use of single hand-held breaker and decreasing the frequency of breaking in the works area of former Queen's Pier were undertaken to reduce the nuisance to the NSR.

The compliance monitoring was completed mid-September 2011. The Post project Water quality monitoring was conducted on 3rd, 5th, 7th, 10th, 12th, 14th, 17th, 19th, 21st, 24th, 26th, 28th and 31st October 2011 by the ET during the mid-ebb and mid-flood tide periods.

No exceedances in additional DO water monitoring were recorded during the reporting period.

Environmental site inspections for the CRIII project works area were undertaken on 6th, 13th, 20th and 27th October 2011. The observations and findings of the site inspection are summarised as below:

6th October 2011

Nil.

13th October 2011

Nil.

20th October 2011

Oil barrels and small containers filled with lubricates were observed near the general post office area. The contractor was reminded to provide drip trays for barrels containing lubricants.

27th October 2011

Workers were found to remove the crushed stones by the water jet at the seafront near the pumping room of portion 4. The contractor was reminded to avoid the trashes or crushed stones fall to sea form the seafront during the cleaning process.