



CONTRACT NO: HK/2011/07

WANCHAI DEVELOPMENT PHASE II AND CENTRAL  
WANCHAI BYPASS  
SAMPLING, FIELD MEASUREMENT AND TESTING WORKS  
(STAGE 2)

ENVIRONMENTAL PERMIT NO. EP-356/2009,  
FURTHER ENVIRONMENTAL PERMIT NOS. FEP-01/356/2009,  
FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009 AND  
FEP-05/356/2009

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- JULY 2012 -

CLIENTS:

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Department

and

Highways Department

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13 August 2012

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By Post and Fax (2691 2649)

Attention: Mr. Kelvin CHENG

Dear Sir,

**Re: Wan Chai Development Phase II and Central-Wan Chai Bypass  
Monthly Environmental Monitoring and Audit Report (July 2012)  
for EP-356/2009, FEP-01/356/2009, FEP-02/356/2009, FEP-03/356/2009,  
FEP-04/356/2009 and FEP-05/356/2009**

Reference is made to the Environmental Team's submission of the captioned Monthly Environmental Monitoring and Audit (EM&A) Report for July 2012 dated 11 August 2012.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 in the captioned Environmental Permits.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,



David Yeung  
Independent Environmental Checker

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**EXECUTIVE SUMMARY**

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – July 2012 for the Project of Wan Chai Development Phase II and Central-Wanchai Bypass under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-01/356/2009, FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009 and FEP-05/356/2009. This report presents the environmental monitoring findings and information recorded during the period June 2012 to July 2012. The cut-off date of reporting is at 27<sup>th</sup> of each reporting month.

Construction Activities for the Reported Period

- ii. Contract no. HY/2009/11- North Point Reclamation
- The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19.
- iii. During this reporting period, the major work activities for Contract no. HK/2009/01 included:
- Marine Works (at Wan Chai)
- Rockfilling for rock bund across HKCEC Water Channel from Ch220 to Ch230
  - Reclamation of HKCEC3W within HKCEC Water Channel
  - Installation of pipe pile wall for demolition of existing seawall at Expo Drive East
- Cross-Harbour Watermains Installation (CHA & CHB) and Marine Works (at TST)
- Rockfilling and rock protection to cross-harbour watermains
  - Removal of existing seawall at TST seashore for installation of cross harbour watermains (CHA) and (CHB)
  - Installation of cross-harbour watermains No. A18 & B18
- Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)
- Mainlaying works at Zone B1-5A, B2-1, B4-3, B4-1A, B5-1, B5-3, A1-1, A1-2, A1-3A, A1-3B, A2-2, A3-4B, A3-5B, A4-2A and C1-10
  - A combined TTA at Convention Avenue in Zone A1-1 and A1-2
  - Trench excavation for cable ducting works at Zone B5-1 and B5-3
  - Pipe laying works at Heading No. H7
  - Heading No. H6a, H6b and H6c
  - Mainlaying and chamber construction works at the traffic island near junction of Convention Avenue and Fenwick Pier Street was currently in progress.
  - Mainlaying works at Expo Drive East in Zone C1-10
  - Pipe laying works and chamber construction for a 1000 dia. Watermains (CHE) at Salisbury Garden
  - Mainlaying works including cooling mains and cross harbour watermains across CWB section within HKCEC Water Channel

- iv. During this reporting period, the major work activities for Contract no. HK/2009/02 included:
- Modification work of PTI at Expo Drive East
  - Modification work of bus station at Expo Drive East near EVA
  - Self-testing of the individual pumping systems for cooling mains work.
  - Wet well was handed over to E & M for penstock leakage testing.
  - Installation work of P7, P8 & P9
  - Cooling mains Installation at Tonnochy Road - Harbour Road junction
  - Discharge pipe installation for SHK at WCR1
  - Cooling mains installation at WCR1
  - Cabling works along Harbour Road and Great Eagle Centre / Harbour Centre area
  - Waterproofing slurry to wall at 1/F Surge vessel area for finishing work and remedial work at R/F for planter area for the WSD Salt Water Pumping Station
  - E&M works at WSD Salt Water Pumping Station
  - Concreting of the salt water intake culvert at Wan Shing Street of Bay 19B and Bay 24
  - Base slab casting of salt water intake culvert at Wan Shing Street Bay 20
  - Additional grouting and excavation for pipe cap construction in salt water intake landside cofferdam
  - Casting of concrete plug of Bay 7 at WCR12
  - Concreting the salt water intake culvert of Bay 3 and Bay 5 at WCR1
  - Placement of concrete plug inside salt water intake seaside cofferdam
  - Under water excavation inside salt water intake seaside cofferdam
  - Approximate 36m at Was Shing Street
  - Rock filling and placing bagged concrete at return end of seawall block for WCR2 reclamation
  - Excavation and breaking up the rock to 2nd layer for strut and waling installation of the outfall launching shaft
  - Base concrete plug inside the outfall seaside cofferdam
  - HDPE pipe butt fusion welding inside the jacking pit
  - ELS for Box Culvert N1 seaside cofferdam for 3rd layer (-1.5mPD) struts & walings
  - Erecting formwork for construction of base slab for Box Culvert N1 on UU bridge
  - Final precast slab installation at New Ferry Pier Guide line 9-15 / A-F and dismantles formwork for upper beam
  - Erection of formwork and false work for column at New Ferry Pier Guide line 1-8 level 1 to level 2
  - Vertical seawall construction at WCR2
  - Laying of geotextile at WCR2
  - Rock filling grade 200 at WCR2 reclamation
  - Infill gap of steel frame "Well A" and "Well B" for construction of water diversion

- channel along the existing seawall at WCR2
- Flow Diversion of Box Culvert O
  - Bulkhead wall Type 3 and Type 2 construction at Box Culvert “O”
  - Bulkhead wall at Box Culvert “O” Bay 17
  - Diversion of LV Cable and 150MS Freshwater pipe
- v. During this reporting period, the major work activities for Contract no. HY/2009/15 included:
- Removal of temporary reclamation at TS1
  - Underwater cutting of temporary diaphragm walls at TS1
  - Dredging for seawall foundation at TS2
  - Seawall trench works at TS2
- vi. During this reporting period, the major work activities for Contract no. HK/2010/06 included:
- Concrete Breaking
  - Pre Drill Works
  - Coring Works
  - Platform Disassembly
- vii. During this reporting period, the major work activities for Contract no. HY/2009/19 included:
- Marine bored piling
  - Construction works for Box Culvert T

#### Noise Monitoring

- viii. Noise monitoring during daytime and restricted hour were conducted at the stations M1a, M2b, M3a, M4b, M5b and M6 on a weekly basis in the reporting month.
- ix. Due to the adverse weather condition, the noise monitoring at M1a was rescheduled from 24 July 2012 to 25 July 2012
- x. No exceedance was recorded in this reporting month.

#### Real-time Noise Monitoring

- xi. Real-time noise monitoring at FEHD Hong Kong Transport Section Whitefield Depot and Oil Street Community Centre have been commenced on 5 October 2010 for the filling works of Contract no. HY/2009/11.
- xii. Real-time noise monitoring at FEHD Hong Kong Transport Section Whitefield Depot commenced external wall renovation since 1 June 2012
- xiii. Exceedances were recorded between 0700 and 1900 hours, and 1900 and 2300 hours throughout the reporting month. Investigations found that the major noise impacts from 0700 and 1900 hours, and 1900 and 2300 hours were arising from the traffic noise along the Island Eastern Corridor and demolition works near Oil Street Community Liaison Center. In addition, there was no construction activity commenced in these two periods. As such, the exceedances were concluded as not project related.

Air Quality Monitoring

- xiv. Due to extension of site boundary by contractor of HY/2009/19, location of air monitoring station CMA1b – Oil Street Community Liaison Centre has been finely adjusted on 21 April 2012.
- xv. Due to lack of electricity supply, the 24-hr TSP monitoring at the following stations were rescheduled:  
CMA3a: from 10 and 16 July 2012 to 11 and 18 July 2012  
CMA5a: from 4 and 21 July 2012 to 5 and 24 July 2012
- xvi. Due to adverse weather condition, the 1-hr TSP monitoring at the following stations were rescheduled:  
CMA3a: from 23 July 2012 to 24 July 2012
- xvii. CMA4a: from 23 July 2012 to 24 July 2012
- xviii. Air quality monitoring has been conducted at stations CMA1b, CMA2a, CMA3a, CMA4a, CMA5a and CMA6a. No exceedance was recorded in the reporting month.
- xix. The odour patrol along the odour route with 7 sniffing locations was conducted by a qualified odour patrol member on 9 and 27 July 2012 at the concerned hours (afternoon for higher daily temperature). The odour intensity detected at OP4 was found to be level 2 on 9 and 27 July 2012 which triggered Action Level. After investigation, the exceedances were likely to be possible in relation to the sewage from outfall which was considered as not work-related under the Project.

Water Quality Monitoring

- xx. During the weekly site inspection for HY/2009/15 on 10 July 2012 and further inspection on 11 July 2012, it was found that the seawall blocks on the south side of TCBR1E (TS1) have been removed before all dredging works have been completed. The contractor has immediately surrounded the seawall gap with silt curtains and stopped the relevant dredging works on 12 July 2012. No action or limit level exceedance was found during the water quality monitoring on 9 or 11 July 2012. The contractor has promised to provide double layer silt curtains and geotextile to act as temporary seawall and covered the sloping seawall with geotextile, and would provide a full incident report. A self water quality monitoring was conducted on 15 July 2012 to indicate the effectiveness of the double silt curtain layers and would perform each time during dredging operations. The results from the self water quality monitoring showed that the suspended solids, turbidity and dissolved oxygen level outside the double silt curtain layers were not affected by the dredging activities inside the silt curtain layers.
- xxi. Due to the enforcement of strong wind signal No.3 on 30 June 2012 and Amber Rainstorm on 5 and 25 July 2012, water quality monitoring at ebb tide were cancelled.
- xxii. Due to the enforcement of strong wind signal No. 3 and above on 23 July 2012, water quality monitoring at flood and ebb tide were cancelled.
- xxiii. Due to a series of celebratory activities relating to the Anniversary of the Establishment of HKSAR to be held at the HKCEC and security search conducted at work sites of the HKCEC, the water quality monitoring at C1, C2, C4e and C4w WQM stations in ebb and flood tides were temporary suspended on 30 June 2012.
- xxiv. WDII/RSS advised that the dredging works for submarine pipeline at Victoria Harbour had been completed in January 2012. Therefore, the concurrent dredging activities at Sewage

- Pipeline Zone and reclamation shoreline zone TCBR under the EP-356/2009 scenario 2B no longer exist. As such, with reference to Table 5.39 of the EIA Report for Wan Chai Development Phase II and Central-Wan Chai Bypass, the application of silt screen for cooling water intakes for Queensway Government Offices was suspended and the others were remains unchanged.
- xxv. Based on the joint inspection on 4 Jan 2012 for the NPR area, the 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8, C9 to confirm no water deterioration with respect to NPR was commenced since 7 Jan 2012 and was completed on 6 Feb 2012 water quality monitoring.
  - xxvi. Water quality monitoring at WSD10 and WSD15 will be temporary suspended while water quality monitoring at WSD9 and WSD17 was implemented with respect to HK/2009/02 from 8 Feb 12 onwards;
  - xxvii. Water quality monitoring at C8 and C9 have been implemented with respect to HY/2009/19 since the marine bore piling work started on 28 Jan 12.
  - xxviii. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Centre (C9) between 9 January 2012 to 30 July 2012 which caused to the inaccessibility of sampling either land and marine since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 since 10 March 2012 to the closest accessible point prior to the completion of the external façade refurbishment work.
  - xxix. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
  - xxx. Due to the dredging works for Cross Harbour Water Mains from Wan Chai to Tsim Sha Tsui-DP6 was completed on 26 March 2012, the temporary suspension of impact water quality monitoring at WSD7 and WSD20 after 27 April 2012 for the water quality monitoring at WSD7 and WSD20 have been monitored for 4-week period after the completion of DP6 to confirm no water deterioration.
  - xxxi. Water quality monitoring at 14 monitoring stations was conducted three days per week during the reporting period. The action and limit level exceedances of water quality monitoring are summarized in **Table I**.

**Table I Summary of Water Quality Monitoring Exceedances in Reporting Month**

Contract no.	Water Monitoring Station	Mid-flood						Mid-ebb					
		DO		Turbidity		SS		DO		Turbidity		SS	
		AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
HY/2009/11 Monitoring finished on 6 Feb 2012	WSD9	0	0	0	0	0	0	0	0	0	0	0	0
	WSD10	0	0	0	0	0	0	0	0	0	0	0	0
	WSD15	0	0	0	0	0	0	0	0	0	0	0	0
	WSD17	0	0	0	0	0	0	0	0	0	0	0	0
	C8	0	0	0	0	0	0	0	0	0	0	0	0
	C9	0	0	0	0	0	0	0	0	0	0	0	0

Contract no.	Water Monitoring Station	Mid-flood						Mid-ebb					
		DO		Turbidity		SS		DO		Turbidity		SS	
		AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
HK/2009/01	WSD19	0	0	0	1	0	0	1	0	0	1	1	0
	C1	0	0	0	0	0	0	0	0	0	0	0	0
	C3	0	0	0	0	0	0	0	0	0	0	0	0
	C4e	0	0	0	0	0	0	0	0	0	0	0	0
	C4w	1	0	0	0	0	0	0	0	0	0	0	0
Monitoring finished on 27 April 2012	WSD20	0	0	0	0	0	0	0	0	0	0	0	0
	WSD7	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/01 & HK/2010/06	C2	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/02 Monitoring started on 8 Feb 2012	C5e	0	0	0	0	1	0	0	0	0	0	0	0
	C5w	0	0	0	0	0	0	0	0	0	0	0	0
	WSD21	0	0	0	0	0	1	0	0	0	0	0	0
	WSD9	0	0	0	0	0	0	1	1	0	0	0	0
	WSD17	0	0	0	0	0	0	0	1	0	0	0	0
HY/2009/15	C7	0	0	0	0	0	0	1	1	0	0	1	0
HY/2009/19 Monitoring started on 28 Jan 2012	C8	0	0	0	1	0	0	1	0	0	2	0	0
	C9	0	0	0	0	0	0	1	0	0	0	0	0
<b>Total</b>		1	0	0	2	1	1	5	3	0	3	2	0

- Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water monitoring at C6 was then terminated since 17 May 2011.
- WSD9 and WSD17 were implemented with respect to HK/2009/02 from 8 Feb 2012.
  - 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8 and C9 were completed on 6 Feb 2012.
  - C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
  - WSD7 and WSD20 water quality monitoring were temporarily suspended from 27 Apr 2012.

- xxxii. Investigations were found that the exceedances were not related to the Project works. The details of the recorded exceedances can be referred to the Section 6.4.
- xxxiii. Enhanced DO monitoring at 4 monitoring stations in Causeway Bay Typhoon Shelter and Ex-Public Cargo Works Area was conducted three days per week during the reporting period. The action and limit level exceedances of water quality monitoring are summarized in **Table II**.

**Table II Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month**

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	0	0	0	0



Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
	C7	0	0	1	1
	Ex-WPCWA SW	0	0	0	1
	Ex-WPCWA SE	1	0	0	5
	<b>Total</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>7</b>

- xxxiv. There were 2 action level exceedances and 7 limit level exceedances of enhanced dissolved oxygen recorded in this reporting month. Investigation found that the exceedances are not related to the Project works. The details of the recorded exceedances can be referred to the Section 6.4.
- xxxv. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored.

Complaints, Notifications of Summons and Successful Prosecutions

- xxxvi. There was no complaint received in this reporting month.

Site Inspections and Audit

- xxxvii. The Environmental Team (ET) conducted weekly site inspections for Contract nos. HK/2009/01, HK/2009/02, HY/2009/15 HK/2010/06 and HY/2009/19 under EP no. EP-356/2009 in the reporting month. Major observations and recommendations made during the audit sessions were rectified by the Contractors. No non-conformance was identified during the site inspections.
- xxxviii. During the monitoring stations inspection for HK/2009/02 in July 2012, turbid appearance was occasionally observed the well for WSD intake pumping station as a result of the silty water seepage during reclamation work at WCR2. The contractor was reminded that the water quality inside the well should be ensured with adequate freshwater circulation and sufficient inspection to avoid any gaps and leakage into well.

Future Key Issues

- xxxix. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

Contract no. HY/2009/11- North Point Reclamation

- The major work activities for Contract no. HY/2009/11 was confirmed substantial

complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

Marine Works

- Reclamation works within HKCEC Water Channel (from CH170 to CH220)
- Rockfilling for formation of rock bund within HKCEC Water Channel (from CH220 to CH230)
- Installation pipe pile wall for modification of vertical seawall near Expo Drive East
- Rockfilling at northeast of Area 9 and Area7 near Expo Drive East Bridge
- Demolition of Wan Chai West Ferry Pier upon procession of Portion 3.

Cross-Harbour Watermains Installation (CHA & CHB)

- Installation of cross-harbour watermains nos. A18/B18
- Trust block construction, concrete coating for flange joint and rockfilling protection works for cross-harbour watermains in Victoria Harbour
- Reinstatement works at TST seashore including removal of silt screen and dismantling of jack-up barge would be commenced upon completion of installation of cross-harbour watermains nos. A18/B18.

Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Works would be continued at Zone B1-5A, B2-1, B4-1A, B4-3, B5-1(Switch Room), B5-3(Switch Room), A1-1, A1-2, A1-3A, A1-3B, A2-2, A3-3, A3-2A, A3-4B, A3-5B, A4-2A and C1-10
- Mainlaying works at Zone B1-5A, B4-1A, B4-3 and B3-1
- Cable ducting works at Zone B5-1(Switch Room) and B5-3 (Switch Room)
- Mainlaying works across the run-out of Renaissance Harbour View Hotel by open-cut method
- Mainlaying works at Convention Avenue in Zone A1-1, A1-2 and A2-2and the next TTA workforce for cross harbour watermains at Zone A1-2 CHWM)
- Mainlaying works at traffic island near junction between Convention Avenue and Fenwick Pier Street
- Mainlaying works at Fenwick Pier Street in Zone A3-5B and mainlaying works at Zone A3-4B
- Pipe laying works at heading No. H7 and H6a
- Heading No. H6C
- Mainlaying works at Expo Drive East in Zone C1-10
- Pipe laying works within HKCEC water channel

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at

WanChai East

- Complete cooling mains and cabling works for P7, P8 & P9 Pumping Stations permanent power-on and signal control.
- Continue 800MS pipe installation inside Ex-pet Garden.
- Energization of TX room at WSD Salt Water Pumping Station
- Continue ABWFs & E&M works of WSD Salt Water Pumping Station.
- Complete WSD intake A and Intake B in-situ concrete work.
- Continue construction of Bay 1b – 8 salt water intake culverts at WCR1 area.
- Complete ELS works of Box Culvert N1
- Continue construction for Box Culvert N1 at WCR1 area.
- Complete breaking the thrust wall aside the Jacking Pit for Outfall connection
- Complete HDPE pipe Outfall A & B launching from Jacking Pit at WCR1 area.
- Continue superstructure work at new ferry pier.
- Continue reclamation works at WCR2 area.
- Complete set up at ex-helipad.
- Commence drainage work at TWCR4 area.
- Complete the bulkhead wall at Box Culvert “O” Bay 17.
- Trial excavation and preparation works for Hung Hing Road Diversion

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- Removal of temporary reclamation at TS1
- Underwater cutting of temporary diaphragm walls at TS1
- Dredging for seawall foundation at TS2
- Seawall trench works at TS2

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line

- Concrete Breaking
- Pre Drill Works
- Coring Works
- Construction of Pre-cast Unit in China

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- Construction works for Box Culvert T
- Marine Piling
- Construction of 1500 $\phi$  drainage pipe

## 1. Introduction

### 1.1 Scope of the Report

- 1.1.1. Lam Geotechnics Limited (LGL) has been appointed to work as the Environmental Team (ET) under Environmental Permit no. EP-356/2009 and Further Environmental permit nos. FEP-01/356/2009, FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009 and FEP-05/356/2009 to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) and in the EM&A Manual of the approved EIA Report for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-014/2001).
- 1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.3 of EM&A Manual and “*Environmental Monitoring and Audit Requirements*” under Particular Specification Section 27.
- 1.1.3. This report documents the finding of EM&A works for Environmental Permit no. EP-356/2009, Further Environmental Permit no. FEP-01/356/2009, FEP-02/356/2009, FEP-03/356/2009, FEP-04/356/2009 and FEP-05/356/2009 and during the period of June to July. The cut-off date of reporting is at 27<sup>th</sup> of each reporting month.

### 1.2 Structure of the Report

- Section 1**     ***Introduction*** – details the scope and structure of the report.
- Section 2**     ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3**     ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4**     ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5**     ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.
- Section 6**     ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.
- Section 7**     ***Cumulative Construction Impact due to the Concurrent Projects*** – summarizes the relevant cumulative construction impact due to the concurrent activities of the concurrent Projects.



- Section 8**     ***Site Inspection*** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.
- Section 9**     ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 10**    ***Conclusion***

## 2. Project Background

### 2.1 Background

- 2.1.1. “Wan Chai Development phase II and Central-Wan Chai Bypass” and “Central-Wan Chai Bypass and Island Eastern Corridor Link” (hereafter called “the Project”) are Designed Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Reports for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001) and Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) have been approved on 31 August 2001 and 11 December 2008 respectively.
- 2.1.2. The key purpose of Wan Chai Development Phase II (WDII) is to provide land at Wan Chai North and North Point for construction of the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB). Land formed under the project will be developed as a world-class waterfront promenade joining that at the new Central waterfront for public enjoyment.
- 2.1.3. There is a compelling and present need for the CWB to provide relief to the very congested east-west Connaught Road Central/Harcourt Road / Gloucester Road Corridor (the Corridor) which is currently operating beyond its capacity. The CWB will provide relief to the existing congestion along the Corridor and cater for the anticipated growth of traffic on Hong Kong Island. Without the CWB and its access roads, there will not be sufficient capacity to serve the heavy traffic demands at both strategic and local levels.

### 2.2 Scope of the Project and Site Description

- 2.2.1. The Project is located mainly in Wan Chai North, Causeway Bay and North Point, and is demarcated by Gloucester Road and Victoria Park Road to the south, Fenwick Pier Street to the west and Tong Shui Road Interchange to the east, as shown in **Figure 2.1**.
- 2.2.2. The study area encompasses existing developments along the Wan Chai, Causeway Bay and North Point shorelines. Major land uses include the Hong Kong Convention & Exhibition Centre (HKCEC) Extension, the Wan Chai Ferry Pier, the ex-Wan Chai Public Cargo Working Area (ex-PCWA), the Royal Hong Kong Yacht Club (RHKYC), the Police Officers’ Club, the Causeway Bay Typhoon Shelter (CBTS) and commercial and residential developments.
- 2.2.3. The scope of the Project comprises:
- Land formation for key transport infrastructure and facilities, including the Trunk Road (i.e. CWB) and the associated slip roads for connection to the Trunk Road and for through traffic from Central to Wan Chai and Causeway Bay. The land formed for the above transport infrastructure will provide opportunities for the development of an attractive waterfront promenade for the enjoyment of the public
  - Reprovisioning / protection of the existing facilities and structures affected by the land formation works mentioned above
  - Extension, modification, reprovisioning or protection of existing storm water drainage outfalls, sewerage outfalls and watermains affected by the revised land use and land formation works mentioned above

- Upgrading of hinterland storm water drainage system and sewerage system, which would be rendered insufficient by the land formation works mentioned above
- Provision of the ground level roads, flyovers, footbridges, necessary transport facilities and the associated utility services
- Construction of the new waterfront promenade, landscape works and the associated utility services
- The Trunk Road (i.e. CWB) within the study area and the associated slip roads for connection to the Trunk Road.

2.2.4. The project also contains various Schedule 2 DPs that, under the EIAO, require Environmental Permits (EPs) to be granted by the DEP before they may be either constructed or operated. **Table 2.1** summarises the five individual DPs under this Project. **Figure 2.1** shows the locations of these Schedule 2 DPs.

**Table 2.1 Schedule 2 Designated Projects under this Project**

Item	Designated Project	EIAO Reference	Reason for inclusion
DP1	Central-Wanchai Bypass (CWB) including its road tunnel and slip roads	Schedule 2, Part I, A.1 and A.7	Trunk road and road tunnel more than 800 m in length
DP2	Road P2 and other roads which are classified as primary/district distributor roads	Schedule 2, Part I, A.1	Primary / district distributor roads
DP3	Reclamation works including associated dredging works	Schedule 2, Part I, C.1 and C.12	Reclamation more than 5 ha in size and a dredging operation less than 100 m from a seawater intake point
DP5	Wan Chai East Sewage Outfall	Schedule 2, Part I, F.5 and F.6	Submarine sewage pipelines with a total diameter more than 1,200 mm and include a submarine sewage outfall
DP6	Dredging for the Cross-harbour Water Mains from Wan Chai to Tsim Sha Tsui	Schedule 2, Part I, C.12	A dredging operation less than 100 m from a seawater intake point

### 2.3 Division of the Project Responsibility

2.3.1. Due to the multi-contract nature of the Project, there are a number of contracts sub-dividing the whole works area into different work areas to be commenced. Contractors of individual contracts will be required by the EP holder to apply Further Environmental Permits (FEP) such that the impact monitoring stations are sub-divided accordingly to facilitate the implementation of EM&A programme and to streamline the EM&A reporting for individual FEP holders correspondingly.

2.3.2. The details of individual contracts are summarized in **Table 2.2**.



**Table 2.2 Details of Individual Contracts under the Project**

Contract No.	Contract Title	Associated DP(s)	Construction Commencement Date
HK/2009/01	Wan Chai Development Phase II – Central –Wanchai Bypass at Hong Kong Convention and Exhibition Centre	DP3, DP6	23 July 2010
		DP1, DP2	25 August 2011
HK/2009/02	Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East	DP3, DP5	5 July 2010
		DP1	26 April 2011
HY/2009/11	Wan Chai Development Phase II and Central – Wan Chai Bypass – North Point Reclamation	DP3	17 March 2010 (Under application of surrender)
HY/2009/15	Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)	DP3	10 November 2010
		DP1	13 July 2011
HK/2010/06	Wan Chai Development Phase II-Central-Wan Chai Bypass over MTR Tsuen Wan Line	DP3	22 March 2011
04/HY/2006	Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street	DP1	September 2010
HY/2009/17	Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works.	DP1	5 October 2010
HY/2009/18	Central - Wan Chai Bypass (CWB) – Central Interchange	DP1	21 April 2011
HY/2009/19	Central - Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link	DP1	24 March 2011

## 2.4 Project Organization and Contact Personnel

- 2.4.1. Civil Engineering and Development Department and Highways Department are the overall project controllers for the Wan Chai Development Phase II and Central-Wan Chai Bypass respectively. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.
- 2.4.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in **Figure 2.2**. Key personnel and contact particulars are summarized in **Table 2.3**:

**Table 2.3 Contact Details of Key Personnel**

Party	Role	Post	Name	Contact No.	Contact Fax
AECOM	Engineer's Representative for WDII	Principal Resident Engineer	Mr. Frankie Fan	2587 1778	2587 1877
	Engineer's Representative for CWB	Principal Resident Engineer	Mr. Peter Poon	3922 8332	3529 2829
China Harbour-	Contractor under Contract no.	Project Director	Mr. Cho Yu Fun	3157 1086	3157 1085



Party	Role	Post	Name	Contact No.	Contact Fax
CRBC Joint Venture	HY/2009/11	Project Manager	Mr. Gregory Wong	3157 1086	
		Site Agent	Mr. Daniel Cheung	3157 1086	
		Environmental Officer	Mr. C. M. Wong	3157 1086	
Chun Wo – Leader Joint Venture	Contractor under Contract no. HK/2009/01	Project Director	Mr. PL Yue	2162 9909	2634 1626
		Site Agent	Mr. Paul Yu	9456 9819	
		Sub-Agent	Mr Terry Wong	9757 9846	
		Construction Manager	Mr. Wyman Wong	9627 2467	
		Construction Manager	Mr. Jack Chu	9775 3008	
		Construction Manager	Mr. KK Yuen	9498 1213	
		Environmental Officer (Compliance Manager)	Mr. Andy Mak	9103 2370	
Chun Wo – CRGL Joint Venture	Contractor under Contract no. HK/2009/02	Site Agent	Mr. Chan Sing Cho	3658 3002	2827 9996
		Quality & Environmental Manager	Mr. C.P. Ho	3658 3000	
		Environmental Officer	Ms. Flora Ng	3658 3064	
China State Construction Engineering (HK) Ltd.	Contractor under Contract no. HY/2009/15	Project Director	Chan Wai Hung	2823 7813	2865 5229
		Site Manager	P J Fan	3557 6368	2566 2192
		Contractor's Representative	Mr. David Lau	3557 6358	2566 2192
		Head of Construction Manager	Roger Cheung	3557 6371	2566 2192
		Senior Construction Manager	Gene Cheung	3557 6395	2566 2192
		Environmental Officer	Mr. Daniel Sin	3557 6347	2566 2192
Gammon -Leader JV	Contractor under Contract no. HK/2010/06	Project Manager	Mr. Paul Lui	9095 7922	2529 2880
		Site Agent	Mr. Keith Tse	2529 2068	

Party	Role	Post	Name	Contact No.	Contact Fax
		Environmental Officer	Mr. Lee Wai Man	9481 6024	
Chun Wo - CRGL - MBEC Joint Venture	Contractor under Contract no. HY/2009/19	Project Manager	Mr. Rayland Lee	3758 8879	2570 8013
		Site Agent	Mr. Cheung Kit Cheung	6909 1555	
		Environmental Engineer	Mr. Simon Wong	9281 4346	
		Environmental Manager / Environmental Officer	Mr. M.H. Isa	9884 0810	
		Construction Manager (Marine)	William Luk	9610 1101	
		Construction Manager (Land)	Patrick Cheung	9643 3012	
		Construction Manager (Land)	Eric Fong	6191 9337	
ENVIRON Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3743 0788	3548 6988
Lam Geotechnics Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Raymond Dai	2882 3939	2882 3331

2.4.3. For Contract no. HY/2009/11, the principal work activities in this reporting month included:

- The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011.

2.4.4. For Contract no. HK/2009/01, the principal work activities in this reporting month included:

**Marine Works (at Wan Chai)**

- Rockfilling for rock bund across HKCEC Water Channel from Ch220 to Ch230
- Reclamation of HKCEC3W within HKCEC Water Channel
- Installation of pipe pile wall for demolition of existing seawall at Expo Drive East

**Cross-Harbour Watermains Installation (CHA & CHB) and Marine Works (at TST)**

- Rockfilling and rock protection to cross-harbour watermains
- Removal of existing seawall at TST seashore for installation of cross harbour

watermains (CHA) and (CHB)

- Installation of cross-harbour watermains No. A18 & B18

#### Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Mainlaying works at Zone B1-5A, B2-1, B4-3, B4-1A, B5-1, B5-3, A1-1, A1-2, A1-3A, A1-3B, A2-2, A3-4B, A3-5B, A4-2A and C1-10
- A combined TTA at Convention Avenue in Zone A1-1 and A1-2
- Trench excavation for cable ducting works at Zone B5-1 and B5-3
- Pipe laying works at Heading No. H7
- Heading No. H6a, H6b and H6c
- Mainlaying and chamber construction works at the traffic island near junction of Convention Avenue and Fenwick Pier Street was currently in progress.
- Mainlaying works at Expo Drive East in Zone C1-10
- Pipe laying works and chamber construction for a 1000 dia. Watermains (CHE) at Salisbury Garden
- Mainlaying works including cooling mains and cross harbour watermains across CWB section within HKCEC Water Channel

#### 2.4.5. For Contract no. HK/2009/02, the principal work activities in this reporting month included:

- Modification work of PTI at Expo Drive East
- Modification work of bus station at Expo Drive East near EVA
- Self-testing of the individual pumping systems for cooling mains work.
- Wet well was handed over to E & M for penstock leakage testing.
- Installation work of P7, P8 & P9
- Cooling mains Installation at Tonnochy Road - Harbour Road junction
- Discharge pipe installation for SHK at WCR1
- Cooling mains installation at WCR1
- Cabling works along Harbour Road and Great Eagle Centre / Harbour Centre area
- Waterproofing slurry to wall at 1/F Surge vessel area for finishing work and remedial work at R/F for planter area for the WSD Salt Water Pumping Station
- E&M works at WSD Salt Water Pumping Station
- Concreting of the salt water intake culvert at Wan Shing Street of Bay 19B and Bay 24
- Base slab casting of salt water intake culvert at Wan Shing Street Bay 20
- Additional grouting and excavation for pipe cap construction in salt water intake landside cofferdam
- Casting of concrete plug of Bay 7 at WCR12
- Concreting the salt water intake culvert of Bay 3 and Bay 5 at WCR1
- Placement of concrete plug inside salt water intake seaside cofferdam
- Under water excavation inside salt water intake seaside cofferdam

- Approximate 36m at Was Shing Street
- Rock filling and placing bagged concrete at return end of seawall block for WCR2 reclamation
- Excavation and breaking up the rock to 2nd layer for strut and waling installation of the outfall launching shaft
- Base concrete plug inside the outfall seaside cofferdam
- HDPE pipe butt fusion welding inside the jacking pit
- ELS for Box Culvert N1 seaside cofferdam for 3rd layer (-1.5mPD) struts & walings
- Erecting formwork for construction of base slab for Box Culvert N1 on UU bridge
- Final precast slab installation at New Ferry Pier Guide line 9-15 / A-F and dismantles formwork for upper beam
- Erection of formwork and false work for column at New Ferry Pier Guide line 1-8 level 1 to level 2
- Vertical seawall construction at WCR2
- Laying of geotextile at WCR2
- Rock filling grade 200 at WCR2 reclamation
- Infill gap of steel frame "Well A" and "Well B" for construction of water diversion channel along the existing seawall at WCR2
- Flow Diversion of Box Culvert O
- Bulkhead wall Type 3 and Type 2 construction at Box Culvert "O"
- Bulkhead wall at Box Culvert "O" Bay 17
- Diversion of LV Cable and 150MS Freshwater pipe

2.4.6. For Contract no. HY/2009/15, the principal work activities in this reporting month included:

- Removal of temporary reclamation at TS1
- Underwater cutting of temporary diaphragm walls at TS1
- Dredging for seawall foundation at TS2
- Seawall trench works at TS2

2.4.7. For Contract no. HK/2010/06, the principal work activities in this reporting month included:

- Concrete Breaking
- Pre Drill Works
- Coring Works
- Platform Disassembly

2.4.8. For Contract no. HY/2009/19, the principal work activity in this reporting month included:

- Construction works for Box Culvert T
- Marine Piling

2.4.9. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

Contract no. HY/2009/11- North Point Reclamation

- The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

Marine Works

- Reclamation works within HKCEC Water Channel (from CH170 to CH220)
- Rockfilling for formation of rock bund within HKCEC Water Channel (from CH220 to CH230)
- Installation pipe pile wall for modification of vertical seawall near Expo Drive East
- Rockfilling at northeast of Area 9 and Area7 near Expo Drive East Bridge
- Demolition of Wan Chai West Ferry Pier upon procession of Portion 3.

Cross-Harbour Watermains Installation (CHA & CHB)

- Installation of cross-harbour watermains nos. A18/B18
- Trust block construction, concrete coating for flange joint and rockfilling protection
- works for cross-harbour watermains in Victoria Harbour
- Reinstatement works at TST seashore including removal of silt screen and dismantling of jack-up barge would be commenced upon completion of installation of cross-harbour watermains nos. A18/B18.

Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)

- Works would be continued at Zone B1-5A, B2-1, B4-1A, B4-3, B5-1(Switch Room), B5-3(Switch Room), A1-1, A1-2, A1-3A, A1-3B, A2-2, A3-3, A3-2A, A3-4B, A3-5B, A4-2A and C1-10
- Mainlaying works at Zone B1-5A, B4-1A, B4-3 and B3-1
- Cable ducting works at Zone B5-1(Switch Room) and B5-3 (Switch Room)
- Mainlaying works across the run-out of Renaissance Harbour View Hotel by open-cut method
- Mainlaying works at Convention Avenue in Zone A1-1, A1-2 and A2-2and the next TTA workfront for cross harbour watermains at Zone A1-2 CHWM)
- Mainlaying works at traffic island near junction between Convention Avenue and Fenwick Pier Street
- Mainlaying works at Fenwick Pier Street in Zone A3-5B and mainlaying works at Zone A3-4B

- Pipe laying works at heading No. H7 and H6a
- Heading No. H6C
- Mainlaying works at Expo Drive East in Zone C1-10
- Pipe laying works within HKCEC water channel

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- Complete cooling mains and cabling works for P7, P8 & P9 Pumping Stations permanent power-on and signal control.
- Continue 800MS pipe installation inside Ex-pet Garden.
- Energization of TX room at WSD Salt Water Pumping Station
- Continue ABWFs & E&M works of WSD Salt Water Pumping Station.
- Complete WSD intake A and Intake B in-situ concrete work.
- Continue construction of Bay 1b – 8 salt water intake culverts at WCR1 area.
- Complete ELS works of Box Culvert N1
- Continue construction for Box Culvert N1 at WCR1 area.
- Complete breaking the thrust wall aside the Jacking Pit for Outfall connection
- Complete HDPE pipe Outfall A & B launching from Jacking Pit at WCR1 area.
- Continue superstructure work at new ferry pier.
- Continue reclamation works at WCR2 area.
- Complete set up at ex-helipad.
- Commence drainage work at TWCR4 area.
- Complete the bulkhead wall at Box Culvert “O” Bay 17.
- Trial excavation and preparation works for Hung Hing Road Diversion

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- Removal of temporary reclamation at TS1
- Underwater cutting of temporary diaphragm walls at TS1
- Dredging for seawall foundation at TS2
- Seawall trench works at TS2

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line

- Concrete Breaking
- Pre Drill Works
- Coring Works





Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- Construction works for Box Culvert T
- Marine Piling
- Construction of 1500 $\phi$  drainage pipe

### 3. Status of Regulatory Compliance

#### 3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1**.

**Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project**

Permits and/or Licences	Reference No.	Issued Date	Status
Environmental Permit	EP-356/2009	30 Jul 2009	Valid
Environmental Permit	EP-364/2009/A	4 Aug 2010	Valid
Environmental Permit	EP-364/2009	17 Aug 2009	Superseded
Environmental Permit	EP-376/2009	13 Nov 2010	Valid
Further Environmental Permit	FEP-01/356/2009	18 Feb 2010	Under application of surrender
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-04/356/2009	22 Nov 2010	Valid
Further Environmental Permit	FEP-05/356/2009	24 Mar 2011	Valid
Further Environmental Permit	FEP-01/364/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-02/364/2009	21 Apr 2010	Valid
Further Environmental Permit	FEP-03/364/2009	12 Jul 2010	Valid
Further Environmental Permit	FEP-04/364/2009/A	14 Oct 2010	Surrendered
Further Environmental Permit	FEP-05/364/2009/A	15 Nov 2010	Valid
Further Environmental Permit	FEP-06/364/2009/A	22 Nov 2010	Valid
Further Environmental Permit	FEP-07/364/2009/A	25 Feb 2011	Valid
Further Environmental Permit	FEP-08/364/2009/A	15 Jun 2012	Valid

3.1.2. Due to the multi-contract nature of the Project, the status of permits and/or licences under the individual contract(s) are presented as below:

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

3.1.3. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011.

3.1.4. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-01/356/2009 for contract no. HY/2009/11 are shown in **Table 3.2** and **Table 3.3**.

3.1.5. Contractor submitted a letter dated 20 July 2011 to confirm that the dredging works and dumping operation were completed.

**Table 3.2 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/11**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-01/356/2009	18 Feb 2010	N/A	Valid
Notification of Works Under APCO	331892	4 Jul. 2011	N/A	Valid
Registration as a Chemical Waste Producer	WPN5213-151-C36 31-02	12 Oct 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance	7010037	13 Jan 2010	N/A	Valid
Discharge Licence	WT00007942-2010	29 Nov 2010	30 Nov 2015	Valid

**Table 3.3 Summary of submission status under FEP-01/356/2009 Condition**

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	18 Dec 2009
Condition 2.7	Submission of works schedule and location plan	8 Feb 2010
Condition 2.8	Revised Silt Curtain Deployment Plan (Rev. 3)	4 Dec 2010
Condition 2.9	Silt Screen Deployment Plan (Rev. 6)	18 May 2011
Condition 2.10	Coral Translocation Plan	20 Nov 2009
Condition 2.16	Revised Noise Management Plan (Rev 5)	19 Feb 2011
Condition 2.17	Landscape Plan	12 May 2010
	Revised landscape Plan	30 Jun 2010
	Submission of Supplementary Information - Revised Management & Maintenance Schedule for Submitted Revised Landscape Plan	25 Aug 2010

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

3.1.6. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2009/01 under FEP-02/356/2009 are shown in **Table 3.4** and **Table 3.5**.

**Table 3.4 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/01**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	N/A	Valid
	FEP-02/364/2009	21 Apr 2010	N/A	Valid
Notification of Works Under APCO	313088	6 Jan 2010	N/A	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0356-12	03 Apr 2012	11 Apr 2012 to 29 Sep 2012	Valid
	GW-RS0394-12	16 Apr 2012	19 Apr 2012 to 12 Oct 2012	Valid
	GW-RS1221-11	30 Jan 2011	20 Jan 2012 to 19 Jul 2012	Expired
	GW-RS1227-11	30 Dec 2011	30 Dec 2011 to 26 Jul 2012	Cancelled
	GW-RS0038-12	16 Jan 2012	15 Jan 2012 to 12 Jul 2012	Cancelled
	GW-RS0158-12	24 Feb 2012	24 Feb 2012 to 23 Aug 2012	Valid
	GW-RS0181-12	24 Feb 2012	27 Feb 2012 to 23 Aug 2012	Valid
	GW-RS0213-12	28 Feb 2012	29 Feb 2012 to 27 Aug 2012	Valid
	GW-RS0225-12	2 Mar 2012	14 Mar 2011 to 13 Sep 2012	Valid
	GW-RS0227-12	2 Mar 2012	16 Mar 2011 to 15 Sep 2012	Valid
	GW-RE0174-12	5 Mar 2012	30 Mar 2012 to 29 Sep 2012	Valid
	GW-RS0312-12	28 Mar 2012	30 Mar 2012 to 29 Sep 2012	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS0545-12	24 May 2012	26 May 2012 to 25 Nov 2012	Valid
	GW-RS0546-12	25 May 2012	26 May 2012 to 25 Nov 2012	Valid
	GW-RS0460-12	10 May 2012	13 May 2012 to 6 Nov 2012	Valid
	GW-RS0514-12	14 May 2012	27 May 2012 to 26 Nov 2012	Valid
	GW-RS0731-12	5 Jul 2012	05 Jul 2012 to 01 Jan 2013	Valid
	GW-RS0760-12	18 Jul 2012	20 Jul 2012 to 19 Jan 2013	Valid
	GW-RS0771-12	23 Jul 2012	23 Jul 2012 to 31 Aug 2012	Valid
Discharge Licence	WT00006220-2010	18 Mar 2010	31 Mar 2015	Valid
	WT00009641-2011	24 Jul 2011	31 Jul 2016	Valid
Billing account under Waste Disposal Ordinance	7010069	21 Jan 2010	N/A	Valid
Registration as a Chemical Waste Producer	WPN5213-134-C3585-01	21 Jan 2010	N/A	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13-004	23 May 2012	24 May 2012 to 23 Nov 2012	Valid
Permit for Dumping at Sea - Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers	EP/MD/13-030	3 Jul 2012	6 Jul 2012 to 5 Aug 2012	Valid

**Table 3.5 Summary of submission status under FEP-02/356/2009 Condition**

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	13 Apr 2010
Condition 2.7	Works Schedule and Location Plan	8 Apr 2010
Condition 2.8	Silt Curtain Deployment Plan (Rev. 3)	27 June 2012
	Silt Curtain Deployment Plan (Rev. 4)	12 July 2012
Condition 2.9	Silt Screen Deployment Plan	19 Apr 2010
Conditions 2.8 and 2.9	Supplementary Document on Silt Curtain and Silt Screen Deployment Plan	19 Jul 2010
	Report on Field Testing for Silt Curtain	26 Aug 2010
	Report on Field Testing for Silt Curtain (Rev. A)	15 Nov 2010
Condition 2.12(d)	Alternative Proposal on Concurrent Dredging for Sewage Pipeline and Cross Harbour Water Mains	15 Apr 2011
Condition 2.17	Noise Management Plan	23 Apr 2010
Condition 2.18	Landscape Plan (Erection of Decorative Screen Hoarding along Construction Site around Hong Kong Exhibition and Convention Centre)	15 May 2010
	Landscape Plan (Night-time Lighting)	22 Oct 2010
	Landscape Plan (Rev. B)	15 Nov 2010

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

3.1.7. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2009/02 under FEP-03/356/2009 are shown in **Table 3.6** and **Table 3.7**.

**Table 3.6 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/02**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	N/A	Valid
	FEP-01/364/2009	24 Mar 2010	N/A	Valid
Notification of Works Under APCO	313962	2 Feb 2010	N/A	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Construction Noise Permit (CNP) for piling equipment	PP-RS0007-12	27 Mar 2012	28 Mar 2012 to 27 Sept 2012	Cancelled
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0671-12	25 June 2012	17 Jul 2012 to 16 Jan 2013	Valid
	GW-RS0730-12	9 July 2012	10 Jul 2012 to 8 Jan 2013	Valid
	GW-RS0736-12	9 July 2012	9 Jul 2012 to 8 Jan 2013	Valid
	GW-RS1209-11	3 Jan 2012	17 Jan 2012 to 16 July 2012	Expired
	GW-RS0037-12	19 Jan 2012	1 Feb 2012 to 31 July 2012	Valid
	GW-RS0051-12	19 Jan 2012	1 Feb 2012 to 31 July 2012	Cancelled
	GW-RS0105-12	3 Feb 2012	10 Feb 2012 to 9 Aug 2012	Cancelled
	GW-RS0153-12	17 Feb 2012	21 Feb 2012 to 20 Aug 2012	Valid
	GW-RS0255-12	14 Mar 2012	17 Mar 2012 to 15 Sept 2012	Valid
	GW-RE0283-12	5 Apr 2012	1 May 2012 to 30 Nov 2012	Valid
	GW-RS0739-12	9 July 2012	1 Aug 2012 to 31 Jan 2013	Valid
	GW-RS0301-12	20 Mar 2012	21 Mar 2012 to 20 Sept 2012	Valid
	GW-RS0303-12	26 Mar 2012	27 Mar 2012 to 27 Sept 2012	Valid
	GW-RS0341-12	3 Apr 2012	28 Apr 2012 to 27 Oct 2012	Valid
	GW-RS0348-12	3 Apr 2012	10 Apr 2012 to 9 Oct 2012	Valid
	GW-RS0380-12	12 Apr 2012	1 May 2012 to 31 Oct 2012	Valid
	GW-RS0388-12	13 Apr 2012	1 May 2012 to 31 Oct 2012	Valid
	GW-RS0418-12	30 Apr 2012	23 May 2012 to 22 Nov 2012	Valid
	GW-RS0420-12	30 Apr 2012	18 May 2012 to 17 Nov 2012	Valid
	GW-RS0423-12	30 Apr 2012	19 May 2012 to 18 Nov 2012	Valid
	GW-RS0427-12	30 Apr 2012	23 May 2012 to 22 Nov 2012	Valid
GW-RS0445-12	30 Apr 2012	1 May 2012 to 25 Sept 2012	Valid	
GW-RS0467-12	10 May 2012	14 May 2012 to 10 Nov 2012	Cancelled	
GW-RS0533-12	21 May 2012	21 May 2012 to 10 Nov 2012	Valid	



Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS0086-12	30 Jan 2012	3 Feb 2012 to 2 Aug 2012	Cancelled
	GW-RS0550-12	25 May 2012	7 June 2012 to 6 Dec 2012	Valid
	GW-RS0611-12	14 June 2012	15 Jun 2012 to 28 Nov 2012	Valid
	GW-RS0633-12	13 June 2012	16 Jun 2012 to 14 Dec 2012	Valid
Discharge Licence	WT00006249-2010	22 Mar 2010	31 Mar 2015	Valid
	WT00006436-2010	15 Apr 2010	30 Apr 2015	Valid
	WT00006673-2010	14 May 2010	31 Mar 2015	Valid
	WT00006757-2010	28 May 2010	31 May 2015	Valid
	WT00007129-2010	28 July 2010	31 Jul 2015	Valid
	WT00008982-2011	26 April 2011	30 April 2016	Valid
WT00009691-2011	1 Aug 2011	31 July 2016	Valid	
Billing Account under Waste Disposal Ordinance (Land)	7010255	10 Feb 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance (Marine)	7011496	6 Oct 2010	N/A	Valid
Registration as Chemical Waste Producer (Wan Chai)	WPN5213-135-C3 593-01	10 Mar 2010	N/A	Valid
Registration as Chemical Waste Producer (TKO 137)	WPN5213-839-C3 593-02	22 Sep 2010	N/A	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13015	25 May 2012	29 May 2012 to 28 Nov 2012	Valid
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal)	EP/MD/13-046	27 July 2012	6 Aug 2012 to 5 Sept 2012	Valid
	EP/MD/13-016	29 May 2012	4 June 2012 to 3 July 2012	Expired

**Table 3.7 Summary of submission status under FEP-03/356/2009 Condition**

EP Condition	Submission	Date of Submission
Condition 1.12	Commencement Date of Construction of Marine Works	8 April 2010
Condition 2.6	Management Organization of Main Construction Companies	10 April 2010
Condition 2.7	Works Schedule and Location Plans	8 April 2010
Condition 2.8	Silt Curtain Deployment Plan (Revision A)	20 April 2010
	Silt Curtain Deployment Plan (Revision B)	25 May 2010
	Silt Curtain Deployment Plan (Revision C)	14 Jun 2010
	Silt Curtain Deployment Plan (Revision H)	15 Feb 2011

EP Condition	Submission	Date of Submission
	Silt Curtain Deployment Plan (Revision I)	17 Nov 2011
	Silt Curtain Deployment Plan (Revision J)	15 Feb 2012
	Silt Curtain Deployment Plan (Revision K)	3 May 2012
Condition 2.9	Silt Screen Deployment Plan	21 April 2010
	Supplementary Information for Existing WSD Salt Water Intakes at Quarry Bay and Sai Wan Ho	5 Oct 2010
	Silt Screen Deployment Plan (Revision B)	15 Feb 2012
	Silt Screen Deployment Plan (Revision C)	3 May 2012
Condition 2.17	Noise Management Plan	6 May 2010
Condition 2.18	Landscape Plan (Decorative Screen Hoarding)	11 May 2010
	Landscape Plan (Control of Night Time Lighting)	2 June 2010
	Landscape Plan (Combined Version)	20 July 2011
	Landscape Plan (Combined Version)	5 Aug 2011
-----	Acknowledge of Submission	22 Aug 2011

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 3.1.8. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HY/2009/15 under EP-356/2009 are shown in **Table 3.8** and **Table 3.9**.

**Table 3.8 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/15**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-04/356/2009	22 Nov 2010	N/A	Valid
	FEP-06/364/2009/A	22 Nov 2010	N/A	Valid
	FEP-01/416/2011	11 Nov 2011	N/A	Valid
Notification of Works Under APCO	321822	24 Sep 2010	N/A	Valid
Construction Noise Permit (CNP) for Filling and Diaphragm Wall Works at TS4/ME4	GW-RS0249-12	10 Feb 2012	9 Mar 2012 to 31 Aug 2012	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0343-12	12 Apr 2012	13 Apr 2012 to 8 Oct 2012	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Construction Noise Permit (CNP) for Removal Works at TS1	GW-RS0607-12	12 Jun 2012	13 Jun 2012 to 7 Dec 2012	Valid
Registration as a Chemical Waste Producer	WPN5213-147-C116 9-35	15 Nov 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance	7011553	30 Sep 2010	27 Sep 2010 to 27 Jan 2016	Valid
	7011761	3 Apr 2012	17 Apr 2012 to 16 Jul 2012	Expired
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/13-018	6 Jun 2012	6 Jun 2012 to 5 Dec 2012	Valid
Dumping Permit (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine disposal)	EP/MD/13-019	7 Jun 2012	8 Jun 2012 to 7 Jul 2012	Expired
	EP/MD/13-037	3 Jul 2012	8 Jul 2012 to 7 Aug 2012	Valid

**Table 3.9 Summary of submission status under FEP-04/356/2009 Condition**

FEP Condition	Submission	Date of Submission
Condition 2.7	Works Schedule and Location Plans	27 Oct 2010
	Amendment for Works Schedule and Location Plans	12 Nov 2010
Condition 2.8	Silt Curtain Deployment Plan	30 Nov 2010
	Amendment for Silt Curtain Deployment Plan	24 Feb 2011
	Amendment for Silt Curtain Deployment Plan	11 May 2011
Condition 2.9	Silt Screen Deployment Plan	19 Oct 2010
	Amendment for Silt Screen Deployment Plan	18 Feb 2011
	Amendment for Silt Screen Deployment Plan	15 Jun 2011
Condition 2.18	Proposal for the Removal of Odorous Sediment and Slime	13 Jan 2011
	Amendment for Proposal for the Removal of Odorous Sediment and Slime	8 Mar 2011
	Amendment for Proposal for the Removal of Odorous Sediment and Slime	2 Aug 2011
Condition 2.21	Landscape Plan	18 Feb 2011
Condition 2.23	Noise Management Plan	20 Oct 2010
	Amendment for Noise Management Plan	27 Jan 2011

3.1.9. Implementation status of the recommended mitigation measures during this reporting period is presented in **Appendix 3.1**.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

3.1.10. Summary of the current status on licences and/or permits on environmental protection pertinent and submission for contract no. HK/2010/06 under EP-356/2009 are shown in **Table 3.10** and **Table 3.11**.

**Table 3.10 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2010/06**

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-05/356/2009	24 Mar 2011	N/A	Valid
	FEP-08/364//2009/A	15 June 2012	N/A	Valid
Notification of Works Under APCO	326344	18 Jan 2011	N/A	Valid
Construction Noise Permit (CNP) for piling equipment	PP-RS0045-11	22 Dec 2011	12 Jan to 5 Jul 2012	Expired
	PP-RS0012-12	18 June 2012	6 Jul 2012 to 5 Jan 2013	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0034-12	17 Jan 2012	18 Jan to 12 Jul 2012	Expired
	GW-RS0313-12	27 Mar 2012	6 Apr to 5 Oct 2012	Valid
	GW-RS0658-12	21 June 2012	13 Jul 2012 to 12 Jan 2013	Valid
Billing Account under Waste Disposal Ordinance	7012338	16 Feb 2011	N/A	Valid
Registration as Chemical Waste Producer	WPN5213-134-G25 33-01	11 Feb 2011	N/A	Valid
Water Discharge Licence	WT00010905-2011	4 November 2011	31 July 2016	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/12-122	9 Feb 12	12 Feb 2012 to 11 Aug 2012	Valid

**Table 3.11 Summary of submission status under EP-356/2009 and FEP-05/356/2009 Condition**

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	24 October 2011
Condition 2.7	Works Schedule and Location Plans	11 March 2011
Condition 2.8	Revised Silt Curtain Deployment Plan	31 Aug 2011
Condition 2.9	Silt Screen Deployment Plan	11 April 2011
Condition 2.23	Noise Management Plan	11 March 2011

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

3.1.11. Summary of the current status on licences and/or permits on environmental protection pertinent for contract no. HY/2009/19 is shown in **Table 3.12**.

**Table 3.12 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/19**

Permit / Licence / Notification / Approval	Reference No.	Issued Date	Valid Period / Expiry date	Status
Further Environmental Permit	FEP-07/364/2009/A	25 Feb 2011	Granted	Valid
Notification of Works Under APCO	326160	24 Jan 2011	Notified	Valid
Construction Noise Permit (CNP) (For D-wall construction)	GW-RS0180-12	22-Feb-12	26-Aug-12	Valid
Construction Noise Permit (CNP) (For Bored pile construction at Portion III)	GW-RS0507-12	22-May-12	23-Nov-12	Valid
Construction Noise Permit (CNP) (For Watson Road)	GW-RS0028-12	18-Jun-12	17-Dec-12	Valid
Discharge Licence (Land)	WT00010093-2011	31 Aug 2011	30-Sept-16	Valid
Discharge Licence (Sea)	WT00010865-2011	03 Nov 2011	30-Nov-16	Valid
Registration as a Waste Producer	7012306	21 Jan 2011	Registered	-
C&D Waste Disposal	7012306	10 Feb 2011	Registered	-
Vessel Disposal	7013285	21 July 2011	Registered	-
Registration as Chemical Waste Producer	5213-151-C3654-01	24 Mar 2011	Registered	Valid
Dumping Permit (Type 1 – Open Sea Disposal)	EP/MD/12-150	14-May-12	14-Nov-12	Valid
Dumping Permit (Type 2 – Confined Marine Disposal)	EP/MD/12-151	11-May-12	14-Jun-12	Expired

#### 4. Monitoring Requirements

##### 4.1 Noise Monitoring

###### NOISE MONITORING STATIONS

4.1.1. The noise monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.1 Noise Monitoring Station**

Station	Description
M1a	Harbour Road Sports Centre
M2b	Noon Gun Area
M3a	Tung Lo Wan Fire Station
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School

###### REAL-TIME NOISE MONITORING STATIONS

4.1.2. The real-time noise monitoring stations for the Project are listed and shown in **Table 4.2** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.2 Real Time Noise Monitoring Station**

District	Station	Description
Tin Hau	RTN1	FEHD Hong Kong Transport Section Whitefield Depot
North Point	RTN2	Oil Street Community Liaison Centre

###### NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

4.1.3. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ).  $L_{eq}(30 \text{ minutes})$  shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods,  $L_{eq}(5 \text{ minutes})$  shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.

4.1.4. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- one set of measurements between 0700 and 1900 hours on normal weekdays.

4.1.5. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during

respective restricted hours periods. Applicable permits under NCO shall be obtained by the Contractor.

**MONITORING EQUIPMENT**

- 4.1.6. As referred to in the Technical Memorandum <sup>TM</sup> issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.
- 4.1.7. Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

**4.2 Air Monitoring**

**AIR QUALITY MONITORING STATIONS**

- 4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.3** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.3 Air Monitoring Station**

Station ID	Monitoring Location	Description
CMA1b	Oil Street Community Liaison Centre	North Point
CMA2a	Causeway Bay Community Centre	Causeway Bay
CMA3a	CWB PRE Site Office *	Causeway Bay
CMA4a	Society for the Prevention of Cruelty to Animals	Wan Chai
CMA5a	Children Playgrounds opposite to Pedestrian Plaza	Wan Chai
CMA6a	WDII PRE Site Office *	Wan Chai

\* Remarks: As per the ENPC meeting in January 2011, the monitoring stations CMA3a - Future CWB site office at Wanchai Waterfront Promenade and CMA6a - Future AECOM site office at Work Area were renamed as remark.

#### AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.
- 4.2.3. All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.
- 4.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

#### SAMPLING PROCEDURE AND MONITORING EQUIPMENT

- 4.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:
- 0.6 - 1.7 m<sup>3</sup> per minute adjustable flow range;
  - equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
  - installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
  - capable of providing a minimum exposed area of 406 cm<sup>2</sup>;
  - flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
  - equipped with a shelter to protect the filter and sampler;
  - incorporated with an electronic mass flow rate controller or other equivalent devices;
  - equipped with a flow recorder for continuous monitoring;
  - provided with a peaked roof inlet;
  - incorporated with a manometer;
  - able to hold and seal the filter paper to the sampler housing at horizontal position;
  - easily changeable filter; and
  - capable of operating continuously for a 24-hour period.
- 4.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The concern parties such as IEC shall properly document the calibration data for future reference. All the data should be converted into standard temperature and pressure condition.

#### LABORATORY MEASUREMENT / ANALYSIS

- 4.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.



- 4.2.8. An alternative non-HOKLAS accredited laboratory was set-up for carrying out the laboratory analysis, the laboratory equipment was approved by the ER on 8 February 2011 and the measurement procedures were witnessed by the IEC. Any measurement performed by the laboratory was demonstrated to the satisfaction of the ER and IEC. IEC shall regularly audit the measurement performed by the laboratory to ensure the accuracy of measurement results.
- 4.2.9. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.
- 4.2.10. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.
- 4.2.11. All the collected samples shall be kept in a good condition for 6 months before disposal.

#### IMPACT MONITORING FOR ODOUR PATROL

- 4.2.12. Odour patrols along the shorelines of Causeway Bay Typhoon Shelter and ex-Wan Chai Public Cargo Working Area when there is temporary reclamation in Causeway Bay Typhoon Shelter and/or in the ex-Wan Chai Public Cargo Working Area, or when there is dredging of the odorous sediment and slime at the south-western corner of the Causeway Bay Typhoon Shelter. Odour patrols will be carried out at bi-weekly intervals during July, August and September by a qualified person of the ET who shall:
- be at least 16 years of age;
  - be free from any respiratory illnesses; and
  - not be allowed to smoke, eat, drink (except water) or use chewing gum or sweets 30 min before and during odour patrol
- 4.2.13. Odour patrol shall be conducted by independent trained personnel / competent persons patrolling and sniffing around the shore as shown in **Figure 4.1** to detect any odour at the concerned hours (afternoon is preferred for higher daily temperature).
- 4.2.14. The qualified person will use the nose (olfactory sensor) to sniff odours at different locations. The main odour emission sources and the areas to be affected by the odour nuisance will be identified.
- 4.2.15. The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:
- 0 - Not detected. No odour perceived or an odour so weak that it cannot be easily characterized or described;
  - 1 - Slight Identifiable odour, and slight chance to have odour nuisance;
  - 2 - Moderate Identifiable odour, and moderate chance to have odour nuisance;
  - 3 - Strong Identifiable, likely to have odour nuisance;
  - 4 - Extreme Severe odour, and unacceptable odour level.

- 4.2.16. The findings including odour intensity, odour nature and possible odour sources, and also the local wind speed and direction at each location will be recorded. In addition, some relevant meteorological and tidal data such as daily average temperature, and daily average humidity, on that surveyed day will be obtained from the Hong Kong Observatory Station for reference. The Action and Limit levels for odour patrol are shown in **Appendix 6.1**.
- 4.2.17. The qualified odour patrol member has individual n-butanol thresholds complied with the requirement of European Standard Method of Air Quality – Determination of Odour Concentration by Dynamic Olfactometry (EN13725) in the range of 20 to 80 ppb. The certificate for the qualified odour panel member is shown in **Appendix 4.2**.

### 4.3 Water Quality Monitoring

- 4.3.1. The EIA Report has identified that the key water quality impact would be associated with the dredging works during the construction phase. Marine water quality monitoring for dissolved oxygen (DO), suspended solid (SS) and turbidity is therefore recommended to be carried out at selected WSD flushing water intakes. The impact monitoring should be carried out during the proposed dredging works to ensure the compliance with the water quality standards.
- 4.3.2. The updated EM&A Manual for EP-356/2009 (Version in March 2011) is approval by EPD on 29 April 2011. As such, the Action Level and Limit Level for the wet season (April – September) will be effected and applied to the water quality monitoring data from 30 April 2011.

#### Water Quality Monitoring Stations

- 4.3.3. It is proposed to monitor the water quality at 9 WSD salt water intakes and 14 cooling water intakes along the seafront of the Victoria Harbour. The proposed water quality monitoring stations of the Project are shown in **Table 4.4** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

**Table 4.4 Marine Water Quality Stations for Water Quality Monitoring**

Station Ref.	Location	Easting	Northing
<b>WSD Salt Water Intake</b>			
WSD7	Kowloon South	834150.0	818300.3
WSD9	Tai Wan	837921.0	818330.0
WSD10	Cha Kwo Ling	841900.9	817700.1
WSD15	Sai Wan Ho	841110.4	816450.1
WSD17	Quarry Bay	839790.3	817032.2
WSD19	Sheung Wan	833415.0	816771.0
WSD20	Kennedy Town	830750.6	816030.3
WSD21	Wan Chai	836220.8	815940.1
RW1	Wan Chai (Reprovision)	836188.8	815911.1
<b>Cooling Water Intake</b>			
C1	HKCEC Extension	835885.6	816223.0
C2	Telecom House	835647.9	815864.4
C3	HKCEC Phase I	835836.2	815910.0

Station Ref.	Location	Easting	Northing
C4e	Great Eagle Centre	835932.8	815888.2
C4w	Wan Chai Tower	835629.8	815889.2
C5e	Sun Hung Kai Centre (Eastern)	836250.1	815932.2
C5w	Sun Hung Kai Centre (Western)	836248.1	815933.2
C6	Excelsior Hotel	837009.6	815999.3
C7	Windsor House	837193.7	816150.0
C8	City Garden	837970.6	816957.3
C9	Provident Garden	838355.0	817116.6
RC1	Proposed HKAPA Extension	835487.7	815987.7
RC5	Sun Hung Kai Centre (Reprovision)	836291.4	816029.7
RC7	Windsor House (Temporary Dilution)	837245.2	816156.6

WATER QUALITY PARAMETERS

- 4.3.4. Monitoring of dissolved oxygen (DO), turbidity and suspended solids (SS) shall be carried out at WSD flushing water intakes and cooling water intakes. DO and Turbidity are measured in-situ while SS is determined in laboratory.
- 4.3.5. In association with the water quality parameters, other relevant data shall also be measured, such as monitoring location/position, time, sampling depth, water temperature, pH, salinity, dissolved oxygen (DO) saturation, weather conditions, sea conditions, tidal stage, and any special phenomena and work underway at the construction site etc.

SAMPLING PROCEDURES AND MONITORING EQUIPMENT

- 4.3.6. The interval between two sets of monitoring should not be less than 36 hours except where there are exceedances of Action and/or Limit Levels, in which case the monitoring frequency will be increased. **Table 4.5** shows the proposed monitoring frequency and water quality parameters. Duplicate in-situ measurements and water sampling should be carried out in each sampling event. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should be not less than 0.5m.

**Table 4.5 Marine Water Quality Monitoring Frequency and Parameters**

Activities	Monitoring Frequency <sup>1</sup>	Parameters <sup>2</sup>
During the 4-week baseline monitoring period	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
During marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity
After completion of marine construction works	Three days per week, at mid-flood and mid-ebb tides	Turbidity, Suspended Solids (SS), Dissolved Oxygen (DO), pH, Temperature, Salinity

Notes:

- 1. For selection of tides for in-situ measurement and water sampling, tidal range of individual flood and ebb tides should be not less than 0.5m.
- 2. Turbidity should be measured in situ whereas SS should be determined by laboratory.

#### DISSOLVED OXYGEN AND TEMPERATURE MEASURING EQUIPMENT

- 4.3.7. The instrument should be a portable, weatherproof dissolved oxygen measuring instrument complete with cable, sensor, comprehensive operation manuals, and use a DC power source. It should be capable of measuring:
- a dissolved oxygen level in the range of 0-20 mg/l and 0-200% saturation
  - a temperature of 0-45 degree Celsius
- 4.3.8. It should have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables should be available for replacement where necessary. (e.g. YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).
- 4.3.9. Should salinity compensation not be build-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

#### TURBIDITY MEASUREMENT INSTRUMENT

- 4.3.10. The instrument should be a portable, weatherproof turbidity-measuring instrument complete with comprehensive operation manual. The equipment should use a DC power source. It should have a photoelectric sensor capable of measuring turbidity between 0-1000 NTU and be complete with a cable (e.g. Hach model 2100P or an approved similar instrument).

#### SAMPLER

- 4.3.11. A water sampler comprises a transparent PVC cylinder, with a capacity of not less than 2 litres, and can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (e.g. Kahlsico Water Sampler or an approved similar instrument).

#### SAMPLE CONTAINER AND STORAGE

- 4.3.12. Water samples for suspended solids measurement should be collected in high-density polythene bottles, packed in ice (cooled to 4°C without being frozen), and delivered to ALS Technichem (HK) Pty Ltd. as soon as possible after collection for analysis.

#### WATER DEPTH DETECTOR

- 4.3.13. A portable, battery-operated echo sounder shall be used for the determination of water depth at each designated monitoring station. This unit can either be handheld or affixed to the bottom of the workboat, if the same vessel is to be used throughout the monitoring programme.

#### SALINITY

- 4.3.14. A portable salinometer capable of measuring salinity in the range of 0-40 ppt shall be provided for measuring salinity of the water at each of monitoring location.

#### MONITORING POSITION EQUIPMENT

- 4.3.15. A hand-held or boat-fixed type digital Global Positioning System (GPS) with waypoint bearing indication or other equivalent instrument of similar accuracy shall be provided and used during monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

CALIBRATION OF IN-SITU INSTRUMENTS

- 4.3.16. All in-situ monitoring instrument shall be checked, calibrated and certified by a laboratory accredited under HOKLAS or equivalent before use, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter shall be carried out before measurement at each monitoring location.
- 4.3.17. For the on site calibration of field equipment by the ET, the BS 127:1993, "Guide to Field and on-site test methods for the analysis of waters" should be observed.
- 4.3.18. Sufficient stocks of spare parts should be maintained for replacements when necessary. Backup monitoring equipment shall also be made available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, etc.
- 4.3.19. Current calibration certificates of equipments are presented in **Appendix 4.2**.

LABORATORY MEASUREMENT / ANALYSIS

- 4.3.20. Analysis of suspended solids has been carried out in a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd. Water samples of about 1L shall be collected at the monitoring stations for carrying out the laboratory SS determination. The SS determination work shall start within 24 hours after collection of the water samples. The SS determination shall follow APHA 19ed or equivalent methods subject to the approval of IEC and EPD.

ENHANCED WATER QUALITY MONITORING IN THE EX-WAN CHAI PUBLIC CARGO WORKING AREA AND THE CAUSEWAY BAY TYPHOON SHELTER

- 4.3.21. The enhanced water quality monitoring and audit programme is to avoid aggravation of odour nuisance from seawater arising from temporary reclamation in the ex-Wan Chai Public Cargo Working Area and the Causeway Bay Typhoon Shelter.
- 4.3.22. Dissolved oxygen monitoring at the intakes C6 and C7 in Causeway Bay Typhoon Shelter when there is temporary reclamation in Causeway Bay Typhoon Shelter and at the south-western and south-eastern corners of the ex-Wan Chai Public Cargo Working Area. The proposed water quality monitoring stations of the Project are shown in **Table 4.6** and **Figure 4.1**.

**Table 4.6 Marine Water Quality Stations for Enhanced Water Quality Monitoring**

Station	Location
C6	Excelsior Hotel
C7	Windsor House
Ex-WPCWA-SW	South-western of the ex-Wan Chai Public Cargo Working Area
Ex-WPCWA-SE	South-eastern of the ex-Wan Chai Public Cargo Working Area

- 4.3.23. The monitoring of dissolved oxygen are to be carried out 3 days per week, at mid-flood and mid-ebb tides for 3 water depths (1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth may be omitted. If the water depth be equal to or less than 3m, only the mid-depth will be monitored).

DAILY SS MONITORING AND 24 HOURS TURBIDITY MONITORING SYSTEM

- 4.3.24. During dredging of the sediment at the south-western corner of the Causeway Bay Typhoon Shelter, daily monitoring of suspended solids and 24 hour monitoring of turbidity at the cooling water intakes (C6 and C7) shall be conducted.
- 4.3.25. The 24 hours monitoring of turbidity at the cooling water intakes (C6 and C7) shall be established by setting up a continuous water quality monitoring station in front of the intakes during the dredging activities. The monitoring system include the turbidity sensor and data logger which is capable of data capturing at every 5 minutes. The data shall be downloaded daily and compared with the Action and Limit level determined during the baseline water quality monitoring at the cooling water intake locations.

ADDITIONAL DISSOLVED OXYGEN MONITORING FOR CULVERT L WATER DISCHARGE FLOW

- 4.3.26. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored.
- 4.3.27. The proposed DO monitoring stations of the Project are shown in **Table 4.7** and **Figure 4.1**.

**Table 4.7 Marine Water Quality Stations for Additional DO Monitoring**

Station	Easting	Northing
A	835468	815857
B	835572	815961
C	835659	816271

- 4.3.28. The monitoring of dissolved oxygen are to be carried out once per week, at mid-flood and mid-ebb tides for 3 water depths (1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth may be omitted. If the water depth be equal to or less than 3m, only the mid-depth will be monitored).

**5. Monitoring Results**

- 5.0.1. The environmental monitoring will be implemented based on the division of works areas of each designed project managed under different contracts with separate FEP applied by individual contractors. Overall layout showing work areas of various contracts, latest status of work commencement and monitoring stations is shown in **Figure 2.1** and **Figure 4.1**. The monitoring results are presented in according to the Individual Contract(s).
- 5.0.2. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011.
- 5.0.3. The surrender of the Further Environmental Permit for HY/2009/11 withdrew by contractor on 14 February 2012. However, there is no work was conducted by the contractor.
- 5.0.4. In the reporting month, the concurrent contracts are as follows:
  - Contract no. HY/2009/11 Central - Wan Chai Bypass - North Point Reclamation;
  - Contract no. HK/2009/01 – Wan Chai Development Phase II – Central-Wan Chai Bypass at Hong Kong Convention and Exhibition Centre; and
  - Contract no. HK/2009/02 Wan Chai Development Phase II – Central-Wan Chai Bypass at Wan Chai East
  - Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)
  - Contract no. HK/2010/06 Wan Chai Development Phase II – Central-Wan Chai Bypass over MTR Tsuen Wan Line
  - Contract no. HY/2009/19- Cental- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link
- 5.0.5. The environment monitoring schedules for reporting month and coming month are presented in **Appendix 5.1**.

**5.1 Noise Monitoring Results**

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

- 5.1.1. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011 and the FEP-01/356/2009 was under application of surrender in this reporting period. The monitoring was temporary suspended since 5 January 2012.
- 5.1.2. The proposed division of noise monitoring stations for Contract no. HY/2009/11 are summarized in **Table 5.1** below:

**Table 5.1 Noise Monitoring Stations for Contract no. HY/2009/11**

Station	Description
M4b	Victoria Centre
M5b	City Garden

- 5.1.3. Day time and evening period noise monitoring was conducted at the City Garden and Victoria Centre in the reporting month.



- 5.1.4. Noise monitoring results measured in this reporting period are reviewed and summarized. No exceedance was recorded in reporting month. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC, Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East and Contract no. HK/2010/06 Wan Chai Development Phase II – Central-Wan Chai Bypass over MTR Tsuen Wan Line

- 5.1.5. The proposed division of noise monitoring stations are summarized in **Table 5.2** below.

**Table 5.2 Noise Monitoring Station for Contract nos. HK/2009/01, HK/2009/02 and HK/2010/06**

Station	Description
M1a	Harbour Road Sports Centre

- 5.1.6. Daytime and evening period noise monitoring was conducted at the Harbour Road Sport Centre in the reporting month.

- 5.1.7. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.1.8. The noise monitoring for HY/2009/15 was commenced on 10 November 2010. The proposed division of noise monitoring stations are summarized in **Table 5.3** below.

**Table 5.3 Noise Monitoring Station for Contract no. HY/2009/15**

Station	Description
M2b	Noon Gun Area
M3a	Tung Lo Wan Fire Station

- 5.1.9. Noise monitoring results measured in the period of daytime and restricted hour are reviewed and summarized. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 5.1.10. The proposed division of noise monitoring stations are summarized in **Table 5.4** below.

**Table 5.4 Noise Monitoring Station for Contract no. HY/2009/19**



Station	Description
M3a	Tung Lo Wan Fire Station
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School

5.1.11. No exceedance was recorded in this reporting period. Details of noise monitoring results and graphical presentation can be referred in [Appendix 5.2](#)

### 5.2 Real-time Noise Monitoring

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation and Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

5.2.1. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011 and the FEP-01/356/2009 was under application of surrender in this reporting period.

5.2.2. Real-time noise monitoring at FEHD Hong Kong Transport Section Whitefield Depot commenced external wall renovation since 1 June 2012

**Table 5.5 Real Time Noise Monitoring Station for Contract no. HY/2009/11 and HY/2009/19**

District	Station	Description
Tin Hau	RTN1	FEHD Hong Kong Transport Section Whitefield Depot
North Point	RTN2	Oil Street Community Liaison Centre

*\* Real time noise monitoring results and graphical presentation during night time period are for information only.*

5.2.3. Exceedances were recorded between 0700 and 1900 hours, and 1900 and 2300 hours throughout the reporting month. Investigations found that the major noise impacts from 0700 and 1900 hours, and 1900 and 2300 hours were arising from the traffic noise along the Island Eastern Corridor and demolition works near Oil Street Community Liaison Center. In addition, there was no construction activity commenced in these two periods. As such, the exceedances were concluded as not project related. Details of real time noise monitoring results and graphical presentation can be referred to [Appendix 5.5](#).

### 5.3 Air Monitoring Results

5.3.1. Due to extension of site boundary by contractor of HY/2009/19, location of air monitoring station CMA1b – Oil Street Community Liaison Centre has been finely adjusted on 21 April 2012.

5.3.2. Due to lack of electricity supply, the 24-hr TSP monitoring at the following stations were rescheduled:

CMA3a: from 10 and 16 July 2012 to 11 and 18 July 2012

CMA5a: from 4 and 21 July 2012 to 5 and 24 July 2012

- 5.3.3. Due to adverse weather condition, the 1-hr TSP monitoring at the following stations were rescheduled:

CMA3a: from 23 July 2012 to 24 July 2012

CMA4a: from 23 July 2012 to 24 July 2012

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

- 5.3.4. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011 and the FEP-01/356/2009 was valid in this reporting period. The monitoring for the contract was temporary suspended on 6 January 2012.

- 5.3.5. The proposed division air monitoring stations is summarized in **Table 5.6** below.

**Table 5.6 Air Monitoring Stations for Contract no. HY/2009/11**

Station	Description
CMA1b	Oil Street Community Liaison Centre
CMA2a	Causeway Bay Community Centre

- 5.3.6. No exceedance was recorded in the reporting month. Details of air monitoring results and graphical presentation can be referred in **Appendix 5.3**.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- 5.3.7. Air monitoring was commenced on 1 April 2011 in response to the commencement of the land-filling work for Contract no. HK/2009/01. The proposed divisions of air monitoring stations are summarized in **Table 5.7** below. No exceedance was recorded in the reporting month.

**Table 5.7 Air Monitoring Stations for Contract no. HK/2009/01**

Station	Description
CMA5a	Children Playgrounds opposite to Pedestrian Plaza
CMA6a	WDII PRE Site Office

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 5.3.8. Air monitoring was commenced in mid-January 2011 for the land-filling work for Contract no. HK/2009/02. The proposed division of air monitoring stations are summarized in **Table 5.8** below. No exceedance was recorded in the reporting month.

**Table 5.8 Air Monitoring Station for Contract no. HK/2009/02**

Station	Description
CMA4a	Society for the Prevention of Cruelty to Animals

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 5.3.9. Air monitoring was commenced on 15 March 2011 for the land filling work for Contract no. HY/2009/15. The proposed division of air monitoring stations are summarized in **Table 5.9** below. No exceedance was recorded in the reporting month.

**Table 5.9 Air Monitoring Station for Contract no. HY/2009/15**

Station	Description
CMA3a	CWB PRE Site Office

- 5.3.10. The odour patrol along the odour route with 7 sniffing locations was conducted by a qualified odour patrol member on 9 and 27 July 2012 at the concerned hours (afternoon for higher daily temperature). The odour intensity detected at OP4 was found to be level 2 on 9 and 27 July 2012 which triggered Action Level. After investigation, the exceedances were likely to be possible in relation to the sewage from outfall which was considered as not work-related under the Project. The details of the odour patrol results and meteorological conditions and on the date of odour patrol are shown in Appendix 5.3.

Contract no. HY/2009/19- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 5.3.11. The proposed division of air monitoring stations are summarized in Table 5.10 below. No exceedance was recorded in the reporting month.

**Table 5.10 Air Monitoring Stations for Contract no. HY/2009/19**

Station	Description
CMA1b	Oil St Community Liaison Centre
CMA2a	Causeway Bay Community Centre

**5.4 Water Monitoring Results.**

- 5.4.1. During the weekly site inspection for HY/2009/15 on 10 July 2012 and further inspection on 11 July 2012, it was found that the seawall blocks on the south side of TCBR1E (TS1) have been removed before all dredging works have been completed. The contractor has immediately surrounded the seawall gap with silt curtains and stopped the relevant dredging works on 12 July 2012. No action or limit level exceedance was found during the water quality monitoring on 9 or 11 July 2012. The contractor has promised to provide double layer silt curtains and geotextile to act as temporary seawall and covered the sloping seawall with geotextile, and would provide a full incident report. A self water quality monitoring was conducted on 15 July 2012 to indicate the effectiveness of the double silt curtain layers and would perform each time during dredging operations. The results from the self water quality monitoring showed that the suspended solids, turbidity and dissolved oxygen level outside the double silt curtain layers were not affected by the dredging activities inside the silt curtain layers.

- 5.4.2. Due to the enforcement of strong wind signal No.3 on 30 Jun 2012 and Amber Rainstorm on 5 and 25 Jul 2012, water quality monitoring at ebb tide were cancelled.
- 5.4.3. Due to the enforcement of strong wind signal No. 3 and above on 23 Jul 2012, water quality monitoring at flood and ebb tide were cancelled.
- 5.4.4. Due to a series of celebratory activities relating to the Anniversary of the Establishment of HKSAR to be held at the HKCEC and security search conducted at work sites of the HKCEC, the water quality monitoring at C1, C2, C4e and C4w WQM stations in ebb and flood tides were temporary suspended on 30 June 2012.
- 5.4.5. WDII/RSS advised that the dredging works for submarine pipeline at Victoria Harbour had been completed in January 2012. Therefore, the concurrent dredging activities at Sewage Pipeline Zone and reclamation shoreline zone TCBR under the EP-356/2009 scenario 2B no longer exist. As such, with reference to Table 5.39 of the EIA Report for Wan Chai Development Phase II and Central-Wan Chai Bypass, the application of silt screen for cooling water intakes for Queensway Government Offices was suspended and the others remain unchanged.
- 5.4.6. Based on the joint inspection on 4 Jan 2012 for the NPR area, the 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8, C9 to confirm no water deterioration with respect to NPR was commenced since 7 Jan 2012 and it was completed on 6 February 2012.
- 5.4.7. Water quality monitoring at WSD10 and WSD15 was temporary suspended while water quality monitoring at WSD9 and WSD17 was implemented with respect to HK/2009/02 from 8 Feb 12 onwards;
- 5.4.8. Water quality monitoring at C8 and C9 have been implemented with respect to HY/2009/19 since the marine bore piling work started on 28 Jan 12.
- 5.4.9. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Centre (C9) since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 to the closest accessible point prior to the completion of the external façade refurbishment work.
- 5.4.10. With respect to the trial dredging at WCR2 was scheduled on 20, 22, 24, 25 March and 1, 3, 11, 13, 15, 17, 19, 20 Apr and 3 May 2012, on-going water quality monitoring results at WSD21 during this period was checked and indicated that there was no contribution due to the trial dredging operation. Enhanced review of water quality around WCR2 was also implemented and no deterioration in the water quality was observed.
- 5.4.11. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
- 5.4.12. Due to the dredging works for Cross Harbour Water Mains from Wan Chai to Tsim Sha Tsui-DP6 was completed on 26 March 2012, the temporary suspension of impact water quality monitoring at WSD7 and WSD20 after 27 April 2012 for the water quality monitoring at WSD7 and WSD20 have been monitored for 4-week period after the completion of DP6 to confirm no water deterioration.

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

- 5.4.13. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. The construction site was handed over to contractor HY/2009/19 on 31 December 2011 and the FEP-01/356/2009 was valid in this reporting period.
- 5.4.14. The proposed division of water monitoring stations for Contract no. HY/2009/11 are summarized in **Table 5.11** below:

**Table 5.11 Water Monitoring Stations for Contract no. HY/2009/11**

Station Ref.	Location	Easting	Northing
<b>WSD Salt Water Intake</b>			
WSD9	Tai Wan	837921.0	818330.0
WSD10	Cha Kwo Ling	841900.9	817700.1
WSD15	Sai Wan Ho	841110.4	816450.1
WSD17	Quarry Bay	839790.3	817032.2
<b>Cooling Water Intake</b>			
C8	City Garden	837970.6	816957.3
C9	Provident Garden	838355.0	817116.6

Remarks: WSD9, WSD10, WSD15, WSD17, C8 and C9 water monitoring finished on 6 Feb 2012.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- 5.4.15. Water monitoring for Contract no. HK/2009/01 was commenced on 23 July 2010. The proposed division of water monitoring stations are summarized in **Table 5.12** below.

**Table 5.12 Water Monitoring Stations for Contract no. HK/2009/01**

Station Ref.	Location	Easting	Northing
<b>WSD Salt Water Intake</b>			
WSD7	Kowloon South	834150.0	818300.3
WSD19	Sheung Wan	833415.0	816771.0
WSD20	Kennedy Town	830750.6	816030.3
<b>Cooling Water Intake</b>			
C1	HKCEC Extension	835885.6	816223.0
C2	Telecom House	835647.9	815864.4
C3	HKCEC Phase I	835836.2	815910.0
C4e	Great Eagle Centre	835932.8	815888.2
C4w	Wan Chai Tower	835629.8	815889.2

Remarks:

- The water monitoring stations for the dredging works under Contract No. HK/2009/01 should also include WSD9, WSD17, WSD 21 and C5 if water quality monitoring at these locations have not been carried out by others. Similarly, the water monitoring stations for the dredging works under Contract No. HK/2009/02

should also include WSD7, WSD9, WSD17, WSD 19, C1, C2, C3 and C4 if water quality monitoring at these locations have not been carried out by others.

- WSD7 and WSD20 water quality monitoring were temporarily suspended since 27 Apr 2012.

Contract no. HK/2009/02 - Wan Chai Development Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

5.4.16. Water monitoring for Contract no. HK/2009/02 was commenced on 8 July 2010. The proposed division of water monitoring stations are summarized in **Table 5.13** below.

**Table 5.13 Water Monitoring Stations for Contract no. HK/2009/02**

Station Ref.	Location	Easting	Northing
<b>WSD Salt Water Intake</b>			
WSD21	Wan Chai	836220.8	815940.1
WSD9	Tai Wan	837921.0	818330.0
WSD17	Quarry Bay	839790.3	817032.2
<b>Cooling Water Intake</b>			
C5e	Sun Hung Kai Centre (Eastern)	836250.1	815932.2
C5w	Sun Hung Kai Centre (Western)	836248.1	815933.2

Remarks:

- The water monitoring stations for the dredging works under Contract No. HK/2009/01 should also include WSD9, WSD17, WSD 21 and C5 if water quality monitoring at these locations have not been carried out by others. Similarly, the water monitoring stations for the dredging works under Contract No. HK/2009/02 should also include WSD7, WSD9, WSD17, WSD 19, C1, C2, C3 and C4 if water quality monitoring at these locations has not been carried out by others.
- Water quality monitoring at WSD9 and WSD 17 was implemented with respect to HK/2009/02 from 8 Feb 2012.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

5.4.17. Water monitoring for Contract no. HK/2010/06 was commenced on 8 March 2011. The proposed division of water monitoring stations are summarized in **Table 5.14** below.

**Table 5.14 Water Monitoring Stations for Contract no. HK/2010/06**

Station Ref.	Location	Easting	Northing
<b>Cooling Water Intake</b>			
C2	Telecom House	835647.9	815864.4

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

5.4.18. Due to the commencement of the maintenance dredging on 10 November 2010, water quality monitoring for Contract no. HY/2009/15 was commenced on 9 November 2010. The proposed division of water monitoring stations are summarized in **Table 5.15** below.

**Table 5.15 Water Monitoring Stations for Contract no. HY/2009/15**

Station Ref.	Location	Easting	Northing
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Station Ref.	Location	Easting	Northing
<b>Cooling Water Intake</b>			
C6	Excelsior Hotel	837009.6	815999.3
C7	Windsor House	837193.7	816150.0

Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water monitoring at C6 was then terminated since 17 May 2011.

Contract no. HY/2009/19 – Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 5.4.19. Due to the commencement of the marine bored piling on 28 Jan 2012, water quality monitoring for Contract no. HY/2009/19 was commenced on 28 Jan 2012. The proposed division of water monitoring stations are summarized in *Table 5.16* below.

**Table 5.16 Water Monitoring Stations for Contract no. HY/2009/19**

Station Ref.	Location	Easting	Northing
<b>Cooling Water Intake</b>			
C8	City Garden	837970.6	816957.3
C9	Provident Garden	838355.0	817116.6

Remarks: C8 and C9 monitoring commenced on 28 Jan 2012.

- 5.4.20. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Center (C9) between 9 January 2012 to 30 July 2012 which caused to the inaccessibility of sampling either land and marine since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 since 10 March 2012 to the closest accessible point prior to the completion of the external façade refurbishment work.
- 5.4.21. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
- 5.4.22. As per the meeting with the representative of Excelsior Hotel and World Trade Centre on 17 May 2011, they confirmed that the seawater intake for The Excelsior was no longer in use and replaced by the connected permanent water supply from WSD pipelines since 11 January 2011. Thus, the impact water quality monitoring for the cooling intake - C6 was terminated effective from 26 May 2011.
- 5.4.23. 24 hours monitoring of turbidity at the cooling water intakes at C7 was conducted. With respect to the seawall collapsing at TS4 on 17 November 2011, the 24 hours turbidity monitoring and was kept in November 2011. Since the reinstating the seawall was completed on 13 January 2012 and no any water deterioration was performed, 24 hour turbidity monitoring was then suspended on 27 January 2012.
- 5.4.24. Water monitoring results measured in this reporting period are reviewed and summarized. Details of water quality monitoring results and graphical presentation can be referred in **Appendix 5.4**.



**Table 5.17 Summary of Water Quality Monitoring Exceedances in Reporting Month**

Contract no.	Water Monitoring Station	Mid-flood						Mid-ebb					
		DO		Turbidity		SS		DO		Turbidity		SS	
		AL	LL	AL	LL	AL	LL	AL	LL	AL	LL	AL	LL
HY/2009/11 Monitoring finished on 6 Feb 2012	WSD9	0	0	0	0	0	0	0	0	0	0	0	0
	WSD10	0	0	0	0	0	0	0	0	0	0	0	0
	WSD15	0	0	0	0	0	0	0	0	0	0	0	0
	WSD17	0	0	0	0	0	0	0	0	0	0	0	0
	C8	0	0	0	0	0	0	0	0	0	0	0	0
	C9	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/01	WSD19	0	0	0	1	0	0	1	0	0	1	1	0
	C1	0	0	0	0	0	0	0	0	0	0	0	0
	C3	0	0	0	0	0	0	0	0	0	0	0	0
	C4e	0	0	0	0	0	0	0	0	0	0	0	0
	C4w	1	0	0	0	0	0	0	0	0	0	0	0
Monitoring finished on 27 April 2012	WSD20	0	0	0	0	0	0	0	0	0	0	0	0
	WSD7	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/01 & HK/2010/06	C2	0	0	0	0	0	0	0	0	0	0	0	0
HK/2009/02 Monitoring started on 8 Feb 2012	C5e	0	0	0	0	1	0	0	0	0	0	0	0
	C5w	0	0	0	0	0	0	0	0	0	0	0	0
	WSD21	0	0	0	0	0	1	0	0	0	0	0	0
	WSD9	0	0	0	0	0	0	1	1	0	0	0	0
	WSD17	0	0	0	0	0	0	0	1	0	0	0	0
HY/2009/15	C7	0	0	0	0	0	0	1	1	0	0	1	0
HY/2009/19 Monitoring started on 28 Jan 2012	C8	0	0	0	1	0	0	1	0	0	2	0	0
	C9	0	0	0	0	0	0	1	0	0	0	0	0
<b>Total</b>		1	0	0	2	1	1	5	3	0	3	2	0

- Remarks: - The cessation of seawater intake operation for C6 was confirmed on 17 May 2011, the water monitoring at C6 was then terminated since 17 May 2011.
- WSD9 and WSD17 were implemented with respect to HK/2009/02 from 8 Feb 2012.
  - 4-week water quality monitoring at WSD9, WSD10, WSD15, WSD17, C8, C9 were completed on 6 Feb 2012.
  - C8 and C9 were implemented with respect to HY/2009/19 from 28 Jan 2012.
  - WSD7 and WSD20 were temporarily suspended from 27 Apr 2012

5.4.25. Enhanced DO monitoring at 4 monitoring stations in Causeway Bay Typhoon Shelter and Ex-Public Cargo Works Area was conducted three days per week during the reporting period. The action and limit level exceedances of water quality monitoring are summarized in **Table 5.18**.



**Table 5.18 Summary of Enhanced Dissolved Oxygen Monitoring Exceedances in Reporting Month**

Contract no.	Water Monitoring Station	Mid-flood		Mid-ebb	
		DO		DO	
		AL	LL	AL	LL
HY/2009/15	C6	0	0	0	0
	C7	0	0	1	1
	Ex-WPCWA SW	0	0	0	1
	Ex-WPCWA SE	1	0	0	5
<b>Total</b>		<b>1</b>	<b>0</b>	<b>1</b>	<b>7</b>

5.4.26. There were 2 action level exceedances and 7 limit level exceedances recorded in enhanced dissolved oxygen monitoring in this reporting period.

5.4.27. In response to the Condition 2.18 of the Environmental Permit no. EP-356/2009 requiring that a silt curtain / impermeable barrier system be installed to channel water discharge flow from Culvert L to locations outside the embayment area, a proposed replacement of the requirement with additional dissolved oxygen monitoring has been conducted at three monitoring stations, namely A, B and C between the eastern seawall of Central Reclamation Phase III and the HKCEC Extension since November 2011 under EP-356/2009 so that DO level between the eastern seawall of Central Reclamation Phase II and the HKCEC extension could be continuously monitored. Details of additional DO monitoring results can be referred in **Appendix 5.4a**.

## 5.5 Waste Monitoring Results

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

5.5.1. The major work activities for Contract no. HY/2009/11 was confirmed substantial complete by RSS on 4 January 2012. Therefore, no C&D waste was generated.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

5.5.2. Inert and non- inert C&D waste were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.19**.

**Table 5.19 Details of Waste Disposal for Contract no. HK/2009/01**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	39.97	22223.38	TKO137, TM38
Inert C&D materials recycled, m <sup>3</sup>	2313	2702.96	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	46.3	885.78	SENT Landfill

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Non-inert C&D materials recycled, kg	0	150660	N/A
Chemical waste disposed, kg	340	7050	N/A
*Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	0 (Bulk Volume)	91164.2 (Bulk Volume)	South of Cheung Chau
* Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	0 (Bulk Volume)	43018 (Bulk Volume)	East of Cha Chau
Dredged Sediment Requiring Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers	0 (Bulk Volume)	5613 (Bulk Volume)	East of Cha Chau

Remarks: Contractor clarified and updated waste flow table for the reporting month of May

- 5.5.3. There were no marine sediments Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal disposed in the reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 5.5.4. Inert and non- inert C&D waste were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.20**.

**Table 5.20 Details of Waste Disposal for Contract no. HK/2009/02**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	13,447	172,953	TKO137 / TM 38
Inert C&D materials recycled, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	47	538	SENT Landfill
Non-inert C&D materials recycled, m <sup>3</sup>	NIL	NIL	N/A
Chemical waste disposed, kg	535	4721	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL	154,827 (Bulk volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine	Nil	114464 (Bulk volume)	East of Sha Chau

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Disposal) , m <sup>3</sup>			

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

5.5.5. Inert and non- inert C&D waste were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.21**

**Table 5.21 Details of Waste Disposal for Contract no. HY/2009/15**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	NIL	141579.2	Tuen Mun Area 38
	NIL	65216	TKO137 FB
Inert C&D materials recycled, m <sup>3</sup>	NIL	184.0	To Contract HY/2009/11
	NIL	304	ex-PCWA
	NIL	111.9	TS4
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	252.2	SENT Landfill
Non-inert C&D materials recycled, kg	NIL	299361.5	N/A
Chemical waste disposed, kg	NIL	8,200	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	7,789	80,102 (Bulk Volume)	South of Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	3,980	199,315 (Bulk Volume)	East of Sha Chau
Marine Sediment (Type 3 – Special Treatment / Disposal contained in Geosynthetic Containers)	NIL	7,050 (Bulk Volume)	East of Sha Chau

There were marine sediments Type 1- Open Sea Disposal, Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal dredging from bore-piling casing in the reporting month.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central – Wan Chai Bypass over MTR Tsuen Wan Line

5.5.6. Non-inert C&D waste was recycled of in this reporting month. Details of the waste flow table are summarized in **Table 5.22**.

**Table 5.22 Details of Waste Disposal for Contract no. HK/2010/06**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed,	0	11027.83	TM38

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
m <sup>3</sup>			
Inert C&D materials recycled, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials recycled, kg	0	1374.5	N/A
Chemical waste disposed, L	0	600	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	0 (Bulk Volume)	3,694 (Bulk Volume)	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	0 (Bulk Volume)	12,297 (Bulk Volume)	East Sha Chau

There were no marine sediments Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal dredging from bore-piling casing in the reporting month.

Contract no. HY/2009/19 –Central- WanChai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

**Table 5.23 Details of Waste Disposal for Contract no. HY/2009/19**

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	18975.22	NIL	TM38
Inert C&D materials recycled, m <sup>3</sup>	NIL	NIL	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	25.22	NIL	N/A
Non-inert C&D materials recycled, kg	NIL	NIL	N/A
Chemical waste disposed, L	0.29	NIL	N/A
Marine Sediment (Type 1 – Open Sea Disposal), m <sup>3</sup>	NIL	NIL	South Cheung Chau
Marine Sediment (Type 1 – Open Sea Disposal (Dedicate Sites) & Type 2 – Confined Marine Disposal) , m <sup>3</sup>	NIL	105	East Sha Chau

There was no marine sediment (Type 1- Open sea disposal) disposed of in this reporting month.

## 6. Compliance Audit

- 6.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in Appendix 6.1.

### 6.1 Noise Monitoring

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

- 6.1.1 No exceedance was recorded in the reporting month.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

- 6.1.2 No exceedance was recorded in the reporting month.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

- 6.1.3 No exceedance was recorded in the reporting month.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

- 6.1.4 No exceedance was recorded in the reporting month.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

- 6.1.5 No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- 6.1.6 No exceedance was recorded in the reporting month.

### 6.2 Real-time noise Monitoring

- 6.2.1 Investigations found that the major noise impacts from 0700 and 1900 hours, and 1900 and 2300 hours were arising from the traffic noise along the Island Eastern Corridor and demolition works near Oil Street Community Liaison Center. In addition, there was no construction activity commenced in these two periods. As such, the exceedances were concluded as not project related.

### 6.3 Air Monitoring

- 6.3.1. No exceedance was recorded in 1-hr TSP and 24-hrs TSP monitoring in the reporting month.

- 6.3.2. One action level exceedance for odour patrol was recorded at OP4 on 9 July 2012. Checking with Contractor's work, no dredging work was conducted during monitoring. In view that no dredging work and no complaint regarding to odour was received, the exceedance was possible in relation to the sewage from outfall and considered not related to Project works.

- 6.3.3. One action level exceedance for odour patrol was recorded at OP4 on 27 July 2012. Checking with Contractor's work, TS2 dredging was conducted on that day. In view that no exceedance was recorded at OP7 and OP6 which were nearer to the TS2 dredging, the exceedance was possible in relation to the sewage from outfall and considered not related to Project works.

#### **6.4 Water Quality Monitoring**

Contract no. HY/2009/11 – Central – Wanchai Bypass, North Point Reclamation

6.4.1 No exceedance was recorded in the reporting month.

Contract no. HK/2009/01 - Wan Chai Development Phase II – Central –Wanchai Bypass at HKCEC

6.4.2 Turbidity and DO exceedances at WSD19 were recorded on 30 June 2012 and 18 July 2012 respectively in this reporting month. Confirmed with Contractor, there was no work conducted on these days. The exceedances were possible in relation to the natural variation or changes of water quality and considered not related to project.

6.4.3 Turbidity exceedance at WSD19 was recorded on 20 July 2012. Checking with contractor's work, rock filling inside the water channel was conducted on that day. In view that there was no exceedance at the monitoring stations within site area and the silt screen was in proper condition. The exceedance was considered non-project related.

6.4.4 DO exceedance at C4w was recorded on 5 July 2012. After checking with Contractor, the deployed silt screen at intake and silt curtain were observed to be in proper condition for filling at HKCEC water channel during the water quality monitoring, and Contractor has provided all the necessary mitigation measures to ensure the marine water quality. The exceedances were considered not related to the project works.

Contract no. HK/2009/02 - Wan Chai Development Phase II – Central – Wan Chai Bypass at WanChai East

6.4.5 During the monitoring stations inspection for HK/2009/02 in July 2012, turbid appearance was occasionally observed the well for WSD intake pumping station as a result of the silty water seepage during reclamation work at WCR2. The contractor was reminded that the water quality inside the well should be ensured with adequate freshwater circulation and sufficient inspection to avoid any gaps and leakage into well.

6.4.6 There were SS exceedances at mid-flood recorded at WSD21 and C5e on 12 and 16 July 2012 respectively. After checking with Contractor, the deployed silt screen at intake and silt curtain were observed to be in proper condition for WCR2 filling during the water quality monitoring, and Contractor has provided all the necessary mitigation measures to ensure the marine water quality. The exceedances were considered not related to the project works.

6.4.7 There were DO exceedances at mid-ebb recorded at WSD9 on 18 and 20 July 2012. No odour nuisance was noted during DO monitoring. Checking with Contractor's work, filling at WCR2 was conducted on these days. Reviewing the results at the monitoring stations within site area, no exceedance was recorded. The exceedances were possible in relation to the low flow and low water depth during mid-ebb and considered not related to project.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)

6.4.8 During the weekly site inspection for HY/2009/15 on 10 July 2012 and further inspection on 11 July 2012, it was found that the seawall blocks on the south side of TCBR1E (TS1) have been removed before all dredging works have been completed. The contractor has surrounded the seawall gap with silt curtains, and no action or limit level exceedance was found during the

- water quality monitoring on 9 or 11 July 2012. The contractor stopped the relevant dredging works on 12 July 2012, provided double silt curtain layers for the seawall gap and conducted a self water quality monitoring on 15 July 2012. The results from the self water quality monitoring showed that the suspended solids, turbidity and dissolved oxygen level outside the double silt curtain layers were not affected by the dredging activities inside the silt curtain layers.
- 6.4.9 There was SS exceedance at C7 recorded on 11 July 2012. After checking with Contractor, the deployed silt screen at intake and silt curtain were observed to be in proper condition for TS1 removal work during the water quality monitoring. The exceedance was possible in relation to the accumulation of floating debris near to intake during monitoring. The contractor was reminded the water quality near to the intake should be provided sufficient inspection and prevents the accumulation of floating rubbish. The exceedance was considered not related to project.
- 6.4.10 There was DO exceedance at C7 recorded on 16 July 2012. After checking with Contractor, the deployed silt screen at intake and silt curtain were observed to be in proper condition for TS1 removal work and Contractor has provided all the necessary mitigation measures to ensure the marine water quality. The exceedance was considered not related to the project works.
- 6.4.11 There was DO exceedance at C7 recorded on 18 July 2012. No odour nuisance was detected during DO monitoring. The deployed silt screen at intake and silt curtain were observed to be in proper condition for TS1 removal work and TS2 dredging. According to the meteorological information from HKO, total daily rainfall at the region of Wan Chai was around 50-70mm on 18 July 2012. Reviewed the trend of overall results at all monitoring stations, no marine work was conducted near C8 and C9 but DO exceedances at C8 and C9 were recorded. The exceedances was considered causing by the potential impact from the rainfall and concluded as not project related.
- 6.4.12 There were occasionally DO exceedances at Ex-WPCWA SE and Ex-WPCWA SW recorded in this reporting month. No odour nuisance was noted during DO monitoring. After checking with Contractor, there was no marine work undertaken at ex-WPCWA. The exceedances were possible in relation to the accumulation of organic particles discharge from culvert near monitoring station and considered not related to the Projects works.

Contract no. HK/2010/06 - Wan Chai Development Phase II – Central –Wanchai Bypass over MTR Tsuen Wan Line

- 6.4.13 No exceedance was recorded in this reporting month.

Contract no. HY/2009/19- Central- Wan Chai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link

- 6.4.14 There were occasionally DO and turbidity exceedances at C8 and C9 recorded in this reporting month. Confirmed with Contractor, there was no marine work conducted near C8 and C9. The exceedances were possible in relation to the accumulation of particles discharged from outfalls near monitoring stations and not related to project.
- 6.4.15 Summary for notification of exceedances can be referred to **Appendix 6.2**.



**6.5 Review of the Reasons for and the Implications of Non-compliance**

6.5.1. There was no non-compliance from the site audits in the reporting month. The observations and recommendations made in each individual site audit session were presented in Section 8.

**6.6 Summary of action taken in the event of and follow-up on non-compliance**

6.6.1. There was no particular action taken since no project-related non-compliance was recorded from the site audits and environmental monitoring in the reporting month.



## **7. Cumulative Construction Impact due to the Concurrent Projects**

- 7.0.1. According to Condition 3.4 of the EP-356/2009, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation Phase III, Central-Wanchai Bypass and Island Eastern Corridor Link projects.
- 7.0.2. According to the Monthly EM&A report (June 2012) of Central Reclamation Phase III (CRIII), filling works, building construction works and pipe works were performed in the July 2012 reporting month. The water quality monitoring was completed in October 2011 and no exceedance was recorded for air and noise monitoring. It can be concluded that cumulative construction impact due to the concurrent activities of the current projects with the Central Reclamation Phase III (CRIII) was insignificant.
- 7.0.3. According to the construction programme of Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activities at Reclamation Shoreline Sub-zones under Wan Chai Development Phase II were the dredging and filling at HKCEC3w, dredging at submarine sewage pipelines, reinstatement of seawall block construction at TCBR1W and marine bored piling at MTR Tunnel Crossing in the reporting month. The major environmental impact was water quality impact at Causeway Bay and Wan Chai.
- 7.0.4. The major environmental impacts generated from the reclamation work at Central Reclamation Phase III were only located along the coastline of Central and Admiralty. As no project related exceedance was recorded in the Project, it was considered no adverse environmental impact caused by the Project works. Thus, it is evaluated the cumulative construction impact was insignificant.

**8. Environmental Site Audit**

8.0.1. During this reporting month, weekly environmental site audits were conducted for Contracts no. HK/2009/01, HK/2009/02, HY/2009/15, HK/2010/06 and HY/2009/19. No non-conformance was identified during the site audits.

8.0.2. Four site inspections for Contract no. HK/2009/01 were carried out on 4, 11, 19 and 25 July 2012 in reporting month. Results of these inspections and outcomes are summarized in Table 8.1.

**Table 8.1 Summary of Environmental Inspections for Contract no. HK/2009/01**

Item	Date	Observations	Action taken by Contractor	Outcome
120704_01	4-Jul-12	The oil stain was observed on ground which should be removed and disposed as chemical waste (Opposite to Grand Hyatt)	The oil stain was removed	Completion as observed on 11-Jul-12
120711_01	11-Jul-12	The spillage of fuel oil from breaker was observed which should be repaired and removed the oil stains on the pipe as chemical waste. (Opposite to Grand Hyatt)	The oil stain was removed	Completion as observed on 19-Jul-12
120719_01	19-Jul-12	The oil stain was observed on the ground which should be removed as chemical waste. (VIP area)	The oil stain was removed	Completion as observed on 25-Jul-12
120725_01	25-Jul-12	The condition of silt curtain should be improved (Water Channel)	The silt curtain condition was improved.	Completion as observed on 1-Aug-12

8.0.3. Five site inspections for Contract no. HK/2009/02 were carried out on 28 June 2012, 5, 13, 18 and 26 July 2012 during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.2**.

**Table 8.2 Summary of Environmental Inspections for Contract no. HK/2009/02**

Item	Date	Observations	Action taken by Contractor	Outcome
120628_01	28-Jun-12	Drip tray and valid noise emission label should be provided for air compressor (Small ex-pet garden)	Air compressor was removed	Completion as observed on 5-Jul-12
120628_02	28-Jun-12	Better protection should be provided to prevent surface runoff out of the site boundary. (WSD pumping station)	Protection was provided.	Completion as observed on 5-Jul-12
120628_03	28-Jun-12	Oil stains was observed on the ground which should be removed and disposed as chemical waste (WSD pumping station)	Oil stain was removed.	Completion as observed on 5-Jul-12
120628_04	28-Jun-12	Top side and three sides enclosure should be provided for cement-mixing plant.	Top side and three sides enclosure were provided.	Completion as observed on 5-Jul-12

Item	Date	Observations	Action taken by Contractor	Outcome
120705_01	5-Jul-12	Dark smoke emission from barge was observed that the filter should be cleaned and maintained properly (WCR1)	The barge was removed.	Completion as observed on 13-July-12
120705_02	5-Jul-12	Drip tray should be provided for air compressor (WCR1)	Drip tray was provided.	Completion as observed on 13-July-12
120705_03	5-Jul-12	Stockpile should be covered by tarpaulin sheet completely (Small ex-pet garden, WSD pumping station)	The tarpaulin sheet was provided.	Completion as observed on 13-July-12
120705_04	5-Jul-12	Cement bags should be covered by tarpaulin sheet (WCR1)	Cement bags were removed.	Completion as observed on 13-July-12
120713_01	13-Jul-12	The oil stain was observed on the ground which should be removed and disposed as chemical waste (Ex-Helipad)	The oil stain was removed.	Completion as observed on 18-July-12
120713_02	13-Jul-12	The stockpile should be covered by tarpaulin sheet (Next to SPCA)	The stockpile was removed,	Completion as observed on 18-July-12
120718_01	18-Jul-12	Dark smoke emission from tug boat was observed that the silter should be cleaned and maintained properly (Ex-pet Garden)	The tug boat was removed.	Completion as observed on 26-July-12
120726_01	26-Jul-12	Direct discharge to the sea was observed in WCR1 which should be treated before discharge.	No direct discharge to the sea was observed.	Completion as observed on 2-Aug-12
120726_02	26-Jul-12	The oil stain was observed in the ground which should be removed and disposed as chemical waste (WSD pumping station)	The oil stain was removed.	Completion as observed on 2-Aug-12
120726_03	26-Jul-12	Chemical containers should be provided by drip trays (WCR1)	Drip trays were provided.	Completion as observed on 2-Aug-12

8.0.4. Four site inspections for Contract no. HY/2009/15 were carried out on 3, 10, 17 and 24 July 2012 in reporting month. The results of these inspections and outcomes are summarized in **Table 8.3**.

**Table 8.3 Summary of Environmental Inspections for Contract no. HY/2009/15**

Item	Date	Observations	Action taken by Contractor	Outcome
120703_01	3-Jul-12	Muddy water was observed outside silt curtain of TS1, better maintenance of silt curtain & source should be identified and mitigated.	Another layer of silt curtain was placed around the seawall removed area.	Completion as observed on 10-Jul-12

Item	Date	Observations	Action taken by Contractor	Outcome
120703_02	3-Jul-12	Domestic sewage from clothes washing was observed to be discharging into sea, proper treatment should be provided	A pipe was placed to direct the domestic sewage to treatment plant.	Completion as observed on 10-Jul-12
120710_01	10-Jul-12	The seawall blocks on the south side of TS1 has been removed. Although silt curtain was observed to have surrounded the gap, contractor should find measures to prevent silt or muddy water dispersing into sea (TS1)	Silt curtain was deployed and self water quality monitoring would be conducted during dredging.	Completion as observed on 17-Jul-12
120710_02	10-Jul-12	Grouting plant should be have 3-sides and top cover when in use (TPCWAE)	Grouting plant has been covered properly.	Completion as observed on 17-Jul-12
120717_01	17-Jul-12	2 layers of silt curtain was observed which are deployed by contractor, however, the condition of the silt curtains shall be improved. (TS1)	Better maintenance of silt curtain.	Completion as observed on 24-Jul-12
120717_03	17-Jul-12	The chemical stored without drip tray still observed at TS1 breakwater.	Chemical drums were removed.	Completion as observed on 24-Jul-12
120724_01	24-Jul-12	2 layers of silt curtain should be provided and the condition of silt curtain should be improved (TS1)	Better maintenance of silt curtain.	Completion as observed on 31-Jul-12
120724_02	24-Jul-12	The floating debris should be removed regularly (TS1)	Floating refuse were collected	Completion as observed on 31-Jul-12

8.0.5. Four site inspections for Contract no. HK/2010/06 was carried out on 3, 9, 19 and 25 July 2012 in reporting month. The results of these inspections and outcomes are summarized in Table 8.4.

**Table 8.4 Summary of Environmental Inspections for Contract no. HK/2010/06**

Item	Date	Observations	Action taken by Contractor	Outcome
120703_01	3-Jul-12	Drip trays should be provided for oil drums (2w)	Oil drums were removed.	Completion as observed on 9-Jul-12
120703_02	3-Jul-12	Better protection should be provided to avoid surface runoff (2w)	Protection was provided.	Completion as observed on 9-Jul-12
120719_01	19-Jul-12	The oil stain was observed on the ground which should be removed and disposed as chemical waste (2w)	Oil stain was removed as chemical waste.	Completion as observed on 25-Jul-12

Item	Date	Observations	Action taken by Contractor	Outcome
120719_02	19-Jul-12	Chemical containers should be provided with drip tray(2w)	Chemical containers were removed.	Completion as observed on 25-Jul-12
120725_04	25-Jul-12	The oil stain was observed on the ground which should be removed and disposed as chemical waste (2w)	The oil stain was removed as chemical waste.	Completion as observed on 30-Jul-12

8.0.6. Four site inspections for Contract no. HY/2009/19 were carried out on 4, 11, 18 and 25 July 2012 in reporting month. The results of these inspections and outcomes are summarized in **Table 8.5**.

**Table 8.5 Summary of Environmental Inspections for Contract no. HY/2009/19**

Item	Date	Observations	Action taken by Contractor	Outcome
120704_01	4-Jul-12	Adequate drip tray should be provided for oil drums (Portion VII)	Oil drums were removed from site.	Completion as observed on 11-Jul-12
120704_02	4-Jul-12	Noise blankets on platforms should be better maintained to avoid unnecessary holes and gaps.	Noise blankets were replaced.	Completion as observed on 11-Jul-12

**9. Complaints, Notification of Summons and Prosecution**

- 9.0.1. There was no complaint received in this reporting month.
- 9.0.2. The details of cumulative complaint log and updated summary of complaints are presented in **Appendix 9.1**.
- 9.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 9.1** and **Table 9.2** respectively.

**Table 9.1 Cumulative Statistics on Complaints**

Reporting Period	No. of Complaints
Commencement works (Mar 2010) to last reporting month	26
July 2012	0
<b>Project-to-Date</b>	<b>26</b>

**Table 9.2 Cumulative Statistics on Successful Prosecutions**

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Water	-	0	0
Waste	-	0	0
<b>Total</b>	<b>-</b>	<b>0</b>	<b>0</b>

## 10. Conclusion

- 10.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 10.0.2. WDII/RSS advised that the dredging works for submarine pipeline at Victoria Harbour had been completed in January 2012. Therefore, the concurrent dredging activities at Sewage Pipeline Zone and reclamation shoreline zone TCBR under the EP-356/2009 scenario 2B no longer exist. As such, with reference to Table 5.39 of the EIA Report for Wan Chai Development Phase II and Central-Wan Chai Bypass, the application of silt screen for cooling water intakes for Queensway Government Offices was suspended and the others were remains unchanged.
- 10.0.3. Water quality monitoring at WSD10 and WSD15 will be temporary suspended while water quality monitoring at WSD9 and WSD17 were implemented with respect to HK/2009/02 for the water quality monitoring scheduled on 8 Feb 12 onwards;
- 10.0.4. Water quality monitoring at C8 and C9 have been implemented with respect to HY/2009/19 since the marine bore piling work started on 28 January 2012.
- 10.0.5. Based on the safety concern when external façade refurbishment was conducted by contractor employed by Provident Centre (C9) between 9 January 2012 to 30 July 2012 which caused to the inaccessibility of sampling either land and marine since 3 Feb 2012, there is a fine adjustment of the sampling location of water quality monitoring at C9 since 10 March 2012 to the closest accessible point prior to the completion of the external façade refurbishment work.
- 10.0.6. Due to the access of water monitoring station at WSD19 was blocked by LCSD construction works from 3 April 2012 to 2 May 2012 and lead to the inaccessibility of sampling either land and marine, there is a fine adjustment of the sampling point of WSD 19 since 5 April 2012 to the closest accessible point prior to the completion of the construction activities.
- 10.0.7. With respect to the trial dredging at WCR2 was scheduled on 20, 22, 24, 25 March and 1, 3, 11, 13, 15, 17, 19, 20 Apr and 3 May 2012, on-going water quality monitoring results at WSD21 during this period was checked and indicated that there was no contribution due to the trial dredging operation. Enhanced review of water quality around WCR2 was also implemented and no deterioration in the water quality was observed.
- 10.0.8. Due to the dredging works for Cross Harbour Water Mains from Wan Chai to Tsim Sha Tsui-DP6 was completed on 26 March 2012, the temporary suspension of impact water quality monitoring at WSD7 and WSD20 after 27 April 2012 for the water quality monitoring at WSD7 and WSD20 have been monitored for 4-week period after the completion of DP6 to confirm no water deterioration.
- 10.0.9. The scheduled construction activities and the recommended mitigation measures for the coming month are listed in **Table 10.1**.

**Table 10.1 Construction Activities and Recommended Mitigation Measures in Coming Reporting Month**

Contract No.	Key Construction Works	Recommended Mitigation Measures
HK/2009/01	<p>Marine Works</p> <ul style="list-style-type: none"> <li>• Reclamation works within HKCEC Water Channel (from CH170 to CH220)</li> <li>• Rockfilling for formation of rock bund within HKCEC Water Channel (from CH220 to CH230)</li> <li>• Installation pipe pile wall for modification of vertical seawall near Expo Drive East</li> <li>• Rockfilling at northeast of Area 9 and Area7 near Expo Drive East Bridge</li> <li>• Demolition of Wan Chai West Ferry Pier upon procession of Portion 3.</li> </ul> <p>Cross-Harbour Watermains Installation (CHA &amp; CHB)</p> <ul style="list-style-type: none"> <li>• Installation of cross-harbour watermains nos. A18/B18</li> <li>• Trust block construction, concrete coating for flange joint and rockfilling protection</li> <li>• works for cross-harbour watermains in Victoria Harbour</li> <li>• Reinstatement works at TST seashore including removal of silt screen and dismantling of jack-up barge would be commenced upon completion of installation of cross-harbour watermains nos. A18/B18.</li> </ul> <p>Fresh Watermains, Cooling Watermains and Salt Watermains (On Land)</p> <ul style="list-style-type: none"> <li>• Works would be continued at Zone B1-5A, B2-1, B4-1A, B4-3, B5-1(Switch Room), B5-3(Switch Room), A1-1, A1-2, A1-3A, A1-3B, A2-2, A3-3, A3-2A, A3-4B, A3-5B, A4-2A and C1-10</li> <li>• Mainlaying works at Zone B1-5A, B4-1A, B4-3 and B3-1</li> <li>• Cable ducting works at Zone B5-1(Switch Room) and B5-3 (Switch Room)</li> <li>• Mainlaying works across the</li> </ul>	<ul style="list-style-type: none"> <li>• To conform the installation and setting as in the silt screen deployment plan</li> <li>• Frequency spray water on the dry dusty road and on the surface of concrete breaking</li> <li>• To cover the dusty material or stockpile by impervious sheet</li> <li>• To space out noisy equipment and position as far as possible from sensitive receiver.</li> <li>• To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.</li> <li>• Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum</li> <li>• Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> </ul>



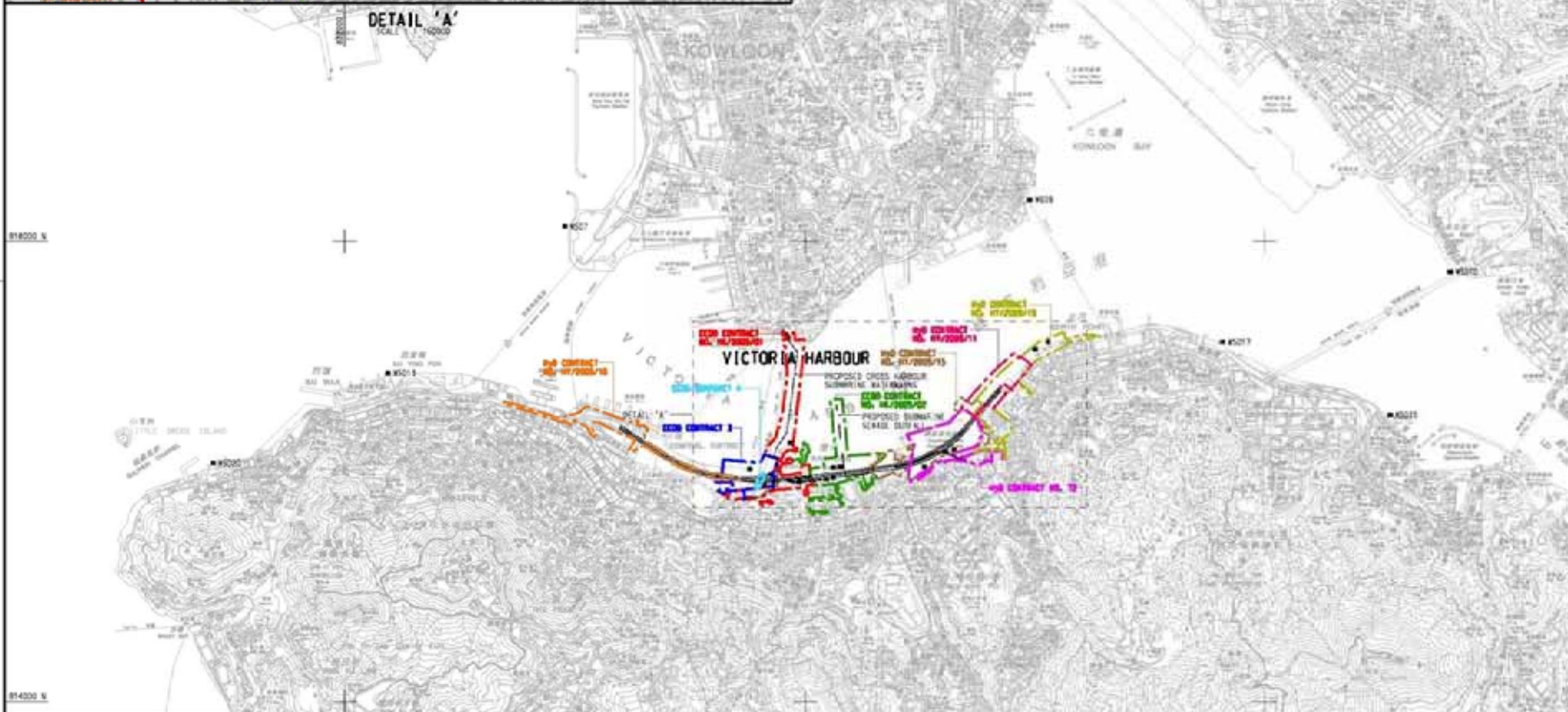
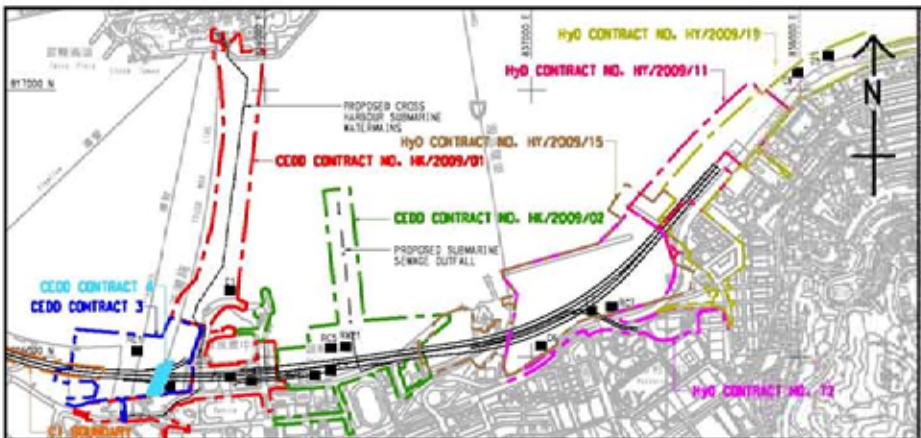
Contract No.	Key Construction Works	Recommended Mitigation Measures
	<p>run-out of Renaissance Harbour View Hotel by open-cut method</p> <ul style="list-style-type: none"> <li>• Mainlaying works at Convention Avenue in Zone A1-1, A1-2 and A2-2 and the next TTA waterfront for cross harbour water mains at Zone A1-2 CHWM)</li> <li>• Mainlaying works at traffic island near junction between Convention Avenue and Fenwick Pier Street</li> <li>• Mainlaying works at Fenwick Pier Street in Zone A3-5B and mainlaying works at Zone A3-4B</li> <li>• Pipe laying works at heading No. H7 and H6a</li> <li>• Heading No. H6C</li> <li>• Mainlaying works at Expo Drive East in Zone C1-10</li> <li>• Pipe laying works within HKCEC water channel</li> </ul>	
HK/2009/02	<ul style="list-style-type: none"> <li>• Complete cooling mains and cabling works for P7, P8 &amp; P9 Pumping Stations permanent power-on and signal control.</li> <li>• Continue 800MS pipe installation inside Ex-pet Garden.</li> <li>• Energization of TX room at WSD Salt Water Pumping Station</li> <li>• Continue ABWFs &amp; E&amp;M works of WSD Salt Water Pumping Station.</li> <li>• Complete WSD intake A and Intake B in-situ concrete work.</li> <li>• Continue construction of Bay 1b – 8 salt water intake culverts at WCR1 area.</li> <li>• Complete ELS works of Box Culvert N1</li> <li>• Continue construction for Box Culvert N1 at WCR1 area.</li> <li>• Complete breaking the thrust wall aside the Jacking Pit for Outfall connection</li> <li>• Complete HDPE pipe Outfall A &amp; B launching from Jacking Pit at WCR1 area.</li> <li>• Continue superstructure work at new ferry pier.</li> </ul>	<ul style="list-style-type: none"> <li>• To cover the dusty material or stockpile by impervious sheet;</li> <li>• Frequency spray water on the dry dusty road and on the surface of concrete breaking</li> <li>• To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance and dark smoke emission</li> <li>• To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>• Movable noise barrier shall be deployed for demolition works</li> <li>• Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> <li>• Review silt screen deployment and silt curtain deployment and resubmit associate plans to EPD</li> <li>• Implement silt screen and silt curtain in accordance with the associated plans submitted to EPD.</li> </ul>

Contract No.	Key Construction Works	Recommended Mitigation Measures
	<ul style="list-style-type: none"> <li>• Continue reclamation works at WCR2 area.</li> <li>• Complete set up at ex-helipad.</li> <li>• Commence drainage work at TWCR4 area.</li> <li>• Complete the bulkhead wall at Box Culvert "O" Bay 17.</li> <li>• Trial excavation and preparation works for Hung Hing Road Diversion</li> <li>•</li> </ul>	
HY/2009/15	<ul style="list-style-type: none"> <li>• Removal of temporary reclamation at TS1</li> <li>• Underwater cutting of temporary diaphragm walls at TS1</li> <li>• Dredging for seawall foundation at TS2</li> <li>• Seawall trench works at TS2</li> </ul>	<ul style="list-style-type: none"> <li>• Watering any dust generating activities</li> <li>• Checking all drip trays frequently and clear any stagnant water and mud inside it.</li> <li>• Noise control measures shall be provided during restricted hours.</li> </ul>
HK/2010/06	<ul style="list-style-type: none"> <li>• Concrete Breaking</li> <li>• Pre Drill Works</li> <li>• Coring Works</li> <li>• Construction of Pre-cast Unit in China</li> </ul>	<ul style="list-style-type: none"> <li>• To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> <li>• To space out noisy equipment and position as far as possible from sensitive receiver.</li> <li>• Daily visual inspection of silt screen and silt curtain to ensure its operation properly</li> </ul>
HY/2009/19	<ul style="list-style-type: none"> <li>• Construction works for Box Culvert T</li> <li>• Marine Piling</li> <li>• Construction of 1500φ drainage pipe</li> </ul>	<ul style="list-style-type: none"> <li>• To conform the installation and setting as in the silt screen and silt curtain deployment plan</li> </ul>



***Figure 2.1***

***Project Layout***



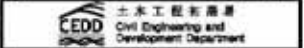
- LEGEND:**
- WATER QUALITY MONITORING STATIONS
- COOLING WATER INTAKES**
- D1 HONG KONG CONVENTION AND EXHIBITION CENTRE EXTENSION
  - D2 TELECOM HONG KONG ACADEMY FOR PERFORMING ARTS / SALT ON CENTRE
  - D3 HONG KONG CONVENTION AND EXHIBITION CENTRE PHASE 1
  - D4 WAN CHAI TOWER AND GREAT EXHIBITION CENTRE
  - D5 SUN HANG KAI CENTRE
  - D6 PROPOSED EXHIBITION STATION / WORLD TRADE CENTRE
  - D7 WINDSOR HOUSE
  - D8 CITY GREEN
  - D9 PREVIENT CENTRE
  - D10 PROPOSED HERPA EXTENSION
  - D11 SUN HANG KAI CENTRE (REPROVISION)
  - D12 WINDSOR HOUSE (TEMPORARY REPROVISION)
- MSD SALT WATER INTAKE**
- W521 WAN CHAI
  - W401 WAN CHAI (REPROVISION)
  - W501 GEMUNION ISLAND
  - W525 TAI BAA
  - W5210 CHA KWO LING
  - W5215 SAI WAN HO
  - W5217 SCARRY BAY
  - W5219 SHEUNG WAN
  - W5220 KENNEDY TOWN

**DESIGNATED PROJECTS (DP)**

DP1	CENTRAL WAN CHAI BYPASS (CWB) INCLUDING ITS ROAD TUNNEL AND SLIP ROADS
DP2	ROAD P2 AND OTHER ROADS (PRIMARY / DISTRICT DISTRIBUTOR ROADS)
DP3	PERMANENT AND TEMPORARY REDUPLICATION WORKS INCLUDING ASSOCIATED DREDGING WORKS IN WAN CHAI DEVELOPMENT PHASE 1 (WCH1) AREA
DP4	TEMPORARY ENHANCEMENT SHELFER (DP4 NOT TO BE IMPLEMENTED)
DP5	WAN CHAI EAST SEWAGE OUTFALL
DP6	DREDGING FOR THE CROSS-HARBOUR WATER MAINS

DP1 IS COVERED BY EP - 314/2008  
 DP2 IS COVERED BY EP - 316/2008  
 DP3, DP5 AND DP6 ARE COVERED BY EP - 356/2005

WORKS CONTRACT	DESIGNATED PROJECT(S) INVOLVED	CONSTRUCTION COMMENCEMENT
CEDD CONTRACT NO. HK/2009/01	DP1, DP2, DP6	APRIL 2010
CEDD CONTRACT NO. HK/2009/02	DP1, DP2, DP6	APRIL 2010
CEDD CONTRACT 3	DP1, DP3	END 2011
CEDD CONTRACT 4	DP1, DP3	END 2012
CEDD CONTRACT 5	DP3	2015
HyO CONTRACT NO. HY/2009/11	DP3	18 MARCH 2010
HyO CONTRACT NO. HY/2009/15	DP1, DP3	SEPTEMBER 2010
HyO CONTRACT NO. HY/2009/18	DP1	OCTOBER 2010
HyO CONTRACT NO. HY/2009/19	DP1	NOVEMBER 2010
HyO CONTRACT 12	DP1, DP3	MID 2012



**WAN CHAI DEVELOPMENT PHASE II**  
 WAN CHAI DEVELOPMENT PHASE II, PHE CENTRAL - WAN CHAI BYPASS - CANAL, PILES MEASUREMENT AND TESTING WORKS (STAGE 1)

**LOCATIONS OF WATER QUALITY MONITORING STATIONS**



PROJECT NO.	60041297/C5/SK001		
DATE	REVISED BY	DATE	SCALE
2011/04/20	ACC	2011/04/20	1:10000
DATE	BY	DATE	BY
2011/04/20	ACC	2011/04/20	ACC
DATE	BY	DATE	BY
2011/04/20	ACC	2011/04/20	ACC

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LOCATION PLAN  
SCALE 1 : 5000

- NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
  2. THE RESTRICTION ZONE IS THIS DRAWING WILL COME INTO EFFECT AFTER THE OPERATION OF THE GOVERNMENT HULLING AT EDP/D/D/E LAST.

LEGEND:

	CONTRACT BOUNDARY
	WORKING RESTRICTION ZONE
	NAVIGATION AND WORKING RESTRICTION ZONE
	WORKING BARGE, NAVIGATION AND WORKING RESTRICTION ZONE

TENDER ADDENDUM NO. 4	DATE: 21/11/09
TENDER ADDENDUM NO. 1	DATE: 21/11/09
TENDER DRAWING	DATE: 21/11/09

CEDD 土木工程發展署  
Civil Engineering and Development Department

WAN CHAI DEVELOPMENT PHASE II  
WAN CHAI DEVELOPMENT PHASE II -  
KONG KONG CONVENTION AND EXHIBITION CENTRE  
**RESTRICTED ZONE FOR  
CONSTRUCTION VESSELS**  
(Contract no: HK/2009/01)

**AECOM**

DRGNO. 圖號	60041297/C1/100/1010B
DATE 日期	16/2009/01
SCALE 比例	AS 1:8000
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INSET 'A'  
SCALE 1:1000

CENTRAL DISTRICT



EIA-141/2007  
DP3

HKCEC (Western Part)

HKCEC (Middle Part)

HKCEC (Eastern Part)

INT	COORDINATES	
	EASTING	NORTHING
C41	835986.526	818105.708
C42	835979.417	818104.468
C43	835963.943	818079.326
C44	835963.543	818086.581
C45	835964.818	818085.528
C46	835965.524	818085.514
C46	835955.757	818081.208
C47	835954.956	818082.441
C48	835950.846	818075.887
C49	835951.347	818073.238
C50	835950.828	818066.814
C51	835948.478	818080.846
C52	835975.226	818089.224
C53	835971.504	818077.897
C54	835973.627	818084.764
C55	835973.745	818079.883
C56	835991.071	818078.764
C56-1	835995.679	818078.873
C56-2	835982.468	818078.765
C56-3	835987.248	818182.758
C57	835983.463	818181.878
C58	835978.496	818077.198
C59	835978.574	818081.818
C60	835978.587	818120.164
C61	835990.881	818184.524
C62	835923.434	818171.812
C63	835923.584	818280.788
C64	835923.818	818276.307

INT	COORDINATES	
	EASTING	NORTHING
C65	836028.933	818413.438
C66	836034.030	818413.614
C67	836022.816	818413.240
C68	836019.515	818413.882
C69	836021.110	818414.000
C70	836027.289	818413.880
C71	836041.050	818413.270
C72	836048.415	818407.187
C72-1	835555.589	818106.587
C73	836047.435	818385.890
C74	836049.797	818374.107
C75	836024.185	818382.148
C76	836038.298	818388.000
C77	836048.906	818382.888
C78	836048.439	818374.038
C79	836042.630	818351.015
C80	836024.635	818328.880
C81	836028.417	818308.182
C82	836028.882	818378.148
C83	836107.025	818326.084
C84	836098.473	818322.444
C85	836092.342	818348.714
C86	836084.499	818348.925
C87	836084.196	818348.388
C88	836082.512	818348.142
C89	836078.987	818345.898
C90	836077.630	818347.198

CUT LINE B-B  
SEE AT DRAWING NO. A00025/C1/100/1006



KEY PLAN  
SCALE 1:10000

NOTE:  
1. FOR NOTES & LEGEND, REFER TO DRAWING NO. A00025/C1/100/1006.

INT	COORDINATES	
	EASTING	NORTHING
C1	836875.205	818222.551
C2	836875.207	818222.599
C3	836874.561	818224.425
C4	836871.020	818231.014
C5	836882.492	818229.522
C6	836881.584	818218.612
C7	836886.545	818215.197
C8	836886.191	818217.147
C9	836886.433	818212.241
C10	836891.082	818207.050
C11	836885.389	818208.075
C12	836877.486	818208.107
C13	836923.468	818204.817
C14	836886.433	818217.122
C15	836874.285	818208.500
C16	836875.195	818205.525
C17	836888.138	818204.441
C18	836846.085	818208.816
C19	836871.421	818205.587
C20	836902.537	818220.881
C21	836915.295	818217.484
C22	836913.183	818214.445
C23	836827.086	818209.074
C24	836926.984	818221.670
C25	836915.288	818220.251
C26	836881.647	818212.286
C27	836904.605	818243.896
C28	836906.218	818244.445
C29	836901.523	818236.180
C30	836883.781	818208.487
C31	836837.216	818228.470
C32	836824.142	818225.117
C33	836821.081	818215.482
C34	836826.290	818224.700
C35	836827.428	818221.056
C36	836808.187	818218.280
C37	836824.812	818228.093
C38	836824.747	818228.285
C39	836828.850	818219.194
C40	836819.190	818228.037
C41	836828.810	818227.295
C42	836818.906	818228.088
C43	836825.682	818215.512

C	TENDER ADDENDUM NO.4	SHEN JYL DEP C8
B	TENDER ADDENDUM NO.2	SHEN JYL DEP C8
A	TENDER ADDENDUM NO.1	SHEN JYL DEP C8
-	TENDER DRAWING	SHEN JYL DEP C8
20	2009	SEP 08

土木工程師學會  
Civil Engineering and  
Development Department

WAN CHAI DEVELOPMENT PHASE II

WAN CHAI DEVELOPMENT PHASE II -  
CONTRACT NO. HK/2009/01  
HONG KONG CONVENTION AND EXHIBITION CENTRE

SITE BOUNDARY  
SETTING OUT PLAN  
(Contract no. Hk/2009/01)

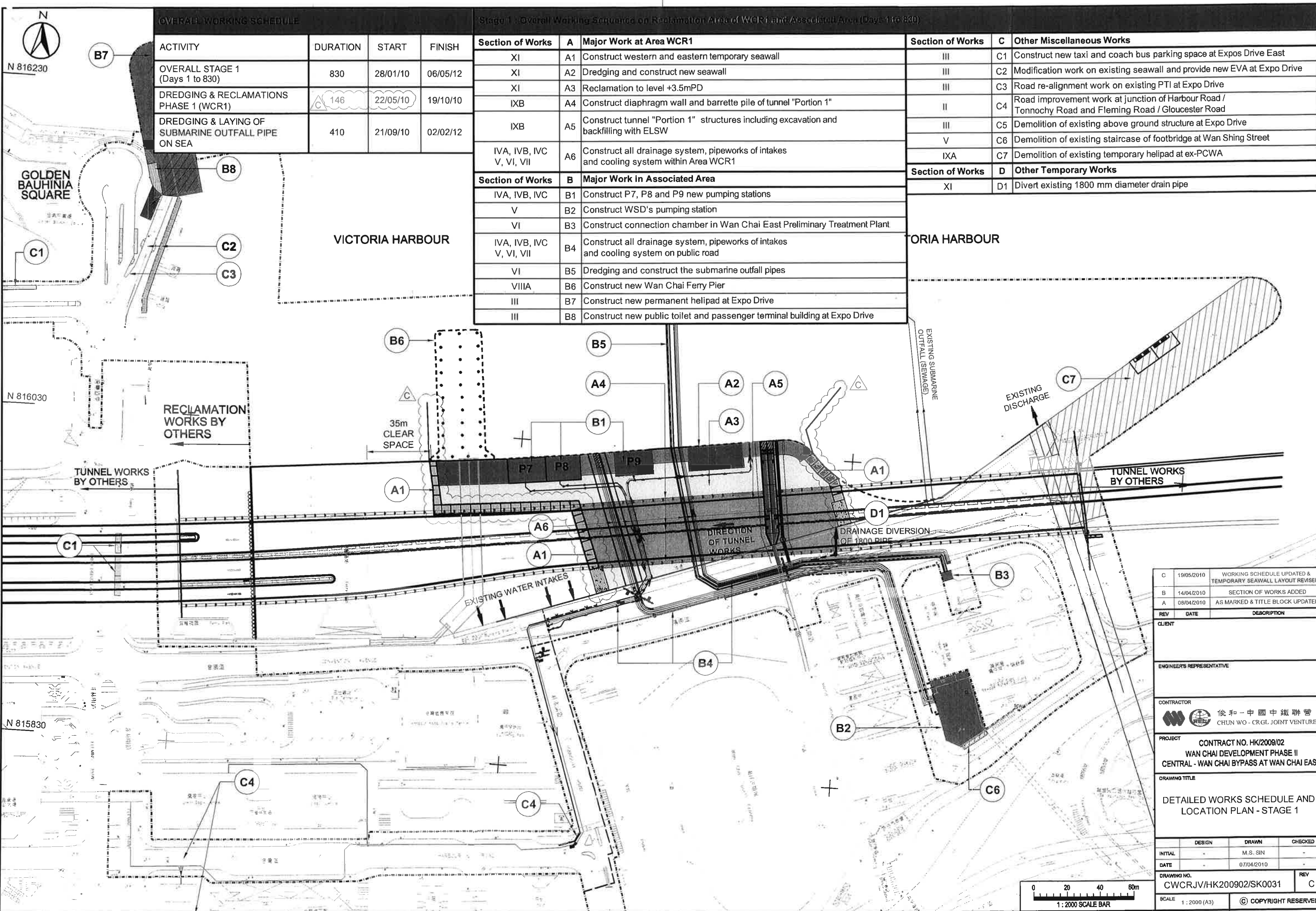
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DRGNO.  
圖號  
60041297/C1/100/1006C

SCALE	1:1000	DATE	2009/01	BY	PM
DESIGNED BY	HSJ	CHECKED BY	HSJ	DATE	2009/01
DRAWN BY	HSJ	DATE	2009/01	PROJECT	PM
SCALE	AS 1:2000	DATE	2009/01	PROJECT	PM

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**OVERALL WORKING SCHEDULE**

ACTIVITY	DURATION	START	FINISH
OVERALL STAGE 1 (Days 1 to 830)	830	28/01/10	06/05/12
DREDGING & RECLAMATIONS PHASE 1 (WCR1)	146	22/05/10	19/10/10
DREDGING & LAYING OF SUBMARINE OUTFALL PIPE ON SEA	410	21/09/10	02/02/12

**Stage 1: Overall Working Sequence on Reclamation Area of WCR1 and Associated Area (Days 1 to 830)**

Section of Works	A	Major Work at Area WCR1	Section of Works	C	Other Miscellaneous Works
XI	A1	Construct western and eastern temporary seawall	III	C1	Construct new taxi and coach bus parking space at Expos Drive East
XI	A2	Dredging and construct new seawall	III	C2	Modification work on existing seawall and provide new EVA at Expo Drive
XI	A3	Reclamation to level +3.5mPD	III	C3	Road re-alignment work on existing PTI at Expo Drive
IXB	A4	Construct diaphragm wall and barrette pile of tunnel "Portion 1"	II	C4	Road improvement work at junction of Harbour Road / Tonnochy Road and Fleming Road / Gloucester Road
IXB	A5	Construct tunnel "Portion 1" structures including excavation and backfilling with ELSW	III	C5	Demolition of existing above ground structure at Expo Drive
IVA, IVB, IVC, V, VI, VII	A6	Construct all drainage system, pipeworks of intakes and cooling system within Area WCR1	V	C6	Demolition of existing staircase of footbridge at Wan Shing Street
Section of Works	B	Major Work in Associated Area	IXA	C7	Demolition of existing temporary heliport at ex-PCWA
IVA, IVB, IVC	B1	Construct P7, P8 and P9 new pumping stations	Section of Works	D	Other Temporary Works
V	B2	Construct WSD's pumping station	XI	D1	Divert existing 1800 mm diameter drain pipe
VI	B3	Construct connection chamber in Wan Chai East Preliminary Treatment Plant			
IVA, IVB, IVC, V, VI, VII	B4	Construct all drainage system, pipeworks of intakes and cooling system on public road			
VI	B5	Dredging and construct the submarine outfall pipes			
VIIIA	B6	Construct new Wan Chai Ferry Pier			
III	B7	Construct new permanent heliport at Expo Drive			
III	B8	Construct new public toilet and passenger terminal building at Expo Drive			

REV	DATE	DESCRIPTION
C	19/05/2010	WORKING SCHEDULE UPDATED & TEMPORARY SEAWALL LAYOUT REVISED
B	14/04/2010	SECTION OF WORKS ADDED
A	08/04/2010	AS MARKED & TITLE BLOCK UPDATED

CLIENT: \_\_\_\_\_  
 ENGINEER'S REPRESENTATIVE: \_\_\_\_\_

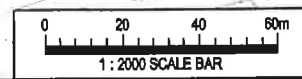
CONTRACTOR: 俊和 - 中國中鐵聯營  
 CHUN WO - CRGL JOINT VENTURE

PROJECT: CONTRACT NO. HK/2009/02  
 WAN CHAI DEVELOPMENT PHASE II  
 CENTRAL - WAN CHAI BYPASS AT WAN CHAI EAST

DRAWING TITLE: DETAILED WORKS SCHEDULE AND LOCATION PLAN - STAGE 1

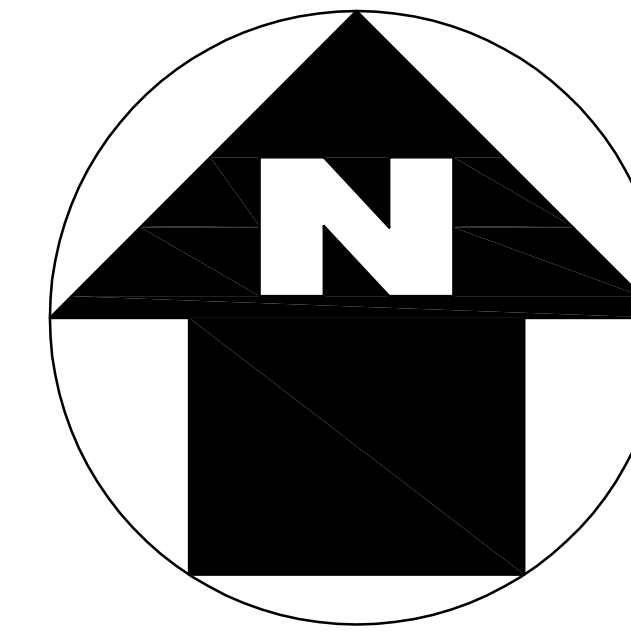
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INITIAL	M.S. SIN	
DATE	07/04/2010	

DRAWING NO. CWCRJV/HK200902/SK0031  
 SCALE 1:2000 (A3) © COPYRIGHT RESERVED

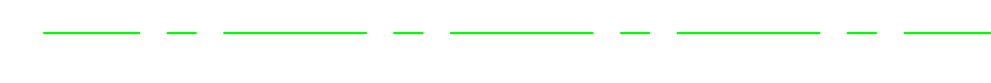




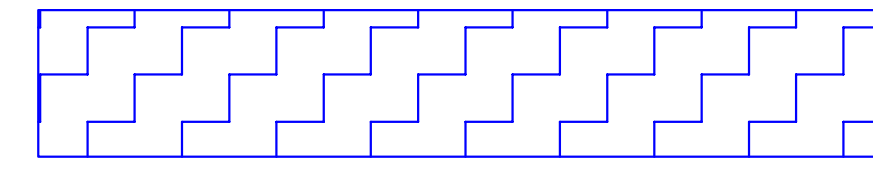
港口  
HARBOUR



LEGEND:



WORKS AREA



DREDGING AREA FOR  
MITIGATION OF ODOUR(DP3)



SITE BOUNDARY

TCBR1E

TCBR2  
AND  
TCBR3

銅鑼灣避風塘  
CAUSEWAY BAY TYPHOON SHELTER

TCBR4

TCBR1W

貨物裝卸灣  
Cargo Handling Basin  
TPCWAW

TPCWAE

DP3

中國建築工程(香港)有限公司  
CHINA STATE CONSTRUCTION ENGR. (HONG KONG) LTD.

Highways Department  
CONTRACT NO. HY/2009/15  
CENTRAL-WAN CHAI BYPASS -TUNNEL  
(CAUSEWAY BAY TYPHOON  
SHELTER SECTION)

TITLE  
LOCATION PLAN OF WORKS AREA

DRG. NO.  
CWBT/EPD/001B

SCALE  
1:1000 @ A0

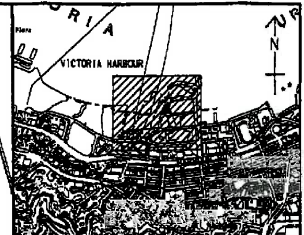
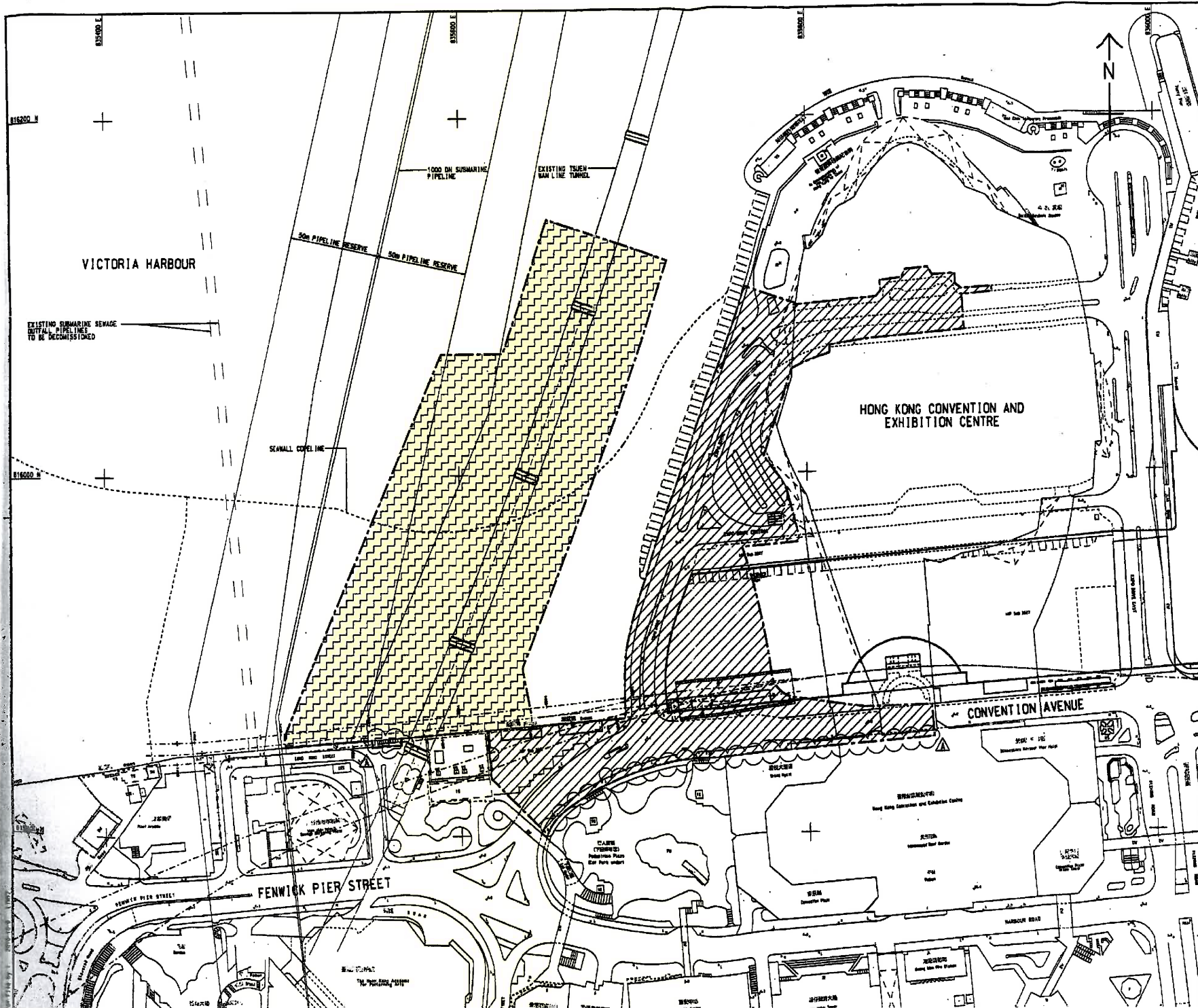
STATUS

DIMENSIONS ARE IN  
MILLIMETERS

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維多利亞公園  
Victoria Park





**KEY PLAN**  
SCALE 1 : 20000

- NOTES:**
- COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE NOTED.
  - LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (1985) UNLESS OTHERWISE NOTED.
  - DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
  - SETTING OUT DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRICALLY FROM THE DRAWINGS OR FILES.
  - SITE BOUNDARY SETTING OUT POINTS SHALL REFER TO DRAWING NO. 60041297/C4/100/1201.

**LEGEND:**

- SITE BOUNDARY
- PORTION 1
- PORTION 2 (DELAY POSSESSION)

TENDER ADDENDUM NO. 1	SHW JYL OCT 10
TENDER DRAWING	SHW JYL SEP 10

**CDP** 土木工務發展局  
Civil Engineering and Development Department

**WAN CHAI DEVELOPMENT PHASE II**  
WAN CHAI DEVELOPMENT PHASE II - CENTRAL-WAN CHAI BYPASS OVER MTR TSUEN WAN LINE

**PORTIONS OF THE SITE**  
(Contract HK/2010/06)

**AECOM**

DRAWING NO. 60041297/C4/100/1301A	
DESIGNED BY SHW	CHECKED BY TRR
DATE 16/2010/06	DATE 16/2010/06
SCALE AS SHOWN	SCALE AS SHOWN
COPYRIGHT RESERVED	

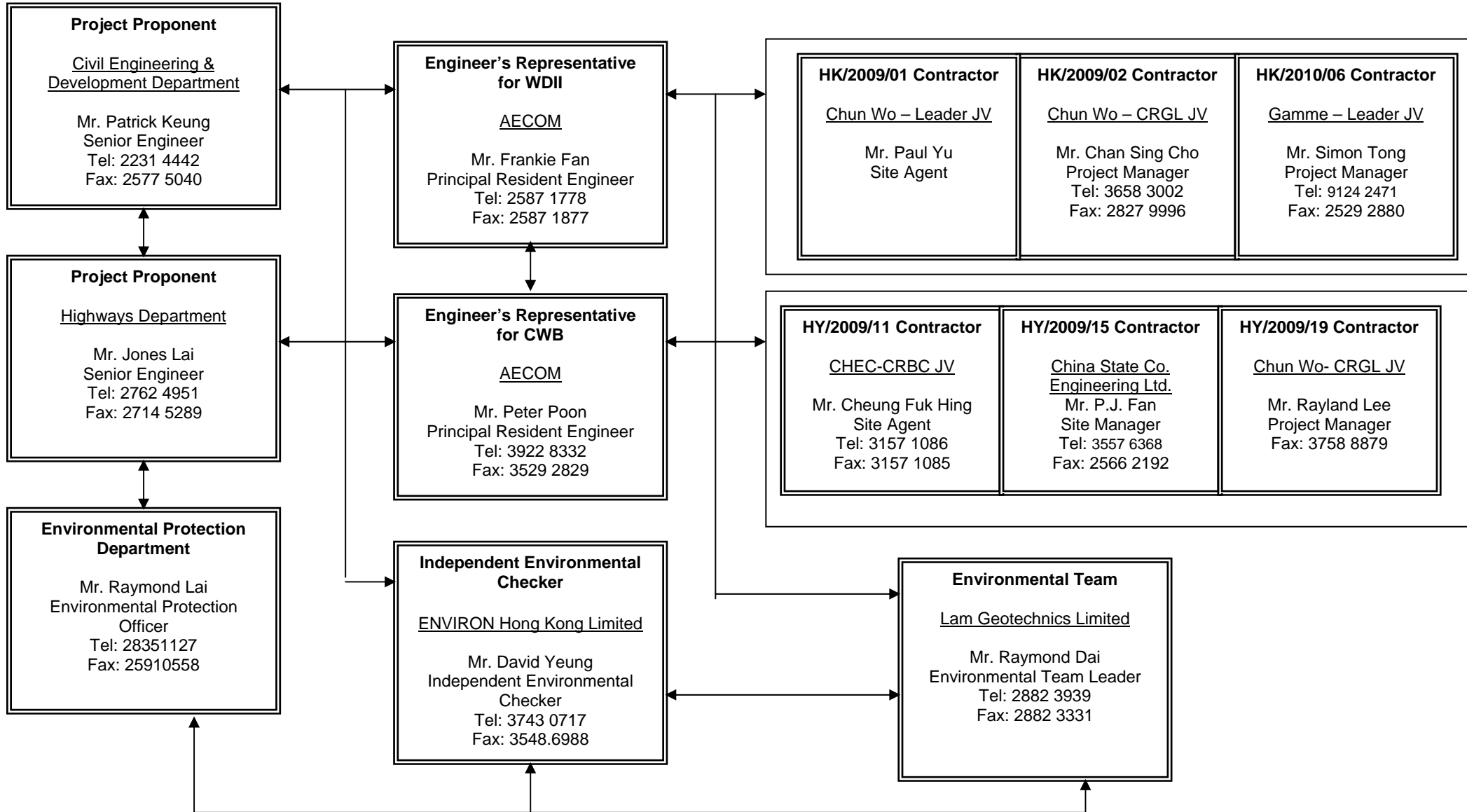


***Figure 2.2***

***Project Organization Chart***



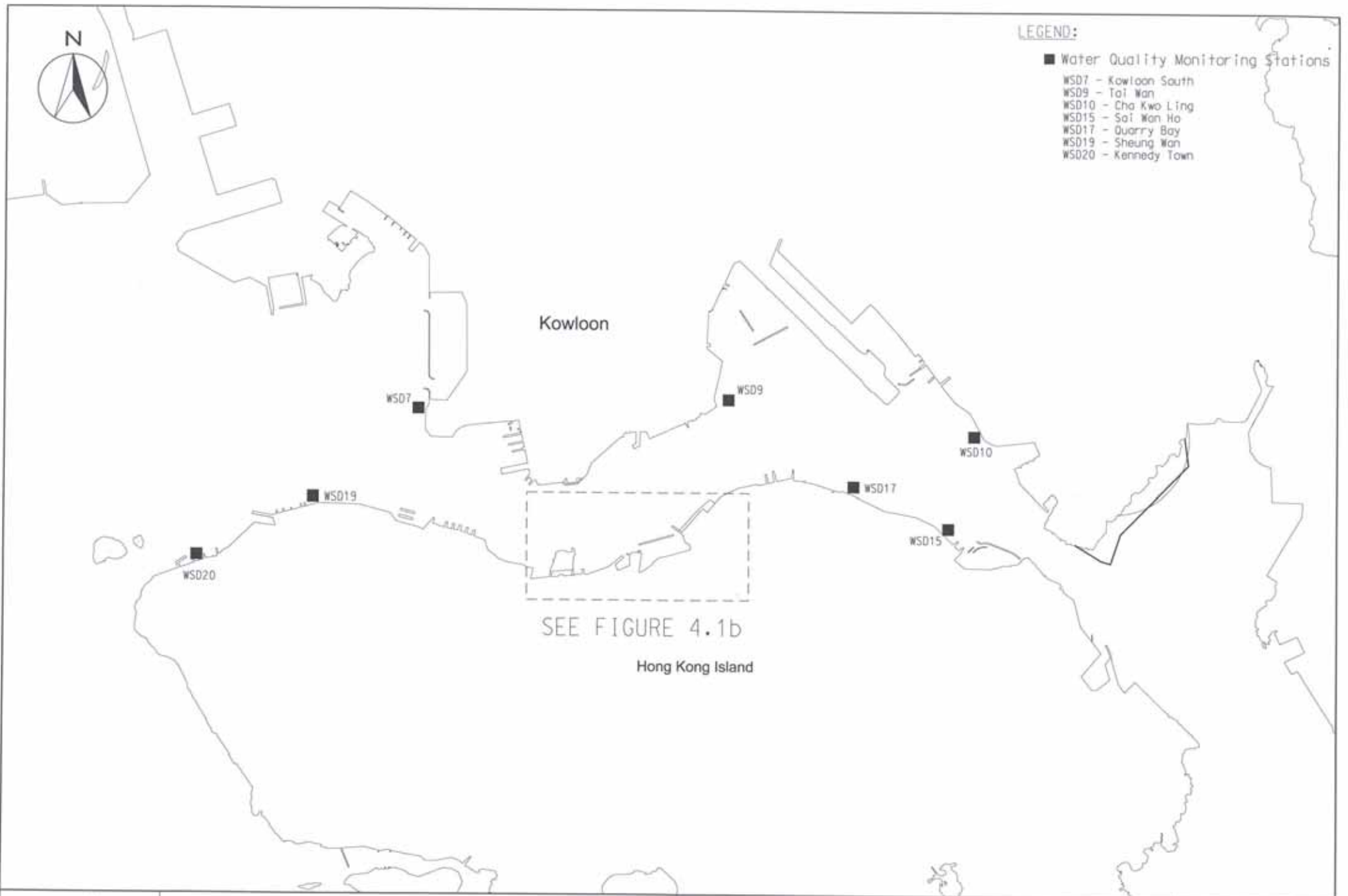
**Project Organization Chart**





***Figure 2.3***

***Locations of Monitoring Stations***



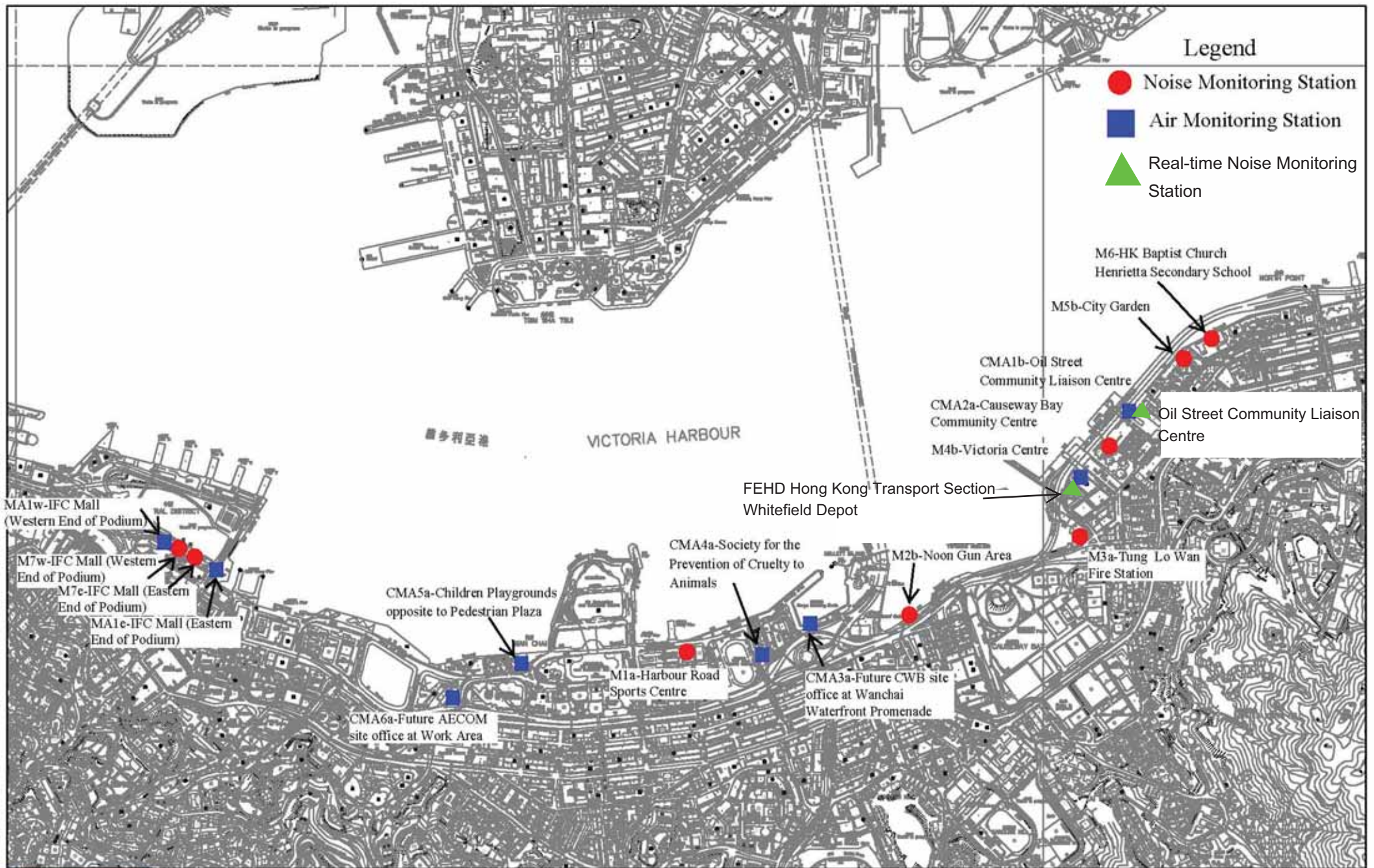


**LEGEND:**

**WATER QUALITY MONITORING STATIONS**

- C1 HONG KONG CONVENTION AND EXHIBITION CENTRE EXTENSION
- C2 TELECOM HOUSE/HK ACADEMY FOR PERFORMING/ SHUI ON CENTRE
- C3 HONG KONG CONVENTION AND EXHIBITION CENTRE PHASE I
- C4 WAN CHAI TOWER AND GREAT EAGLE CENTRE
- C5 SUN HUNG KAI CENTRE
- C6 PROPOSED EXHIBITION STATION / WORLD TRADE CENTRE
- C7 WINDSOR HOUSE
- C8 CITY GARDEN
- C9 PROVIDENT CENTRE
- RC1 PROPOSED HKAPA EXTENSION
- RC5 SUN HUNG KAI CENTRE (REPROVISION)
- RC7 WINDSOR HOUSE (TEMPORARY REPROVISION)
- WSD21 WAN CHAI
- RW1 WAN CHAI (REPROVISION)



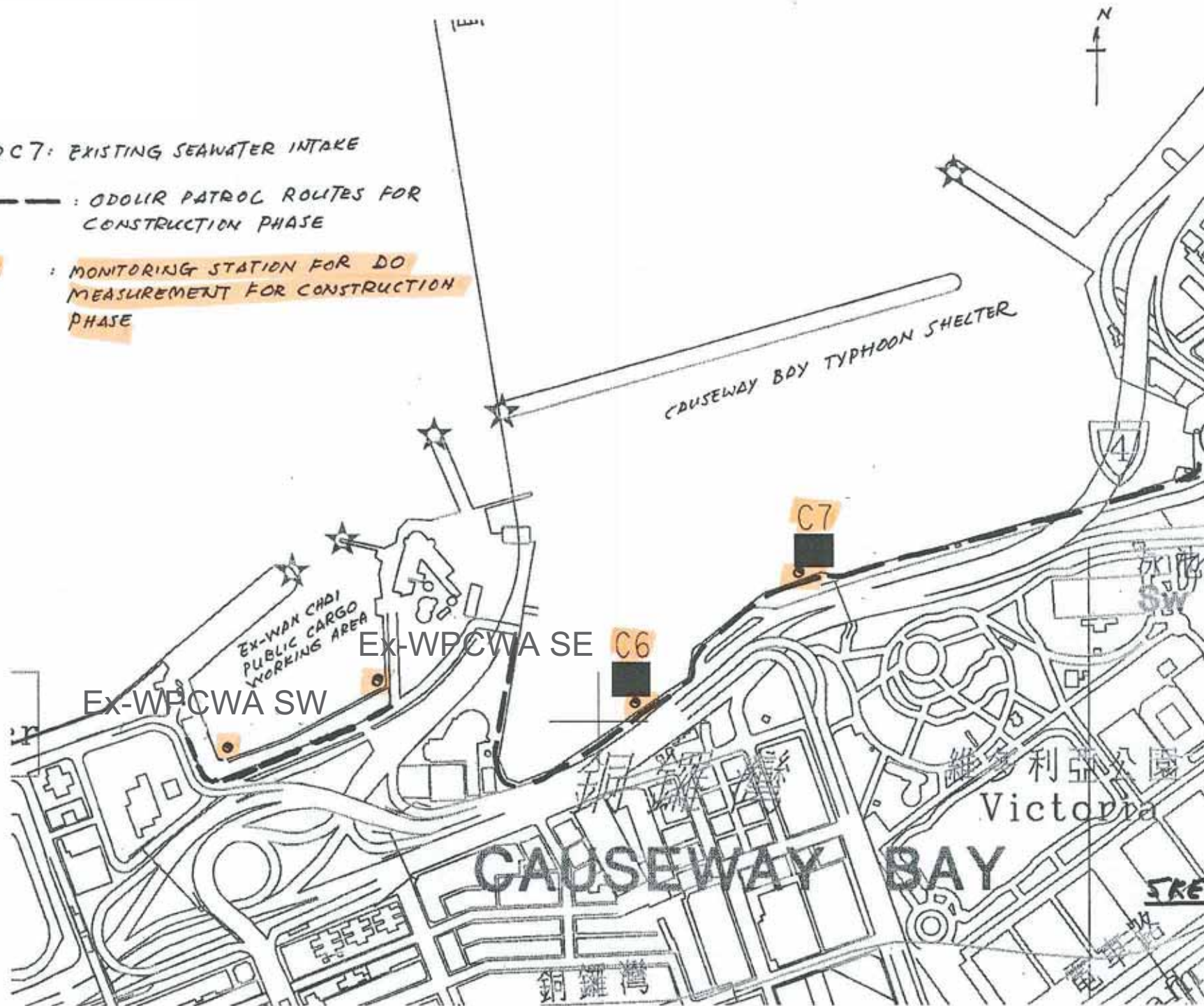




C6 AND C7: EXISTING SEAWATER INTAKE


--- : ODOR PATROL ROUTES FOR CONSTRUCTION PHASE

● : MONITORING STATION FOR DO MEASUREMENT FOR CONSTRUCTION PHASE




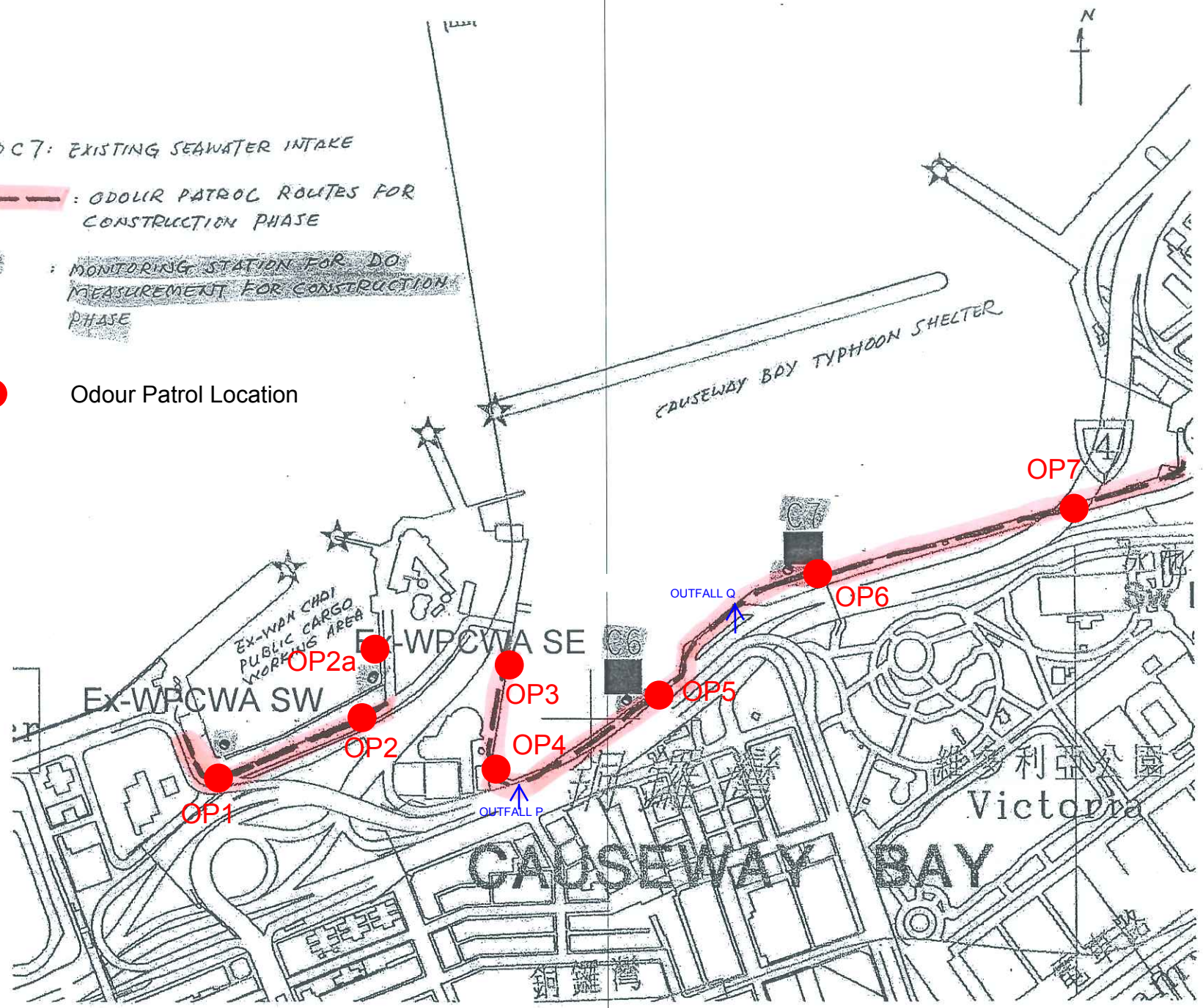


C6 AND C7: EXISTING SEAWATER INTAKE

 : ODOR PATROL ROUTES FOR CONSTRUCTION PHASE

 : MONITORING STATION FOR DO MEASUREMENT FOR CONSTRUCTION PHASE

 Odour Patrol Location



中環填海計劃  
第三期邊界  
CR III  
LIMIT

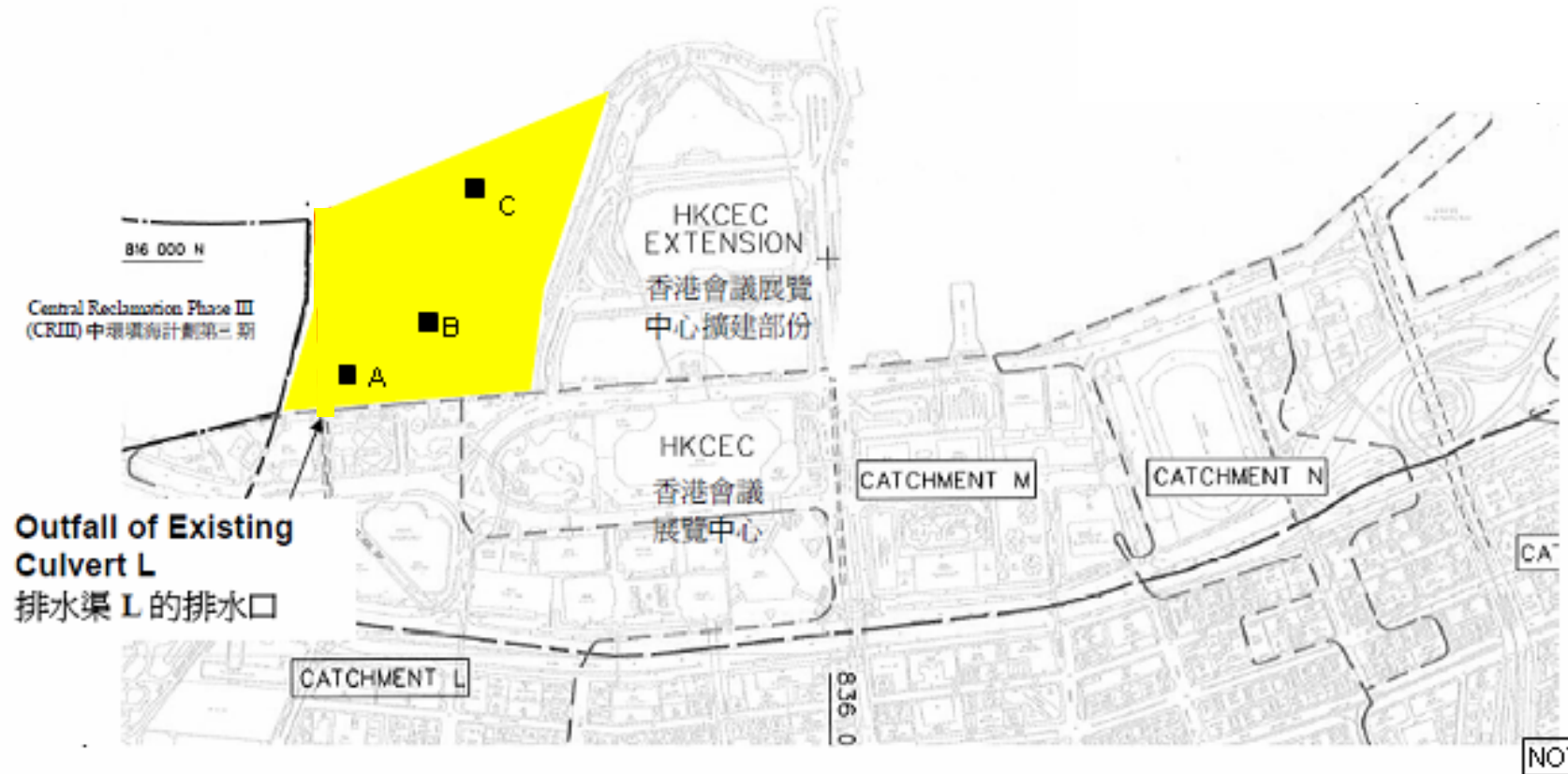
灣仔發展計劃  
第二期區域  
WDII REVIEW  
STUDY AREA



**Embayment Area**



**Additional DO Monitoring Station**  
( A: 835468E, 815857N  
B: 835572E, 815961N  
C: 835659E, 816271N)



Location Plan of Additional Dissolved Oxygen Monitoring Stations  
for Culvert L Water Discharge Flow



***Appendix 3.1***

***Environmental Mitigation Implementation Schedule***

Environmental Mitigation Implementation Schedule

Implementation Schedule for Air Quality Control

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<i>For the Whole Project</i>								
S3.6.5	Four times a day watering of the work site with active operations.	Work site / during construction	Contractor		√			EIAO-TM
S3.8.1	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimise cumulative dust impacts. <ul style="list-style-type: none"> <li>Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition;</li> <li>Watering during excavation and material handling;</li> <li>Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and</li> <li>Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> </ul>	Work site / during construction	Contractor		√			

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S3.5.6	For the dredging activities carried out in the vicinity of Police Officers' Club, the dredging operation will be restricted to only 1 small close grab dredger to minimise the odour impact during the dredging activity. The dredging rate should be reduced as much as practicable for the area in close proximity to the Police Officers' Club. The sediments contain highly contaminated mud which may be disposed with the use of geosynthetic containers (details shall refer to Section 6), grab dredger has to be used for filling up the geosynthetic containers on barges. the dredging rate for the removal of the sediments at the south-west corner of the typhoon shelter shall be slowed down or restricted to specific non-popular hours in weekdays when it is necessary during construction.	Corner of CBTS/implementation of harbour-front enhancement	CEDD <sup>1</sup>		√			EIAO-TM
S3.8.8	Carry out dredging at the corner of CBTS to remove the sediment and clean the slime attached on the CBTS shoreline seawall	Corner of CBTS & CBTS shoreline seawall/implementation of harbour-front enhancement	CEDD <sup>2</sup>		√			EIAO-TM
<b>Operation Phase</b>								
<i>For the Whole Project</i>								

<sup>1</sup> CEDD will identify an implementation agent.

<sup>2</sup> CEDD will identify an implementation agent.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S3.10.2	Monthly (from July to September) monitoring of odour impacts, for a period of 5 years, is proposed during the operational phase of the Project to ascertain the effectiveness of the Enhancement Package over time, and to monitor any on-going odour impacts at the ASRs.	Planned ASRs (CBTS Breakwater)/First 5-year period of operation phase	CEDD <sup>1</sup>			√		EIAO-TM
<b>For DPI – CWB (Within the Project Boundary)</b>								
S3.6.53 – S3.6.54	The design parameters of the East and Central Ventilation Buildings as set in Tables 3.10 and 3.11	East and Central Ventilation Buildings / During operation of the Trunk Road	HyD			√		
S3.10.2	Air quality monitoring for the operation performance of the East Ventilation Building and associated East Vent Shaft will be conducted.	East Vent Shaft / During operation of the East Ventilation Building and associated East Vent Shaft	HyD			√		EIAO-TM

- Des - Design, C - Construction, O – Operation, and Dec – Decommissioning

**Table A13.2 Implementation Schedule for Noise Control**

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<b>For the Whole Project</b>								



EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.9.4	<p>Good Site Practice:</p> <ul style="list-style-type: none"> <li>Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.</li> <li>Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.</li> <li>Mobile plant, if any, shall be sited as far away from NSRs as possible.</li> <li>Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.</li> <li>Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.</li> <li>Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<i>For DP1 – CWB (Within the Project Boundary)</i>								

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.8.3 – S4.8.5	<p>Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks:</p> <ul style="list-style-type: none"> <li>Slip road 8 tunnel</li> <li>Construction of diaphragm wall and substructures of the tunnel approach ramp</li> <li>Excavation</li> <li>Construction of slabs</li> <li>Backfill</li> <li>Demolition and construction of substructures for the IEC</li> <li>Demolition works of existing piers and crossheads of the marine section of the existing IEC</li> </ul> <p>Use of PME grouping for the following tasks:</p> <ul style="list-style-type: none"> <li>At-grade road construction</li> <li>Substructure for IECL connection</li> </ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<i>For DP2 – WDII Major Roads (Road P2)</i>								
S4.8.3 – S4.8.4	<p>Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks:</p> <ul style="list-style-type: none"> <li>Temporary road diversion</li> <li>Resurfacing</li> <li>At-grade roadwork</li> </ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<i>For DP3 – Reclamation Works</i>								
S4.8.3 – S4.8.4	<p>Use of quiet powered mechanical equipment for the following task:</p> <ul style="list-style-type: none"> <li>Filling behind seawall</li> <li>Seawall construction</li> </ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>For DP5 – Wan Chai East Sewage Outfall</b>								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following tasks: <ul style="list-style-type: none"> <li>Submarine pipelines (marine section)</li> </ul> Use of quiet powered mechanical equipment and movable noise barrier for the following tasks: <ul style="list-style-type: none"> <li>Installation of a new pipeline (land section)</li> </ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO
<b>For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui</b>								
S4.8.3 – S4.8.4	Use of quiet powered mechanical equipment for the following tasks: <ul style="list-style-type: none"> <li>Submarine pipelines (marine section)</li> </ul>	Work Sites / During Construction	Contractor		√			EIAO-TM, NCO

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Operation Phase</b>								
<b>For DP1 – CWB (Within the Project Boundary)</b>								

Appendix 3.1





**Table A13.3 Implementation Schedule for Water Quality Control**

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<i>For DP3 – Reclamation Works, DP5 (Wan Chai East Sewage Outfall), DP6 (Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui), DP1 – CWB (within the Project Boundary)</i>								
S5.8	A phased reclamation approach is planned for the WDII. Containment of fill within each of the reclamation phases by seawalls is proposed, with the seawall constructed first (above high water mark) with filling carried out behind the completed seawalls. Any gaps that may need to be provided for marine access will be shielded by silt curtains to control sediment plume dispersion away from the site. Filling for seawall construction should be carried out behind the silt curtain	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8	Dredging shall be carried out by closed grab dredger for the following works: <ul style="list-style-type: none"> <li>• Seawall construction in all the reclamation areas;</li> <li>• Construction of the CWB Tunnel</li> <li>• Construction of the proposed WSD water mains; and</li> <li>• Construction of the proposed Wan Chai East sewage outfall pipelines.</li> </ul>	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO
S5.8, Figure 5.3	Dredging for the Wan Chai East sewage outfall pipelines shall not be carried out concurrently with the following activities: <ul style="list-style-type: none"> <li>• Dredging along the proposed cross-harbour water mains;</li> <li>• Dredging along the seawall in the Wan Chai Reclamation (WCR) zone (area between HKCEC Extension and PCWA).</li> </ul>	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines																								
				Des	C	O	Dec																									
S5.8	The water body behind the temporary reclamations within the Causeway Bay typhoon shelter shall not be fully enclosed.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																								
S5.8	As a mitigation measure, to avoid the accumulation of water borne pollutants within the temporary embayment between CR111 and HKCEC1, an impermeable barrier, suspended from a floating boom on the water surface and extending down to the seabed, will be erected by the contractor before the HKCEC1 commences. The barrier will channel the stormwater discharge flows from Culvert L to the outside of the embayment. The contractor will maintain this barrier until the reclamation works in HKCEC2W are carried out and the new Culvert L extension is constructed.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																								
S5.8, Figure 5.3	The total dredging rates in each of the marine works zones shall not be more than the maximum production rates stated in the table below. These are the production rates without considering the effect of silt curtain.	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Reclamation Area</th> <th colspan="2">Maximum Dredging Rate</th> <th rowspan="2">Maximum Dredging Rate (m<sup>3</sup> per week)</th> </tr> <tr> <th>m<sup>3</sup> per day</th> <th>m<sup>3</sup> per hour (for 16 hrs per day)</th> </tr> </thead> <tbody> <tr> <td colspan="4"><b>Dredging along seawall or breakwater</b></td> </tr> <tr> <td>North Point Shoreline Zone (NPR)</td> <td>6,000</td> <td>375</td> <td>42,000</td> </tr> <tr> <td>Causeway Bay</td> <td>1,500</td> <td>94</td> <td>10,500</td> </tr> <tr> <td>Shoreline Zone</td> <td>6,000</td> <td>375</td> <td>42,000</td> </tr> <tr> <td>PCWA Zone</td> <td>5,000</td> <td>313</td> <td>35,000</td> </tr> </tbody> </table>		Reclamation Area	Maximum Dredging Rate		Maximum Dredging Rate (m <sup>3</sup> per week)	m <sup>3</sup> per day	m <sup>3</sup> per hour (for 16 hrs per day)	<b>Dredging along seawall or breakwater</b>				North Point Shoreline Zone (NPR)	6,000	375	42,000	Causeway Bay	1,500	94	10,500	Shoreline Zone	6,000	375	42,000	PCWA Zone	5,000	313	35,000					
Reclamation Area	Maximum Dredging Rate		Maximum Dredging Rate (m <sup>3</sup> per week)																													
	m <sup>3</sup> per day	m <sup>3</sup> per hour (for 16 hrs per day)																														
<b>Dredging along seawall or breakwater</b>																																
North Point Shoreline Zone (NPR)	6,000	375	42,000																													
Causeway Bay	1,500	94	10,500																													
Shoreline Zone	6,000	375	42,000																													
PCWA Zone	5,000	313	35,000																													

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures				Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines																						
							Des	C	O	Dec																							
	<table border="1"> <tr> <td>Wan Chai Shoreline Zone (WCR)</td> <td>6,000</td> <td>375</td> <td>42,000</td> </tr> <tr> <td>HKCEC Shoreline Zone (HKCEC)</td> <td>1,500</td> <td>94</td> <td>10,500</td> </tr> <tr> <td>HKCEC Stage 1 &amp; 3</td> <td>6,000</td> <td>375</td> <td>42,000</td> </tr> <tr> <td>HKCEC Stage 2</td> <td>1,500</td> <td>94</td> <td>10,500</td> </tr> <tr> <td>Cross Harbour Water Mains</td> <td>1,500</td> <td>94</td> <td>10,500</td> </tr> <tr> <td>Wan Chai East Submarine Sewage Pipeline</td> <td>1,500</td> <td>94</td> <td>10,500</td> </tr> </table> <p>Note: 1,500 m<sup>3</sup> per day shall be applied for construction of the western seawall of WCR1.</p>	Wan Chai Shoreline Zone (WCR)	6,000	375	42,000	HKCEC Shoreline Zone (HKCEC)	1,500	94	10,500	HKCEC Stage 1 & 3	6,000	375	42,000	HKCEC Stage 2	1,500	94	10,500	Cross Harbour Water Mains	1,500	94	10,500	Wan Chai East Submarine Sewage Pipeline	1,500	94	10,500								
Wan Chai Shoreline Zone (WCR)	6,000	375	42,000																														
HKCEC Shoreline Zone (HKCEC)	1,500	94	10,500																														
HKCEC Stage 1 & 3	6,000	375	42,000																														
HKCEC Stage 2	1,500	94	10,500																														
Cross Harbour Water Mains	1,500	94	10,500																														
Wan Chai East Submarine Sewage Pipeline	1,500	94	10,500																														
S5.8, Figure 5.3	Dredging along the seawall at WCR1 shall be undertaken initially at 1,500m <sup>3</sup> per day for construction of the western seawall (which is in close proximity of the WSD intake), followed by partial seawall construction at the western seawall (above high water mark) to protect the adjacent intakes as much as possible from further dredging activities.				Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																						
S5.8, Figure 5.3	For dredging within the Causeway Bay typhoon shelter, seawall shall be partially constructed to protect the nearby seawater intakes from further dredging activities. For example, at TCBR1W, the southern and eastern seawalls shall be constructed first (above high water mark) so that the seawater intakes at the inner water would be protected from the impacts from the remaining dredging activities along the northern boundary.				Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																						
S5.8, Figure 5.3	Silt curtains shall be deployed around the closed grab dredgers during seawall dredging and seawall trench filling in the areas of HKCEC, WCR, TCBR and NP.				Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																						
S5.8, Figure 5.3	Silt screens shall be applied to seawater intakes at interim construction stages as stated below:				Work site / During the construction period	Contractor		√			EIAO-TM, WPCO																						
	<table border="1"> <tr> <th>Interim Construction Stage</th> <th>Location of Applications</th> </tr> <tr> <td>Scenario 2A in early 2009 with concurrent dredging activities at HKCEC, WCR, TPCWA,</td> <td>WSD saltwater intakes at Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai, Kowloon South Cooling water intakes for Hong Kong Convention and Exhibition Centre Extension, Hong Kong</td> </tr> </table>	Interim Construction Stage	Location of Applications	Scenario 2A in early 2009 with concurrent dredging activities at HKCEC, WCR, TPCWA,								WSD saltwater intakes at Sai Wan Ho, Quarry Bay, Sheung Wan, Wan Chai, Kowloon South Cooling water intakes for Hong Kong Convention and Exhibition Centre Extension, Hong Kong																					
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Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures				Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines					
							Des	C	O	Dec						
	<table border="1"> <tr> <td>TBW, NP and Water Mains Zone</td> <td>Convention and Exhibition Centre Phase I, Telecom House / HK Academy for Performing Arts / Shun On Centre, Wan Chai Tower / Revenue Tower / Immigration Tower and Sun Hung Kai Centre</td> </tr> <tr> <td>Scenario 2B in late 2009/2010 with concurrent dredging activities at Sewage Pipelines Zone and TCBR.</td> <td>WSD saltwater intakes at Sheung Wan, Wan Chai Cooling water intakes for Queensway Government Offices, Excelsior Hotel, World Trade Centre and Windsor House.</td> </tr> <tr> <td>Scenario 2C in 2011 with concurrent dredging activities at HKCEC and TCBR.</td> <td>WSD saltwater intakes at Sheung Wan and Re-provisioned WSD Wan Chai saltwater intake. Cooling water intakes for MTR South, Excelsior Hotel &amp; World Trade Centre and re-provisioned Windsor House.</td> </tr> </table>	TBW, NP and Water Mains Zone	Convention and Exhibition Centre Phase I, Telecom House / HK Academy for Performing Arts / Shun On Centre, Wan Chai Tower / Revenue Tower / Immigration Tower and Sun Hung Kai Centre	Scenario 2B in late 2009/2010 with concurrent dredging activities at Sewage Pipelines Zone and TCBR.	WSD saltwater intakes at Sheung Wan, Wan Chai Cooling water intakes for Queensway Government Offices, Excelsior Hotel, World Trade Centre and Windsor House.	Scenario 2C in 2011 with concurrent dredging activities at HKCEC and TCBR.	WSD saltwater intakes at Sheung Wan and Re-provisioned WSD Wan Chai saltwater intake. Cooling water intakes for MTR South, Excelsior Hotel & World Trade Centre and re-provisioned Windsor House.									
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S5.8	<p>Other mitigation measures include:</p> <ul style="list-style-type: none"> <li>mechanical grabs, if used, shall be designed and maintained to avoid spillage and sealed tightly while being lifted. For dredging of any contaminated mud, closed watertight grabs must be used;</li> <li>all vessels shall be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;</li> <li>all hopper barges and dredgers shall be fitted with tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>construction activities shall not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site or dumping grounds;</li> <li>loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water. Barges or hoppers shall not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation; and</li> </ul>				Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)					

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> <li>before commencement of the reclamation works, the holder of Environmental Permit has to submit plans showing the phased construction of the reclamation, design and operation of the silt curtain.</li> </ul>							
S5.8	<p>Silt screens are recommended to be deployed at the seawater intakes during the reclamation works period. Installation of silt screens at the seawater intake points may cause a potential for accumulation and trapping of pollutants, floating debris and refuse behind the silt screens and may lead to potential water quality deterioration at the seawater intake points. Major sources of pollutants and floating refuse include the runoff and storm water discharges from the nearby coastal areas. As a mitigation measure to avoid the pollutant and refuse entrapment problems and to ensure that the impact monitoring results are representative, regular maintenance of the silt screens and refuse collection shall be performed at the monitoring stations at regular intervals on a daily basis. The Contractor shall be responsible for keeping the water behind the silt screen free from floating rubbish and debris during the impact monitoring period.</p>	Work site / During the construction period	Contractor		√			EIAO-TM, WPCO

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	<p>Dredging of contaminated mud is recommended as a mitigation measures for control of operational odour impact from the Causeway Bay typhoon shelter. In recognition of the potential impacts caused by dredging activities close to the seawater intakes, only 1 small close grab dredger shall be operated within the typhoon shelter (for the dredging to mitigate odour impact) at any time to minimize the potential impact. Double silt curtains shall be deployed to fully enclose the closed grab dredger during the dredging operation. In addition, an impermeable barrier, suspended from a floating boom on the water surface and extended down to the seabed, shall be erected to isolate the adjacent intakes as much as possible from dredging activities. For example, if dredging is to be carried out at the southwest corner of the typhoon shelter, physical barriers shall be erected to west of the cooling water intake for Excelsior Hotel so that the intake would be shielded from most of the SS generated from the dredging operation to the west of the intake. For area in close proximity of the cooling water intake point, the dredging rate shall be reduced as much as practicable. Site audit and water quality monitoring shall be carried out at the seawater intakes during the dredging operations. Daily monitoring of SS at the cooling water intake shall be carried out, and 24 hour monitoring of turbidity at the intakes shall be implemented during the dredging activities. If the monitoring results indicate that the dredging operation has caused significant changes in water quality conditions at the seawater intakes, appropriate actions shall be taken to stop the dredging and mitigation measures such as slowing down the dredging rate shall be implemented.</p>	Causeway Bay typhoon shelter/Implementation of harbour-front enhancement.	CEDD <sup>3</sup>		√			WPCO

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines	
				Des	C	O	Dec		
<b>For the Whole Project</b>									
S5.8	<ul style="list-style-type: none"> <li>Construction Runoff and Drainage</li> <li>use of sediment traps, wheel washing facilities for vehicles leaving the site, and adequate maintenance of drainage systems to prevent flooding and overflow;</li> <li>Permanent drainage channels shall incorporate sediment basins or traps and baffles to enhance deposition rates. The design of efficient silt removal facilities shall be based on the guidelines in Appendix A1 of ProPECC PN 1/94;</li> <li>a sediment tank constructed from pre-formed individual cells of approximately 6 - 8 m3 capacity can be used for settling ground water prior to disposal;</li> <li>oil interceptors shall be provided in the drainage system for the tunnels and regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor shall have a bypass to prevent flushing during periods of heavy rain;</li> <li>precautions and actions to be taken when a rainstorm is imminent or forecast, and during or after rainstorms. Particular attention shall be paid to the control of any silty surface runoff during storm events;</li> <li>on-site drainage system shall be installed prior to the commencement of other construction activities. Sediment traps shall be installed in order to minimise the sediment loading of the effluent prior to discharge;</li> <li>All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge shall be adequately designed for the controlled release of storm flows. All sediment control measures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms. The temporarily diverted drainage shall be reinstated to its original condition when the construction work is finished or the temporary diversion is no longer</li> </ul>	<ul style="list-style-type: none"> <li>Work site / During the construction period</li> </ul>	Contractor		√				ProPECC PN 1/94; WPCO (TM-DSS)

<sup>3</sup> CEDD will identify an implementation agent.

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>required.</p> <ul style="list-style-type: none"> <li>All fuel tanks and store areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity.</li> </ul>							
	<ul style="list-style-type: none"> <li>Minimum distances of 100 m shall be maintained between the storm water discharges and the existing or planned WSD flushing water intakes during construction phase.</li> </ul>							
S5.8	<p><i>Sewage from Construction Work Force</i></p> <p>Construction work force sewage discharges on site shall be connected to the existing trunk sewer or sewage treatment facilities. The construction sewage shall be handled by portable chemical toilets prior to the commission of the on-site sewer system. Appropriate numbers of portable toilets shall be provided by a licensed contractor to serve the large number of construction workers over the construction site. The Contractor shall also be responsible for waste disposal and maintenance practices.</p>	Work site / During the construction period	Contractor		√			ProPECC PN 1/94; WPCO (TM-DSS)
S5.8	<p><i>Floating Debris and Refuse</i></p> <p>Collection and removal of floating refuse shall be performed at regular intervals on a daily basis. The contractor shall be responsible for keeping the water within the site boundary and the neighbouring water free from rubbish.</p>	Work site and adjacent water / During the construction period.	Contractor		√			WPCO

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8	<p><i>Storm Water Discharges</i></p> <p>Minimum distances of 100 m shall be maintained between the existing or planned stormwater discharges and the existing or planned WSD flushing water intakes.</p>	Work site and adjacent water / During the design and construction period.	Contractor	√	√			WPCO
<b>Operation Phase</b>								
<i>DPI – CWB (within the Project Boundary)</i>								
S5.8	<p>For the operation of CWB, a surface water drainage system would be provided to collect road runoff. The following operation stage mitigation measures are recommended to ensure road runoff would comply with the TM under the WPCO:</p> <ul style="list-style-type: none"> <li>The drainage from tunnel sections shall be directed through petrol interceptors to remove oil and grease before being discharged to the nearby foul water manholes.</li> <li>Petrol interceptors shall be regularly cleaned and maintained in good working condition.</li> <li>Oily contents of the petrol interceptors shall be properly handled and disposed of, in compliance with the requirements of the Waste Disposal Ordinance.</li> <li>Sewage arising from ancillary facilities of CWB (for examples, car park,</li> </ul>	CWB/During design and operational period	HyD/TD <sup>3</sup>	√		√		WPCO

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>control room, ventilation and administration buildings and tunnel portals) shall be connected to public sewerage system. Sufficient capacity in public sewerage shall be made available to the proposed facilities.</p> <ul style="list-style-type: none"> <li>Road drainage shall also be provided with adequately designed silt trap to minimize discharge of silty runoff.</li> <li>The design of the operational stage mitigation measures for CWB shall take into account the guidelines published in ProPECC PN 5/93 "Drainage Plans subject to Comment by the EPD." All operational discharges from the CWB into drainage or sewerage systems are required to be licensed by EPD under the WPCO.</li> </ul>							

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

<sup>3</sup> if employ Management, Operation and Maintenance (MOM) Contract

Appendix 3.1

**Table A13.4 Implementation Schedule for Waste Management**

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<i>For DP3 – Reclamation Works</i>								
	<b>Marine Sediments</b>							
S6.7.2	The dredged marine sediments would be loaded onto barges, transported to and disposed of at the designated disposal sites at South of Cheung Chau, East of Ninepin, East of Tung Lung Chau, South of Tsing Yi or East of Sha Chau to be allocated by the MFC depending on their level of contamination or at other disposal sites after consultation with the MFC and EPD. In accordance with the ETWB TCW No. 34/2002, the contaminated material must be dredged and transported with great care. The mitigation measures recommended in Section 5 of the EIA Report shall be incorporated. The dredged contaminated sediment must be effectively isolated from the environment upon final disposal and shall be disposed of at the Type 2 confined marine disposal contaminated mud pit.	Work site / During the construction period	Contractor		√			ETWB TCW No. 34/2002
S6.7.3	Based on the biological screening results, the Category H (>10xLCEL) sediment which failed the biological testing would require Type 3 special disposal. The volume of Category H sediment from the Causeway Bay typhoon shelter which would require special disposal arrangements is estimated to be approximately 0.05 Mm <sup>3</sup> . A feasible containment method is proposed whereby the dredged sediments are sealed in geosynthetic containers and, at the disposal site, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping, thereby meeting the requirements for fully confined mud disposal.							

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.5	It will be the responsibility of the Contractor to satisfy the appropriate authorities that the contamination levels of the marine sediment to be dredged have been analysed and recorded. According to the ETWB TCW No. 34/2002, this will involve the submission of a formal Sediment Quality Report to the DEP, at least 3 months prior to the dredging contract being tendered							
S6.7.6	During transportation and disposal of the dredged marine sediments requiring Type 1 and Type 2 disposal, the following measures shall be taken to minimise potential impacts on water quality: <ul style="list-style-type: none"> <li>Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.</li> </ul>							

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> <li>Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP.</li> <li>Barges or hopper barges shall not be filled to a level that would cause the overflow of materials or sediment laden water during loading or transportation.</li> </ul>							
S6.6.12	<p><b>Floating Refuse</b> During the construction phase, the project proponent's contractor will be responsible for the collection of any refuse within their works area. Floating booms will be provided on the water surface to confine the refuse from the working barges as well as to avoid the accumulation of pollutants within temporary embayment as mentioned in Table 13.3.</p>	Work site / During the construction period	Contractor		√			
<b>For the Whole Project</b>								

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.7	<p><b>Good Site Practices</b> Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> <li>nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</li> <li>training of site personnel in proper waste management and chemical waste handling procedures;</li> <li>provision of sufficient waste disposal points and regular collection for disposal;</li> <li>appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li> <li>a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).</li> </ul>	Work site / During the construction period	Contractor		√			Waste Disposal Ordinance (Cap.354)



EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.8	<p><i>Waste Reduction Measures</i></p> <p>Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>• segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>• to encourage collection of aluminium cans, PET bottles and paper, separate labelled bins shall be provided to segregate these wastes from other general refuse generated by the work force;</li> <li>• any unused chemicals or those with remaining functional capacity shall be recycled;</li> <li>• use of reusable non-timber formwork, such as in casting the tunnel box sections, to reduce the amount of C&amp;D material.</li> <li>• prior to disposal of C&amp;D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill;</li> <li>• proper storage and site practices to minimise the potential for damage or contamination of construction materials; and</li> <li>• plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	Work site / During planning and design stage, and construction stage	Contractor	√	√			

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.10	<p><i>General Refuse</i></p> <p>General refuse shall be stored in enclosed bins or compaction units separate from C&amp;D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&amp;D material.</p> <p>A collection area shall be provided where wastes can be stored and loaded prior to removal from site. An enclosed and covered area is recommended to reduce the occurrence of 'wind blow' light material.</p>	Work site / During the construction period	Contractor		√			Public Health and Municipal Services Ordinance (Cap. 132)
S6.7.11	<p><i>Chemical Wastes</i></p> <p>After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals shall be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	Work site / During the construction period	Contractor		√			Waste Disposal (Chemical Waste) (General) Regulation  Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.7.12	<p><i>Construction and Demolition Material</i></p> <p>C&amp;D material shall be sorted on-site into inert C&amp;D material (that is, public fill) and C&amp;D waste. All the suitable inert C&amp;D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&amp;D waste, such as wood, glass, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to landfill. A suitable area shall be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials.</p>	Work site / During the construction period	Contractor		√			ETWB TCW No. 33/2002, 31/2004, 19/2005

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.13	In order to monitor the disposal of public fill and C&D waste at public filling facilities and landfills, respectively, and to control fly tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team undertaking the environmental monitoring and audit work. An Independent Environment Checker shall be responsible for auditing the results of the system.	Work site / During the construction period	Contractor and Independent Environmental Checker		√			ETWB TCW No. 31/2004
S6.7.14	<p><i>Bentonite Slurry</i></p> <p>The disposal of residual used bentonite slurry shall follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage" and listed as follows:</p> <ul style="list-style-type: none"> <li>If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis.</li> <li>If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the Technical Memorandum of Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters.</li> <li>If the used bentonite slurry is intended to be disposed to public fill reception facilities, it will be mixed with dry soil on site before disposal.</li> </ul>	Work site / During the construction period	Contractor		√			ProPECC PN 1/94

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

Appendix 3.1

**Table A13.5 Implementation Schedule for Land Contamination**

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<i>For the Whole Project</i>								
S.12.6	<ul style="list-style-type: none"> <li>The contaminated site shall be cleaned up before commencement of site clearance and construction work at the concerned area which may disturb the ground.</li> </ul>	A King Marine / Before commencement of construction activities at A King Marine.	Project proponent for the re-provisioned Tin Hau Temple	√				<p>"Guidance Notes for Investigation and Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards, and Car Repair/Dismantling Workshops" published by EPD, HKSAR</p> <p>EPD ProPECC Note No. 3/94</p>
S7.10	<p>During soil remediation works, the Contractor for the excavation works shall take note of the following points for excavation:</p> <ul style="list-style-type: none"> <li>Excavation profiles must be properly designed and executed;</li> <li>In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means;</li> <li>Quantities of soil to be excavated must be estimated;</li> <li>It maybe necessary to split quantities of soil according to soil type, degree and nature of contamination.</li> <li>Temporary storage of soil at intermediate depot or on-site</li> </ul>	A King Marine / During soil remediation works	Contractor	√				<p>Air Pollution Control Ordinance</p> <p>Noise Control Ordinance</p> <p>Waste Disposal Ordinance</p> <p>Waste Disposal (Chemical Waste) (General) Regulation</p>

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	maybe required. The storage site shall include protection facilities for leaching into the ground. eg. Liner maybe required.							
	<ul style="list-style-type: none"> <li>Supply of suitable clean backfill materials is needed after excavation.</li> <li>Care must be taken of existing buildings and utilities.</li> <li>Precautions must be taken to control of ground settlement</li> <li>Speed controls for vehicles shall be imposed on dusty site areas.</li> <li>Vehicle wheel and body washing facilities at the site's exit points shall be established and used.</li> </ul> <p>The following environmental mitigation measures shall be strictly followed during the operation and/or maintenance of the CS/S facilities:</p>							Water Pollution Control Ordinance

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EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p><u>Air Quality Mitigation Measures</u></p> <ul style="list-style-type: none"> <li>The loading, unloading, handling, transfer or storage of cement shall be carried out in an enclosed system.</li> <li>The loading, unloading, handling, transfer or storage of other materials which may generate airborne dust emissions such as untreated soil and oversize materials sorted out from the screening plant and stabilized soil stockpiled in the designated handling area, shall be carried out in such a manner to prevent or minimise dust emissions. These materials shall be adequately wetted prior to and during the loading, unloading and handling operations.</li> <li>All practicable measures, including speed controls for vehicles, shall be taken to prevent or minimize the dust emission caused by vehicle movement.</li> <li>Tarpaulin or low permeable sheet shall be put on dusty vehicle loads transported between site locations.</li> </ul>							
	<p><u>Noise Mitigation Measures</u></p> <ul style="list-style-type: none"> <li>The mixing facilities shall be sited as far as practicable to the nearby noise sensitive receivers.</li> <li>Simultaneous operation of mixing facilities and other equipment shall be avoided.</li> <li>Mixing process and other associated material handling activities shall be properly scheduled to minimise potential cumulative noise impact on the nearby noise sensitive receivers.</li> <li>Construction Noise Permit shall be applied for the operation of powered mechanical equipment during restricted hours (if any).</li> </ul>							

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p><u>Water Quality Mitigation Measures</u></p> <ul style="list-style-type: none"> <li>Stockpile of untreated soil shall be covered as far as practicable to prevent the contaminated material from leaching out. The leachate shall be discharged following the requirements of WPCO.</li> </ul> <p><u>Waste Mitigation Measures</u></p> <ul style="list-style-type: none"> <li>Treated oversize materials will be used as filling material for backfilling within the site. Sorted materials of size smaller than 5 cm will be collected and transferred to the mixing plant for further decontamination treatment.</li> <li>Stabilized soils shall be broken into suitable size for backfilling or reuse on site.</li> <li>A high standard of housekeeping shall be maintained within the mixing plant area.</li> <li>If necessary, there shall be clear and separated areas for stockpiling of untreated and treated materials.</li> </ul>							

\* Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

Appendix 3.1

**Table A13.6 Implementation Schedule for Marine Ecology**

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<i>For the Whole Project - Schedule 3 DP</i>								
S.9.7.2	Alternative design of the Trunk Road constructed in tunnel shall be adopted to avoid permanent reclamation in CBTS and ex-PWCA Basin.	-	CEDD/HyD	√				EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
<i>For DP3 - Reclamation Works</i>								
S.9.7.3	Translocation of those potentially affected coral colonies to the nearby suitable habitats such as Junk Bay is recommended. A detailed translocation plan (including translocation methodology, monitoring of transplanted corals, etc.) should be drafted and approval by AFCD during the detailed design stage of the Project.	Ex-PCWA Basin and along seawall next to a public pier which is about 250 m away from the CBTS	CEDD/HyD	√				EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S.9.7.4	<p>During dredging and filling operations, a number of mitigation measures to control water quality shall be adopted to confine sediment plume within reclamation area and protect marine fauna in proximity to the reclamation. The mitigation measures include the following:</p> <ul style="list-style-type: none"> <li>• Installation of silt curtains during dredging activities</li> <li>• Use of tightly-closed grab dredger</li> <li>• Reduction of dredging rate</li> <li>• Control of grab descending speed</li> <li>• Construction of leading edges of seawall in the early stages of the reclamation works</li> </ul>	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
	<ul style="list-style-type: none"> <li>• Adoption of multiple-phase construction schedule</li> </ul>							

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S.9.7.6	<p>To minimize potential disturbance impacts on the foraging ardeid population in the CBTS, particularly in the area near the A King Shipyard, appropriate mitigation measures shall be adopted particularly during the construction phase. The following measures are recommended:</p> <ul style="list-style-type: none"> <li>• Use of Quiet Mechanical Plant during the construction phase shall be adopted wherever possible.</li> <li>• Adoption of multiple-phase construction schedule.</li> <li>• General measures to reduce noise generated during the construction phase (see noise impact assessment) shall be effectively implemented.</li> </ul>	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
S.9.7.7	Seawalls shall be constructed in advance around the reclamation areas within the area of the CBTS to screen adjacent feeding ground from construction phase activities, reduce noise disturbance to the associated seabirds and also to restrict access to this habitat adjacent to works areas by ship traffic.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.
S.9.7.8	Loss of artificial seawall habitats shall be reinstated by the construction of about 1 km vertical wave absorbing seawall along the coastlines of the new reclamation around the HKCEC and at North Point. The new seawalls are expected to provide large area of hard substrata for settlement and recruitment of intertidal fauna similar to those previously recorded from existing intertidal habitats.	Work site / during construction phase	Contractor		√			EIAO TM Annex 16 (Section 8.4) & EIAO Guidance Note No. 3/2002.

\*Des - Design, C - Construction, O - Operation, and Dec - Decommissioning

Appendix 3.1

**Table A13.7 Implementation Schedule for Landscape and Visual**

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
<b>Construction Phase</b>								
<i>For the Whole Project</i>								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
<i>For DP1 – CWB (Within the Project Boundary)</i>								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
<i>For DP2 – WDII Major Roads (Road P2)</i>								
Table 10.5	CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM2 Existing trees to be retained on site shall be carefully protected during construction.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM3 Trees unavoidably affected by the works shall be transplanted where practical.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM4 Compensatory tree planting shall be provided to compensate for felled trees.	Work site / During Construction Phase	Contractor	√	√			EIAO TM
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
<i>For DP3 – Reclamation Works</i>								
Table 10.5	CM5 Control of night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Table 10.5	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.	Work site / During Construction Phase	Contractor		√			EIAO TM
<i>For DP5 – Wan Chai East Sewage Outfall</i>								
Refer to EIA-058/2001 Table 10.13	CM2 Minimisation of works areas.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM3 Erection of decorative hoardings.	Work site / During Construction Phase	Contractor		√			EIAO TM

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Refer to EIA-058/2001 Table 10.13	CM4 Control night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM5 Minimisation of disruption to public by effective programming of the works.	Work site / During Construction Phase	Contractor		√			EIAO TM
<b>For DP6 – Cross-Harbour Water Mains from Wan Chai to Tsim Sha Tsui</b>								
Refer to EIA-058/2001 Table 10.13	CM2 Minimisation of works areas.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM3 Erection of decorative hoardings.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM4 Control night-time lighting.	Work site / During Construction Phase	Contractor		√			EIAO TM
Refer to EIA-058/2001 Table 10.13	CM5 Minimisation of disruption to public by effective programming of the works.	Work site / During Construction Phase	Contractor		√			EIAO TM
<b>Operation Phase</b>								
<b>For the Whole Project - Schedule 3 DP</b>								
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM2 Shrub and Climbing Plants to soften proposed structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004

Appendix 3.1

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD/	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM4 Aesthetic design of proposed waterfront promenade.	Work site / During Design Stage and Operation Phases	CEDD <sup>4</sup>	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas.	Work site / During Design Stage and Operation Phases	CEDD/HyD	√	√	√		ETWB TCW 2/2004
<b>For DP1 – CWB (Within the Project Boundary)</b>								
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM2 Shrub and Climbing Plants to soften proposed structures	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas.	Work site / During Design Stage and Operation Phases	HyD	√	√	√		ETWB TCW 2/2004
<b>For DP2 – WDII Major Roads (Road P2)</b>								

<sup>4</sup> CEDD will identify an implementation agent

Appendix 3.1



EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
Table 10.6, Figure 10.5.1-10.5.5	OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM5 Aesthetic streetscape design.	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
Table 10.6, Figure 10.5.1-10.5.5	OM6 Aesthetic design of roadside amenity areas	Work site / During Design Stage and Operation Phases	CEDD/HyD		√	√		ETWB TCW 2/2004
<b>For DP3 – Reclamation Works</b>								
Table 10.6, Figure 10.5.1-10.5.5	OM4 Aesthetic design of proposed waterfront promenade.	Work site / During Design Stage and Operation Phases	CEDD <sup>5</sup>	√	√	√		ETWB TCW 2/2004

\*Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

<sup>5</sup> CEDD will identify an implementation agent



***Appendix 4.1***

***Action and Limit Level***

**Action and Limit Level***Action and Limit Level for Noise Monitoring*

Time Period	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received.	75 dB(A) <sup>Note 1</sup>

Note 1:

- 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.
- If works are to be carried out during the restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

*Action and Limit Level for Air Monitoring*

Monitoring Location	1-hour TSP Level in $\mu\text{g}/\text{m}^3$		24-hour TSP Level in $\mu\text{g}/\text{m}^3$	
	Action Level	Limit Level	Action Level	Limit Level
CMA1b <sup>Note 2</sup>	320.1	500	176.7	260
CMA2a	323.4	500	169.5	260
CMA3a <sup>Note 2</sup>	311.3	500	171.0	260
CMA4a	312.5	500	171.2	260
CMA5a <sup>Note 2</sup>	332.0	500	181.0	260
CMA6a <sup>Note 2</sup>	300.1	500	187.3	260

Note 2:

- As per facing owner's rejection in allowing the implementation of long-term air quality impact monitoring at their premises, alternative monitoring stations and justification were proposed for IEC verification and EPD approval.
- The established Action and Limit Levels from the baseline air monitoring will be adopted to the alternative monitoring stations.

*Action and Limit Level for Water Monitoring*

Parameters	Dry Season		Wet Season	
	Action	Limit	Action	Limit
<b>WSD Salt Water Intake</b>				
SS in $\text{mg L}^{-1}$	13.00	14.43	16.26	19.74
Turbidity in NTU	8.04	9.49	10.01	11.54
DO in mg/L	3.66	3.28	3.17	2.63
<b>Cooling Water Intake</b>				
SS in $\text{mg L}^{-1}$	15.00	22.13	18.42	27.54
Turbidity in NTU	9.10	10.25	11.35	12.71
DO in mg/L	3.36	2.73	3.02	2.44

Remarks:

- Action and Limit Level for the wet season are applied after the EPD approval of Updated EM&A Manual on 29 April 2011.

*Action and Limit Levels for Odour Patrol*

Parameters	Action	Limit
Odour Nuisance (from odour intensity analysis or odour patrol)	<ul style="list-style-type: none"> <li>• When two documented complaint are received; or</li> <li>• Odour Intensity of 2 is measured from odour intensity analysis.</li> </ul>	<ul style="list-style-type: none"> <li>• Five or more consecutive genuine documented complaints within a week; or</li> <li>• Odour Intensity of 3 or above is measured from odour intensity analysis.</li> </ul>



***Appendix 4.2***

***Copies of Calibration Certificates***



# Calibration Certificate

Certificate No. **23166**

Page 1 of 4 Pages

**Customer :** Lam Geotechnics Limited

**Address :** 11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong.

**Order No. :** Q21208

**Date of receipt :** 24-May-12

## Item Tested

**Description :** Precision Integrating Sound Level Meter

**Manufacturer :** Rion

**Model :** NL-14

**Serial No. :** 10303242

## Test Conditions

**Date of Test :** 5-Jun-12

**Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C

**Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Ref. Document/Procedure: Z01.

## Test Results

All results were within the IEC 651 Type 1 or IEC 804 Type 1 specification after adjustment.

The results are shown in the attached page(s).

Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C101623	SCL-HKSAR
S024	Sound Level Calibrator	15136	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

**Calibrated by :** 

P. F. Wong

**Approved by :** 

Dorothy Cheuk

**Date:** 6-Jun-12

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

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# Calibration Certificate

Certificate No. 23166

Page 2 of 4 Pages

Results :

## 1. SPL Accuracy

Level Range (dB)	UUT Setting			Applied Value (dB)	UUT Reading (dB)	
	Filter	Weight	Time Const.		Before adjust.	After adjust.
40 – 100	OFF	L <sub>P</sub>	Fast	94.0	--	94.1
		L <sub>PA</sub>	Fast		*92.2	94.1
			Slow		--	94.1
		L <sub>PC</sub>	Fast		--	94.1
60 – 120	OFF	L <sub>P</sub>	Fast	94.0	--	94.0
		L <sub>PA</sub>	Fast		--	94.0
			Slow		--	94.0
		L <sub>PC</sub>	Fast		--	94.0
60 – 120	OFF	L <sub>P</sub>	Fast	114.0	--	114.1
		L <sub>PA</sub>	Fast		--	114.1
			Slow		--	114.1
		L <sub>PC</sub>	Fast		--	114.1

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.2$  dB

## 2. Level Stability : 0.1 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  dB





# Calibration Certificate

Certificate No. 23166

Page 3 of 4 Pages

## 3. Linearity

### 3.1 Level Linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec. (Primary Indicator Range)
140	114.0	113.9	-0.1	± 0.7 dB
130	104.0	103.9	-0.1	
120	94.0	94.0 (Ref.)	--	
110	84.0	84.0	0.0	
100	74.0	74.1	+0.1	
90	64.0	64.1	+0.1	
80	54.0	54.2	+0.2	

Uncertainty : ± 0.1 dB

### 3.2 Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Reading (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	84.1	+0.1	± 0.4 dB
	94.0	94.0 (Ref.)	--	
	95.0	95.0	0.0	± 0.2 dB

Uncertainty : ± 0.1 dB

## 4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.0	- 39.4 dB, ± 1.5 dB
63 Hz	-25.9	- 26.2 dB, ± 1.5 dB
125 Hz	-15.9	- 16.1 dB, ± 1 dB
250 Hz	-8.5	- 8.6 dB, ± 1 dB
500 Hz	-3.2	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref)	0 dB, ± 1 dB
2 kHz	+1.1	+ 1.2 dB, ± 1 dB
4 kHz	+0.8	+ 1.0 dB, ± 1 dB
8 kHz	-1.5	- 1.1 dB, + 1.5 dB ~ -3 dB
16 kHz	-7.2	- 6.6 dB, + 3 dB ~ - ∞

Uncertainty : ± 0.1 dB





# Calibration Certificate

Certificate No. 23166

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## 5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	40.0	--
1/10	40.0	39.9	± 0.5 dB
1/10 <sup>2</sup>	40.0	39.7	
1/10 <sup>3</sup>	40.0	39.4	± 1.0 dB
1/10 <sup>4</sup>	40.0	39.3	

Uncertainty : ± 0.1 dB

- Remark : 1. UUT : Unit-Under-Test  
2. The uncertainty claimed is for a confidence probability of not less than 95%.  
3. Atmospheric Pressure : 1 000 hPa.  
4. \*Out of Specification

----- END -----



# Calibration Certificate

Certificate No. **23167**

Page 1 of 2 Pages

**Customer :** Lam Geotechnics Limited

**Address :** 11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong.

**Order No. :** Q21208

**Date of receipt :** 24-May-12

## Item Tested

**Description :** Sound Level Calibrator

**Manufacturer :** Rion

**Model :** NC-73

**Serial No. :** 10465798

## Test Conditions

**Date of Test :** 6-Jun-12

**Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C

**Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Ref. Document/Procedure : F21, Z02.

## Test Results

All results were within the manufacturer's specification.

The results are shown in the attached page(s).


### Main Test equipment used:

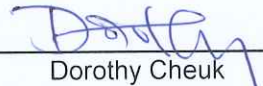
<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S014	Spectrum Analyzer	13535	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	15136	NIM-PRC & SCL-HKSAR
S041	Universal Counter	15610	SCL-HKSAR
S206	Sound Level Meter	16338	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

**Calibrated by :**   
P. F. Wong

**Approved by :**   
Dorothy Cheuk

**Date:** 6-Jun-12



# Calibration Certificate

Certificate No. 23167

Page 2 of 2 Pages

Results :

## 1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value	Mfr's Spec.
94 dB	94.43	$\pm 1$ dB

Uncertainty :  $\pm 0.2$  dB

## 2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.982 kHz	$\pm 2$ %

Uncertainty :  $\pm 0.1$  %

## 3. Level Stability : 0.0 dB

Uncertainty :  $\pm 0.01$  dB

## 4. Total Harmonic Distortion : $< 0.5$ %

Mfr's Spec. :  $< 3$  %

Uncertainty :  $\pm 2.3$  % of reading

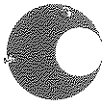
Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. The above measured values are the mean of 3 measurement.

4. Atmospheric Pressure : 1 000 hPa

----- END -----



# Calibration Certificate

Certificate No. **24235**

Page 1 of 4 Pages

**Customer :** Lam Geotechnics Limited

**Address :** 11/F, Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong.

**Order No. :** Q21745

**Date of receipt :** 4-Jul-12

## Item Tested

**Description :** Sound Level Meter

**Manufacturer :** B&K

**Model :** 2250

**Serial No. :** 2722311

## Test Conditions

**Date of Test :** 6-Jul-12

**Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C

**Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Ref. Document/Procedure: Z01.

## Test Results

All results were within the IEC 651 Type 1, IEC 804 Type 1 & IEC 1260 Class 1 specification.

The results are shown in the attached page(s).

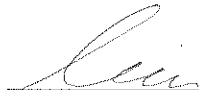
Main Test equipment used:


<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C101623	SCL-HKSAR
S024	Sound Level Calibrator	15136	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

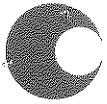
The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

**Calibrated by :**   
P. F. Wong

**Approved by :**   
Dorothy Cheuk

**Date:** 6-Jul-12



# Calibration Certificate

Certificate No. **24235**

Page 2 of 4 Pages

Results :

## 1. SPL

UUT Setting				Applied Value (dB)	UUT Reading (dB)	
Range	Freq. Wgt.	Time Const.	Center Freq.		Before adjust	After adjust
20 - 140	A (SPL)	Fast	--	94.0	93.5	93.7
		Slow	--		--	93.7
	C (SPL)	Fast	--	94.0	--	93.7
	A (SPL)	Fast	--	114.0	--	113.8
		Slow	--		--	113.8
	C (SPL)	Fast	--	114.0	--	113.8
	--	1/1 – Oct/Fast	1 kHz	94.0	--	93.7
				114.0	--	113.8
	--	1/3 – Oct/Fast	1 kHz	94.0	--	93.6
				114.0	--	113.7

IEC 651 Type 1 Spec. :  $\pm 0.7$  dB

Uncertainty :  $\pm 0.1$  dB

## 2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. :  $\pm 0.3$  dB

Uncertainty :  $\pm 0.01$  dB

## 3. Linearity

Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec.
20~140	84.0	83.7	0.0	$\pm 0.4$ dB
	94.0	93.7 (Ref.)	--	
	95.0	94.7	0.0	$\pm 0.2$ dB

Uncertainty :  $\pm 0.1$  dB



# Calibration Certificate

Certificate No. 24235

Page 3 of 4 Pages

## 4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.4	- 39.4 dB, $\pm 1.5$ dB
63 Hz	-26.2	- 26.2 dB, $\pm 1.5$ dB
125 Hz	-16.2	- 16.1 dB, $\pm 1$ dB
250 Hz	-8.7	- 8.6 dB, $\pm 1$ dB
500 Hz	-3.2	- 3.2 dB, $\pm 1$ dB
1 kHz	0.0 (Ref)	0 dB, $\pm 1$ dB
2 kHz	+1.2	+ 1.2 dB, $\pm 1$ dB
4 kHz	+0.9	+ 1.0 dB, $\pm 1$ dB
8 kHz	-1.5	- 1.1 dB, + 1.5 dB ~ -3 dB
16 kHz	-6.1	- 6.6 dB, + 3 dB ~ - $\infty$

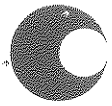
Uncertainty :  $\pm 0.1$  dB

## 5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	--	--
1/10	40.0	40.1	$\pm 0.5$ dB
1/10 <sup>2</sup>	40.0	40.1	
1/10 <sup>3</sup>	40.0	40.1	$\pm 1.0$ dB
1/10 <sup>4</sup>	40.0	40.0	

Uncertainty :  $\pm 0.1$  dB





# Calibration Certificate

Certificate No. 24235

Page 4 of 4 Pages

## 6. Filter Characteristics

### 6.1 1/1 – Octave Filter

Frequency	Attenuation (dB)	IEC 1260 Class 1 Spec. (dB)
125 Hz	-74.5	< - 61
250 Hz	-53.2	< - 42
500 Hz	-24.0	< - 17.5
707 Hz	-4.8	- 2 ~ - 5
1 kHz (Ref)	--	--
1.414 kHz	-2.8	- 2 ~ - 5
2 kHz	-19.7	< - 17.5
4 kHz	-55.4	< - 42
8 kHz	-85.8	< - 61

Uncertainty :  $\pm 0.25$  dB

### 6.2 1/3 – Octave Filter

Frequency	Attenuation (dB)	IEC 1260 Class 1 Spec.(dB)
326 Hz	-67.7	< - 61
530 Hz	-50.7	< - 42
772 Hz	-24.3	< - 17.5
891 Hz	-4.1	+ 0.3 ~ - 5.0
1 kHz (Ref)	--	--
1.122 kHz	-3.4	+ 0.3 ~ - 5.0
1.296 kHz	-23.0	< - 17.5
1.887 kHz	-47.7	< - 42
3.070 kHz	-69.2	< - 61

Uncertainty :  $\pm 0.25$  dB

Remarks : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric pressure : 1000 hPa.

4. The UUT was adjusted with the laboratory's sound calibrator at the reference sound pressure level before the calibration.

----- END -----



# ALS Technichem (HK) Pty Ltd

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** MS EMILY KONG  
**CLIENT:** LAM GEOTECHNICS LIMITED  
**ADDRESS:** 11/F., CENTRE POINT,  
181-185 GLOUCESTER ROAD,  
WAN CHAI, HONG KONG

**WORK ORDER:** HK1211412  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 03/05/2012  
**DATE OF ISSUE:** 10/05/2012

**PROJECT:** --

### COMMENTS

It is certified that the item under calibration/checking has been calibrated/checked by corresponding calibrated equipment in the laboratory.

Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal acceptance criteria of ALS will be followed.

**Scope of Test:** Dissolved Oxygen, pH, Salinity and Temperature  
**Description:** YSI Pro Plus multimeter  
**Brand Name:** YSI  
**Model No.:** YSI Professional Plus  
**Serial No.:** 11H100476  
**Equipment No.:** --  
**Date of Calibration:** 08 May, 2012

### NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

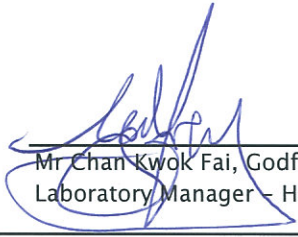
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

### ISSUING LABORATORY: HONG KONG

#### **Address**

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**Phone:** 852-2610 1044  
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**Email:** [hongkong@alsglobal.com](mailto:hongkong@alsglobal.com)

  
Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Page 1 of 2

ADDRESS 11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., Hong Kong PHONE +852 2610 1044 FAX +852 2610 2021  
ALS TECHNICHEM (HK) PTY LTD Part of the ALS Laboratory Group A Campbell Brothers Limited Company

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1211412  
 Date of Issue: 10/05/2012  
 Client: LAM GEOTECHNICS LIMITED



Description: YSI Pro Plus multimeter  
 Brand Name: YSI  
 Model No.: YSI Professional Plus  
 Serial No.: 11H100476  
 Equipment No.: --  
 Date of Calibration: 08 May, 2012

Date of next Calibration: 08 August, 2012

## Parameters:

### Dissolved Oxygen

Method Ref: APHA (21st edition), 4500O:G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.40	2.54	0.14
6.02	6.16	0.14
8.12	8.00	-0.12
Tolerance Limit ( $\pm$ mg/L)		0.20

### pH Value

Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.03	0.03
7.0	7.04	0.04
10.0	9.92	-0.08
Tolerance Limit ( $\pm$ unit)		0.20

### Salinity

Method Ref: APHA (21st edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
10.0	9.80	-2.0
20.0	19.57	-2.2
30.0	29.39	-2.0
Tolerance Limit ( $\pm$ %)		10.0

### Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical

Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading ( $^{\circ}$ C )	Displayed Reading ( $^{\circ}$ C )	Tolerance ( $^{\circ}$ C )
11.5	11.1	-0.4
21.5	21.2	-0.3
38.5	38.7	0.2
Tolerance Limit ( $^{\circ}$ C)		2.0

  
 Mr. Chan Kwok Fai, Godfrey  
 Laboratory Manager - Hong Kong





# ALS Technichem (HK) Pty Ltd

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** MS EMILY KONG  
**CLIENT:** LAM GEOTECHNICS LIMITED  
**ADDRESS:** 11/F., CENTRE POINT,  
181-185 GLOUCESTER ROAD,  
WAN CHAI,  
HONG KONG

**WORK ORDER:** HK1210820  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 25/04/2012  
**DATE OF ISSUE:** 02/05/2012

**PROJECT:** --

### COMMENTS

It is certified that the item under calibration/checking has been calibrated/checked by corresponding calibrated equipment in the laboratory.  
Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal acceptance criteria of ALS will be followed.

Scope of Test: Turbidity  
Description: Turbidity Meter  
Brand Name: HACH  
Model No.: HACH 2100Q  
Serial No.: 11080C011937  
Equipment No.: --  
Date of Calibration: 27 April, 2012

### NOTES

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

### ISSUING LABORATORY: HONG KONG

#### Address

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Mr. Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong

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Page 1 of 2

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1210820  
Date of Issue: 02/05/2012  
Client: LAM GEOTECHNICS LIMITED



Description: Turbidity Meter  
Brand Name: HACH  
Model No.: HACH 2100Q  
Serial No.: 11080C011937  
Equipment No.: --  
Date of Calibration: 27 April, 2012

Date of next Calibration: 27 July, 2012

## Parameters:

### Turbidity

Method Ref: APHA 21st Ed. 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.29	--
4	4.20	5.0
40	37.5	-6.3
80	78.3	-2.1
400	378	-5.5
800	779	-2.6
	Tolerance Limit ( $\pm\%$ )	10.0

  
Mr Chan Kwok Fai, Godfrey  
Laboratory Manager - Hong Kong



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AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jul 11, 2011 Rootsmeter S/N 0438320 Ta (K) - 298  
 Operator Tisch Orifice I.D. - 0005 Pa (mm) - 749.3

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3710	3.2	2.00
2	NA	NA	1.00	0.9730	6.4	4.00
3	NA	NA	1.00	0.8690	7.9	5.00
4	NA	NA	1.00	0.8300	8.8	5.50
5	NA	NA	1.00	0.6850	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9817	0.7160	1.4042	0.9957	0.7263	0.8919
0.9775	1.0046	1.9859	0.9915	1.0190	1.2613
0.9754	1.1225	2.2203	0.9894	1.1385	1.4101
0.9743	1.1739	2.3286	0.9882	1.1907	1.4790
0.9690	1.4126	2.8084	0.9829	1.4328	1.7837
Qstd slope (m) = 2.01593			Qa slope (m) = 1.26234		
intercept (b) = -0.03978			intercept (b) = -0.02526		
coefficient (r) = 0.99999			coefficient (r) = 0.99999		
y axis = SQRT[H2O (Pa/760) (298/Ta)]			y axis = SQRT[H2O (Ta/Pa)]		

CALCULATIONS

$$Vstd = \text{Diff. Vol} [(Pa - \text{Diff. Hg}) / 760] (298 / Ta)$$

$$Qstd = Vstd / \text{Time}$$

$$Va = \text{Diff. Vol} [(Pa - \text{Diff. Hg}) / Pa]$$

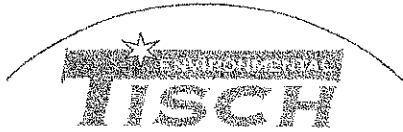
$$Qa = Va / \text{Time}$$

For subsequent flow rate calculations:

$$Qstd = 1/m \{ [\text{SQRT} (H2O (Pa/760) (298/Ta))] - b \}$$

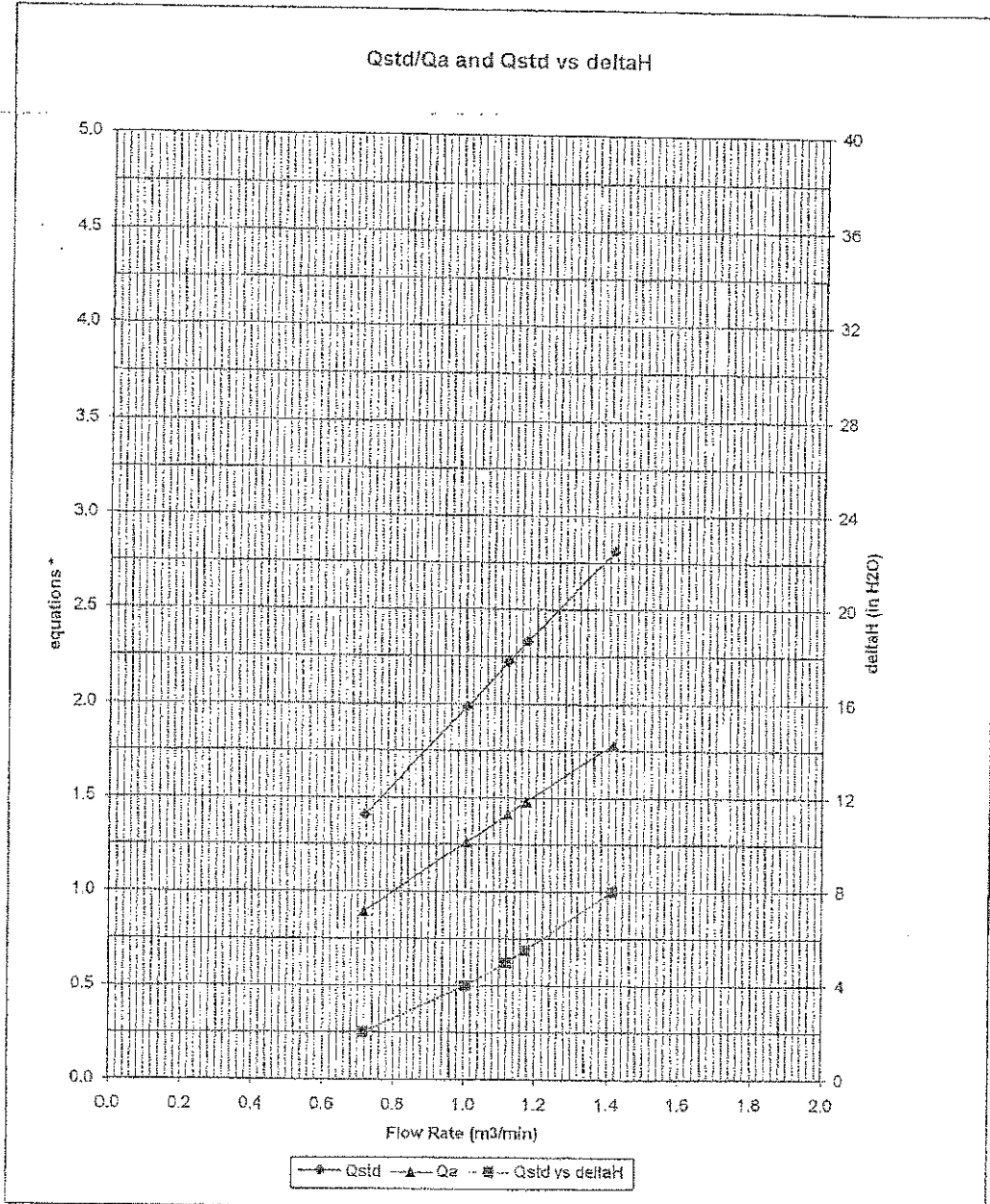
$$Qa = 1/m \{ [\text{SQRT} H2O (Ta/Pa)] - b \}$$





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AIR POLLUTION MONITORING EQUIPMENT



\* y-axis equations:

Qstd series:  $\sqrt{\Delta H \left( \frac{P_a}{P_{std}} \right) \left( \frac{T_{std}}{T_a} \right)}$

Qa series:  $\sqrt{\Delta H (T_a / P_a)}$

#0005



Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : CMA1b Calibration Date : 15-Jun-12  
 Equipment no. : EL452 Calibration Due Date : 15-Aug-12

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	303	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information			
Equipment No.	EL086	Slope, m <sub>c</sub>	2.01593
		Intercept, b <sub>c</sub>	-0.03978
Last Calibration Date	11-Jul-11	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$	
Next Calibration Date	11-Jul-12		

Calibration of RSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.1	6.1	12.2	1.7352	62	61.3861
2	5.0	5.0	10.0	1.5728	54	53.4653
3	3.9	3.9	7.8	1.3914	45	44.5544
4	2.4	2.4	4.8	1.0958	35	34.6535
5	1.5	1.5	3.0	0.8704	26	25.7426

By Linear Regression of Y on X

Slope, m = 40.4856 Intercept, b = -10.0119  
 Correlation Coefficient\* = 0.9970  
 Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

Calibrated by : Sam Lam Checked by : Derek Lo  
 Date : 15-Jun-12 Date : 15-Jun-12



Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : CMA5a Calibration Date : 15-Jun-12  
 Equipment no. : EL380 Calibration Due Date : 15-Aug-12

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	303	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information			
Equipment No.	EL086	Slope, m <sub>c</sub>	2.01593
		Intercept, b <sub>c</sub>	-0.03978
Last Calibration Date	11-Jul-11	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$	
Next Calibration Date	11-Jul-12		

Calibration of RSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.0	6.0	12.0	1.7211	58	57.4257
2	5.0	5.0	10.0	1.5728	52	51.4851
3	3.7	3.7	7.4	1.3558	44	43.5643
4	2.4	2.4	4.8	1.0958	35	34.6535
5	1.4	1.4	2.8	0.8416	26	25.7426

By Linear Regression of Y on X

Slope, m = 35.7743 Intercept, b = -4.5550  
 Correlation Coefficient\* = 0.9997  
 Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

Calibrated by : Sam Lam Checked by : Derek Lo  
 Date : 15-Jun-12 Date : 15-Jun-12



Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : CMA4a Calibration Date : 15-Jun-12  
 Equipment no. : EL390 Calibration Due Date : 15-Aug-12

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	303	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information			
Equipment No.	EL086	Slope, m <sub>c</sub>	2.01593
		Intercept, b <sub>c</sub>	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$	
Next Calibration Date	11-Jul-12		

Calibration of RSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31) Y-axis
	(up)	(down)	(difference)			
1	5.9	5.9	11.8	1.7068	60	59.4059
2	4.9	4.9	9.8	1.5572	53	52.4752
3	3.5	3.5	7.0	1.3192	44	43.5643
4	2.4	2.4	4.8	1.0958	35	34.6535
5	1.4	1.4	2.8	0.8416	26	25.7426

By Linear Regression of Y on X

Slope, m = 38.7214 Intercept, b = -7.3288  
 Correlation Coefficient\* = 0.9992  
 Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

Calibrated by : Sam Lam Checked by : Derek Lo  
 Date : 15-Jun-12 Date : 15-Jun-12



Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : CMA3a Calibration Date : 15-Jun-12  
 Equipment no. : EL888 Calibration Due Date : 15-Aug-12

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	303	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information			
Equipment No.	EL086	Slope, m <sub>c</sub>	2.01593
		Intercept, b <sub>c</sub>	-0.03978
Last Calibration Date	11-Jul-11	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$	
Next Calibration Date	11-Jul-12		

Calibration of RSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.0	6.0	12.0	1.7211	48	47.5247
2	4.7	4.7	9.4	1.5255	41	40.5940
3	3.8	3.8	7.6	1.3737	34	33.6634
4	2.4	2.4	4.8	1.0958	24	23.7624
5	1.6	1.6	3.2	0.8983	15	14.8515

By Linear Regression of Y on X

Slope, m = 39.5332 Intercept, b = -20.2184  
 Correlation Coefficient\* = 0.9991  
 Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

Calibrated by : Sam Lam Checked by : Derek Lo  
 Date : 15-Jun-12 Date : 15-Jun-12



Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : CMA2a  
 Equipment no. : EL449

Calibration Date : 15-Jun-12  
 Calibration Due Date : 15-Aug-12

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	303	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information			
Equipment No.	EL086	Slope, m <sub>c</sub>	2.01593
		Intercept, b <sub>c</sub>	-0.03978
Last Calibration Date	11-Jul-11	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$	
Next Calibration Date	11-Jul-12		

Calibration of RSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.2	6.2	12.4	1.7492	53	52.4752
2	5.1	5.1	10.2	1.5883	45	44.5544
3	4.0	4.0	8.0	1.4089	38	37.6237
4	2.5	2.5	5.0	1.1179	26	25.7426
5	1.6	1.6	3.2	0.8983	15	14.8515

By Linear Regression of Y on X

Slope, m = 43.2622      Intercept, b = -23.4638  
 Correlation Coefficient\* = 0.9991  
 Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

Calibrated by : Sam Lam  
 Date : 15-Jun-12

Checked by : Derek Lo  
 Date : 15-Jun-12





Lam Geotechnics Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : CMA6a Calibration Date : 15-Jun-12  
 Equipment no. : EL448 Calibration Due Date : 15-Aug-12

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	303	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information			
Equipment No.	EL086	Slope, m <sub>c</sub>	2.01593
		Intercept, b <sub>c</sub>	-0.03978
Last Calibration Date	11-Jul-11	$\left( H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$	
Next Calibration Date	11-Jul-12		

Calibration of RSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.1	6.1	12.2	1.7352	59	58.4158
2	4.8	4.8	9.6	1.5415	51	50.4950
3	3.9	3.9	7.8	1.3914	45	44.5544
4	2.5	2.5	5.0	1.1179	35	34.6535
5	1.5	1.5	3.0	0.8704	24	23.7624

By Linear Regression of Y on X

Slope, m = 39.5476 Intercept, b = -10.2730  
 Correlation Coefficient\* = 0.9995  
 Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

Calibrated by : Sam Lam Checked by : Derek Lo  
 Date : 15-Jun-12 Date : 15-Jun-12



***Appendix 5.1***

***Monitoring Schedules for Reporting Month and Coming Reporting Month***

**Contract No. HK/2011/07  
Wan Chai Development Phase II and Central-Wan Chai Bypass  
Sampling, Field Measurement and Testing Works (Stage2)**

**Tentative Environmental Monitoring Schedule  
July 2012**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				28-Jun 24hr TSP Impact WQM Mid-flood: 0:41	29-Jun 1hr TSP x 3	30-Jun Impact WQM Mid-flood: 16:11
1-Jul	2-Jul	3-Jul Impact WQM Mid-flood: 4:51 Mid-ebb: 11:52	4-Jul Noise Monitoring 24hr TSP	5-Jul 24hr TSP (CMA5a) 1hr TSP Impact WQM Mid-flood: 20:35	6-Jul	7-Jul Impact WQM Mid-ebb: 14:50 Mid-flood: 21:52
8-Jul	9-Jul Impact WQM Mid-ebb: 16:03 Mid-flood: 23:09	10-Jul Noise Monitoring 24hr TSP	11-Jul 24hr TSP (CMA3a) 1hr TSP Impact WQM Mid-ebb: 17:24	12-Jul Impact WQM Mid-flood: 0:28	13-Jul	14-Jul Impact WQM Mid-flood: 1:41 Mid-ebb: 9:38
15-Jul	16-Jul 24hr TSP Impact WQM Mid-ebb: 10:48 Mid-flood: 18:07	17-Jul 1hr TSP	18-Jul 24hr TSP (CMA3a) Impact WQM Mid-ebb: 11:57 Mid-flood: 19:06	19-Jul Noise Monitoring	20-Jul Impact WQM Mid-ebb: 13:10 Mid-flood: 19:59	21-Jul 24hr TSP
22-Jul	23-Jul 1hr TSP	24-Jul Noise Monitoring 1hr TSP (CMA 3a,CMA 4a) 24hr TSP (CMA 5a)	25-Jul Noise Monitoring (M1a) Impact WQM Mid-flood: 23:06	26-Jul	27-Jul 24hr TSP	28-Jul 1hr TSP Impact WQM Mid-ebb: 7:59 Mid-flood: 15:00

Remarks: The result of WQM on 28 June 2012 was reported in Monthly Environmental Monitoring and Audit Report (June, 2012)  
The result of 24-hr TSP on 27 July 2012 will be reported in Monthly Environmental Monitoring and Audit Report (August, 2012)

**Contract No. HK/2011/07**  
**Wan Chai Development Phase II and Central-Wan Chai Bypass**  
**Sampling, Field Measurement and Testing Works (Stage2)**

**Tentative Environmental Monitoring Schedule**  
**August 2012**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29-Jul	30-Jul	31-Jul	1-Aug	2-Aug	3-Aug	4-Aug
	Impact WQM Mid-ebb: 10:06 Mid-flood: 17:30	Noise Monitoring	Impact WQM Mid-ebb: 11:43 Mid-flood: 18:53	24hr TSP	1hr TSP	Impact WQM Mid-ebb: 13:46 Mid-flood: 20:33
5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug
	Impact WQM Mid-ebb: 14:55 Mid-flood: 21:33	Noise Monitoring	24hr TSP Impact WQM Mid-ebb: 16:02 Mid-flood: 22:35	1hr TSP	Impact WQM Mid-flood: 23:34	Impact WQM Mid-ebb: 7:56
12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug
	Impact WQM Mid-ebb: 9:35 Mid-flood: 21:59	Noise Monitoring 24hr TSP	1hr TSP Impact WQM Mid-ebb: 10:55 Mid-flood: 18:10		Impact WQM Mid-ebb: 12:10 Mid-flood: 18:52	
19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug
	24hr TSP Impact WQM Mid-ebb: 14:07 Mid-flood: 20:23	1hr TSP	Impact WQM Mid-ebb: 15:30 Mid-flood: 21:36	Noise Monitoring		24hr TSP Impact WQM Mid-ebb: 6:20 Mid-flood: 13:27
26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	1-Sep
	1hr TSP Impact WQM Mid-ebb: 9:02 Mid-flood: 16:34					

#### Remarks (Water)

1. Cut-off date is at the 27th of each reporting month.
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Water Quality Monitoring Stations corresponding to active contracts are sub-divided below:
  - Contract HY/2009/11: WSD9, WSD10, WSD15, WSD17, C8, C9 (completed on 6 Feb 2012)
  - Contract HY/2009/15: C6 and C7 (Commenced on 9 Nov 2010)
  - Contract HK/2009/01: WSD7, WSD19, WSD20, C1, C2, C3, C4e, C4w (Commenced on 8 July 2010); Contract HK/2010/06 share station C2 from 23 Mar 2011  
WSD7 and WSD20 were temporary suspended since 27 April 2012
  - Contract HK/2009/02: WSD21, C5e, C5w (Commenced on 8 July 2010)  
WSD9 and WSD17 (Commenced on 8 Feb 2012)
  - Contract HY/2009/19: C8 and C9 (Commenced on 28 Jan 2012)

#### Remarks (Air)

1. Cut-off date is at the 27th of each reporting month.
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Air Quality Monitoring Stations corresponding to active contracts are sub-divided below:
  - Contract HK/2009/01: CMA5a(Commenced and reported in Apr 2011)
  - Contract HK/2009/02: CMA4a (Commenced and reported in Feb 2011)
  - Contract HY/2009/17: CMA1b and CMA2a (Commenced on 17 Jun 2010)
  - Contract HY/2009/19: CMA1b and CMA2a (Commenced on 17 Jun 2010, To be reported in Monthly report on 11 Aug 2010) and CMA2a (Commenced on 12 May 2010, To be reported in Monthly report o  
Due to the changing of land ownership at Oil Street Community Liaison Centre from Contractor to FEHD, the air quality monitoring at CMA1b was suspended on 18 September 2011. T  
installation of HVS at temporary FEHD depot was obtained from the premises owner on early November 2011 and TSP monitoring at CMA1b was resumed on 14 November 2011.
  - Contract HY/2009/15: CMA3a (Commenced and reported on 15 Mar 2011)

#### Remarks (Noise)

1. Cut-off date is at the 27th of each reporting month.
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Noise Quality Monitoring Stations corresponding to active contracts are sub-divided below:
  - Contract HK/2009/01 and HK/2009/02: M1a (Commenced on 30 Mar 2010, To be reported in Monthly report on 6 July 2010)
  - Contract HY/2009/19: M4b, M5b (Commenced on 23 Mar 2010 when dredging work starts), M6(Commenced on 10 May 2010) and M3a (Commenced on 10 May 2010, To be reported in Monthly report or
  - Contract HY/2009/15: M2b(Commenced and reported on 10 Nov 2010) and M3a (Commenced on 10 May 2010, To be reported in Monthly report on 10 Nov 2010)
4. Day time noise will be monitored for Leq(30min) during the period between 07:00 and 19:00 for active contract(s).



***Appendix 5.2***

***Noise Monitoring Results and Graphical Presentations***





**Noise Monitoring Result**

**Day Time (0700 - 1900hrs on normal weekdays)**

Location: M1a - Harbour Road Sports Centre

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
04/07/12	09:59	Fine	72.8	75.1	68.6	72	64	75
10/07/12	09:46	Cloudy	73.0	75.5	68.5	72	65	75
19/07/12	09:42	Fine	74.3	76.8	69.8	72	70	75
25/07/12	09:57	Cloudy	72.8	75.3	67.9	72	64	75

Location: M2b - Noon-day gun area

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
04/07/12	10:45	Fine	69.8	71.0	68.2	68	66	75
10/07/12	10:35	Fine	71.3	72.3	70.0	68	69	75
19/07/12	10:35	Fine	71.2	72.3	69.3	68	69	75
24/07/12	17:05	Cloudy	70.6	72.1	66.7	68	68	75

Location: M3a - Tung Lo Wan Fire Station

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
04/07/12	11:30	Fine	69.1	70.0	65.3	69	57	75
10/07/12	11:25	Fine	67.6	69.3	65.3	69	68	75
19/07/12	14:00	Sunny	67.8	69.1	64.3	69	68	75
24/07/12	16:16	Cloudy	67.5	68.6	62.0	69	68	75

Location: M4b - Victoria Centre

Date	Time	Weather	Measurement Noise Level			Baseline Noise Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30min)								
04/07/12	13:00	Fine	70.5	71.9	68.1	67	68	75
10/07/12	13:00	Fine	71.8	73.4	68.9	67	70	75
19/07/12	13:08	Sunny	72.7	74.6	69.6	67	71	75
24/07/12	15:31	Cloudy	70.0	71.7	63.8	67	67	75

Location: M5b - City Garden

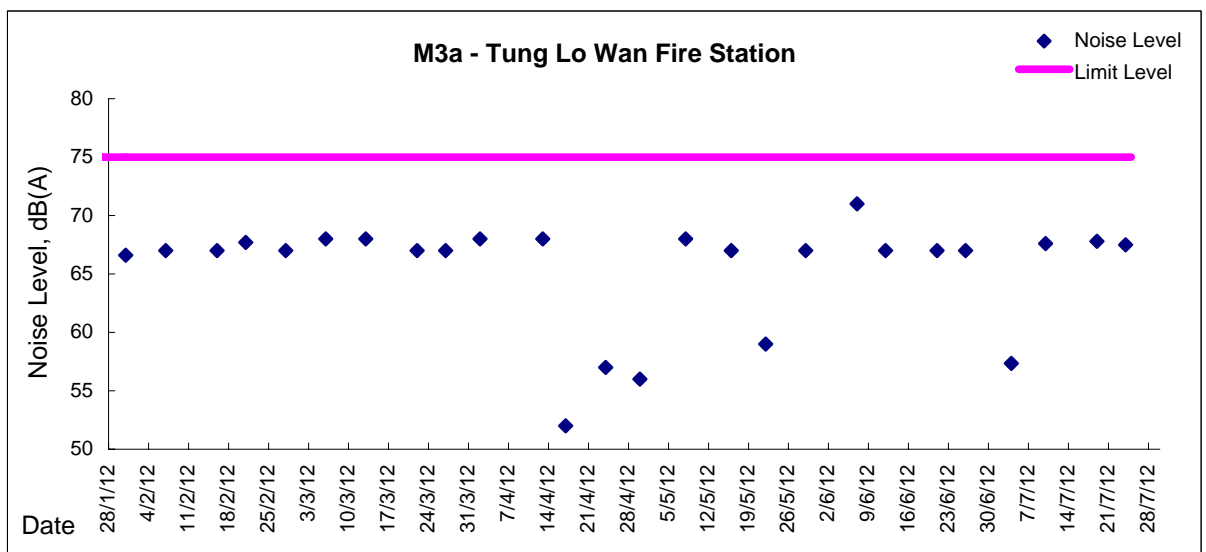
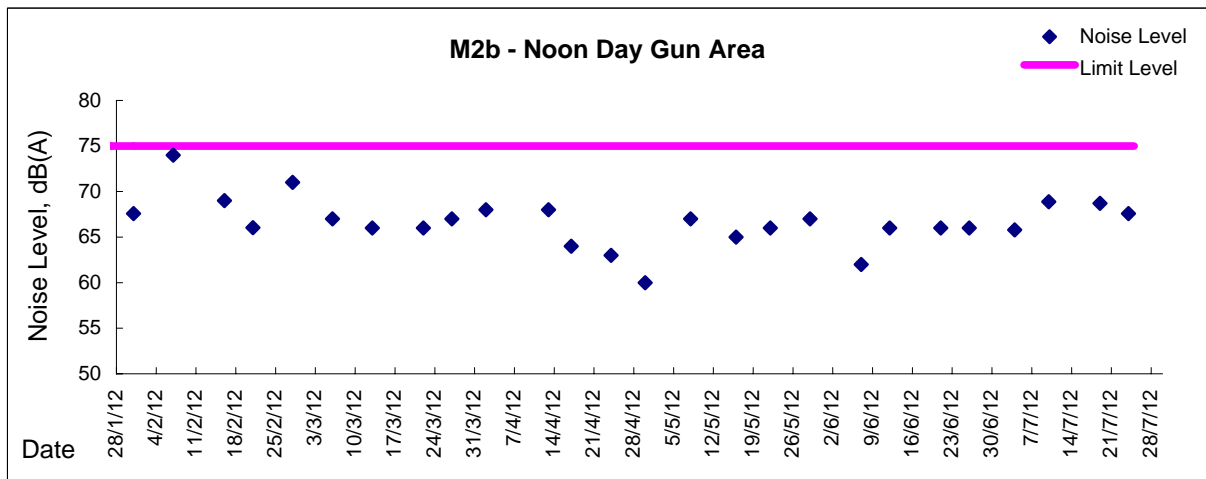
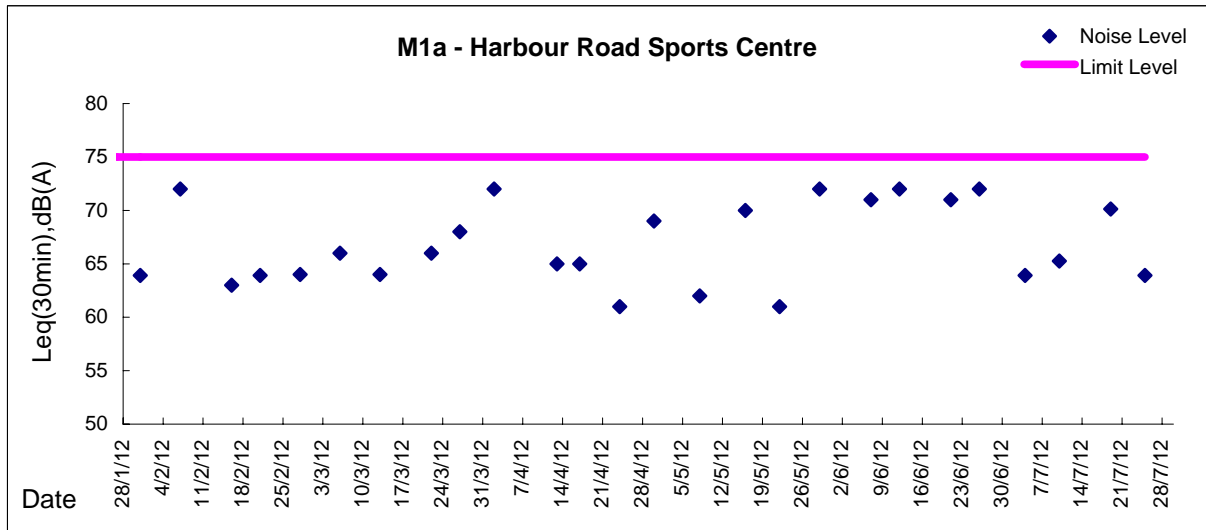
Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30min)								
04/07/12	13:47	Fine	71.4	73.1	69.1	68	69	75
10/07/12	14:30	Fine	73.7	75.9	70.9	68	72	75
19/07/12	14:55	Sunny	71.6	72.2	70.0	68	69	75
24/07/12	13:30	Cloudy	68.7	70.1	64.0	68	60	75

Location: M6 - HK Baptist Church Henrietta Secondary School

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
04/07/12	14:30	Fine	73.0	74.4	71.1	71	69	70
10/07/12	15:20	Fine	72.9	74.2	71.0	71	69	70
19/07/12	15:39	Sunny	73.0	74.3	68.9	71	69	70
24/07/12	14:21	Cloudy	72.3	73.8	65.1	71	67	70

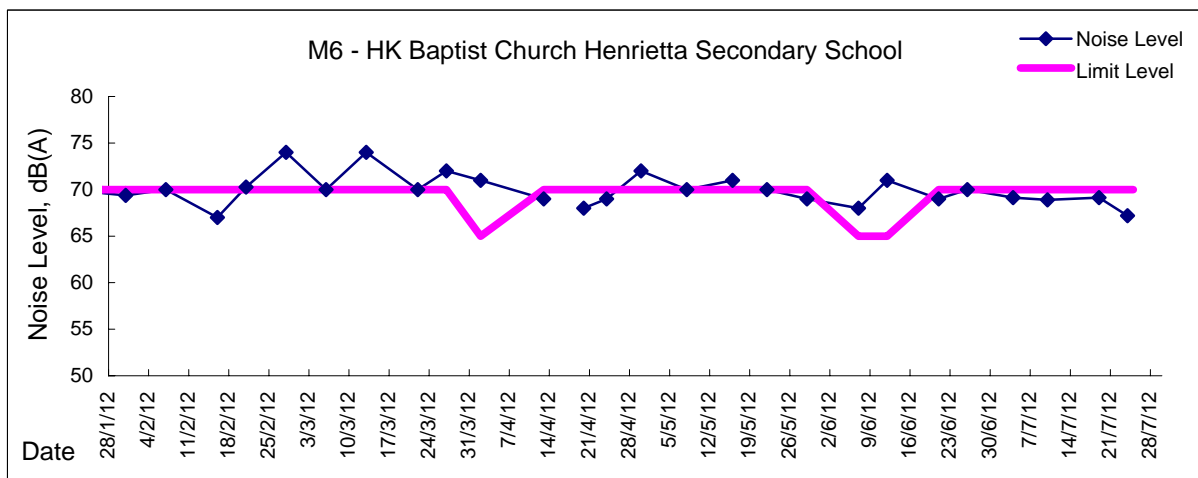
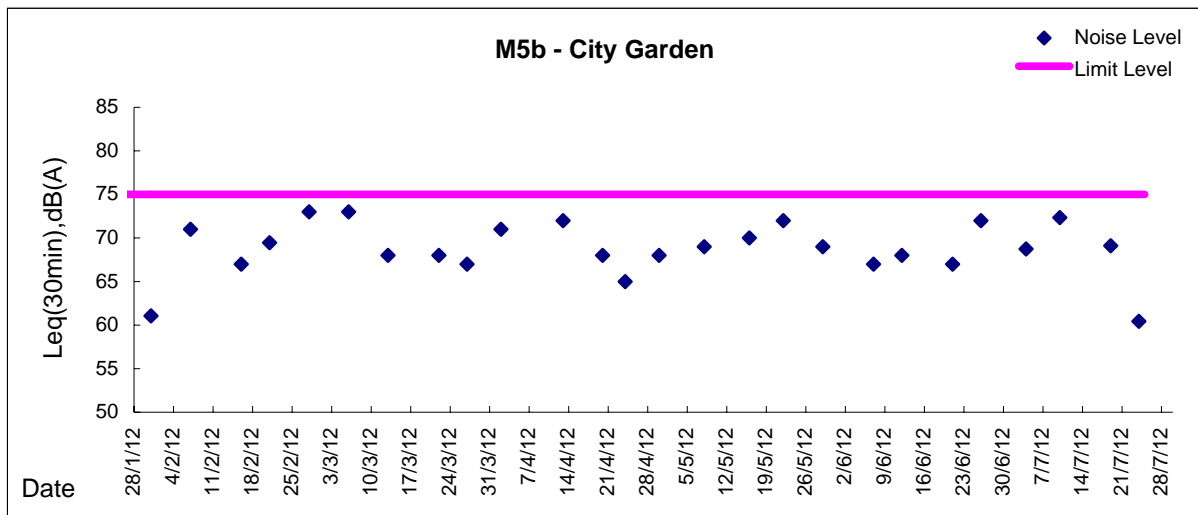
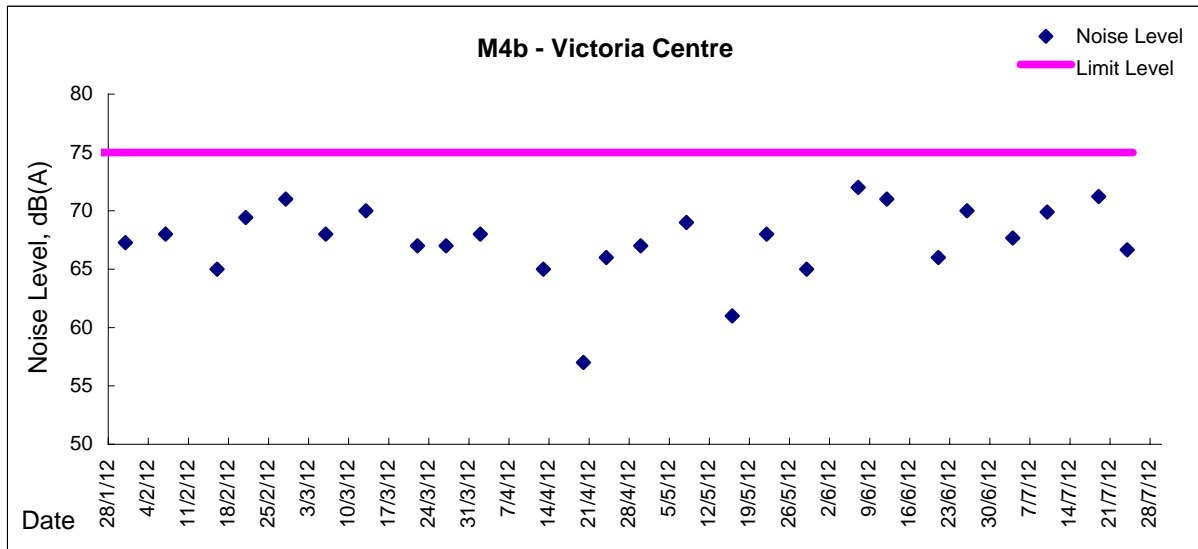


**Graphic Presentation of Noise Monitoring Result**  
**Day Time (0700 - 1900hrs on normal weekdays)**





**Graphic Presentation of Noise Monitoring Result**  
**Day Time (0700 - 1900hrs on normal weekdays)**





***Appendix 5.3***

***Air Quality Monitoring Results and Graphical Presentations, and odour Patrol Results***



Location: CMA1b - Oil St Community Liaison Centre

Report on 24-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 176.7

Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
28-Jun-12	8:00	Fine	003034	2.8051	2.9286	1243.79	1267.78	23.99	1.19	1.18	1.19	1706	72
4-Jul-12	8:00	Sunny	002971	2.7872	2.8940	1270.78	1294.78	24.00	1.14	1.14	1.14	1643	65
10-Jul-12	8:00	Sunny	002554	2.7448	2.8381	1297.78	1321.78	24.00	1.19	1.19	1.19	1709	55
16-Jul-12	8:00	Fine	003392	2.7593	2.8301	1325.79	1349.79	24.00	0.95	0.95	0.95	1370	52
21-Jul-12	8:00	Fine	003330	2.7485	2.9649	1351.79	1376.78	24.99	1.04	1.04	1.04	1565	138

Report on 1-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 320.1

Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
29-Jun-12	13:05	Fine	002976	2.7622	2.7825	1267.78	1268.78	1.00	1.18	1.18	1.18	71	286
29-Jun-12	14:16	Fine	002974	2.7829	2.8026	1268.78	1269.78	1.00	1.18	1.18	1.18	71	277
29-Jun-12	15:30	Fine	002972	2.8036	2.8223	1269.78	1270.78	1.00	1.18	1.18	1.18	71	263
5-Jul-12	13:35	Cloudy	002476	2.7430	2.7579	1294.78	1295.78	1.00	1.00	1.14	1.07	64	232
5-Jul-12	14:44	Cloudy	002874	2.7848	2.7980	1295.78	1296.78	1.00	1.00	1.00	1.00	60	220
5-Jul-12	15:46	Cloudy	003010	2.7499	2.7649	1296.78	1297.78	1.00	1.21	1.19	1.20	72	208
11-Jul-12	8:19	Cloudy	003177	2.7546	2.7586	1322.78	1323.79	1.01	1.14	1.14	1.14	69	58
11-Jul-12	10:32	Cloudy	003180	2.7517	2.7567	1323.79	1324.79	1.00	1.14	1.14	1.14	68	73
11-Jul-12	13:00	Cloudy	003182	2.7424	2.7469	1324.79	1325.79	1.00	1.14	1.14	1.14	68	66
17-Jul-12	8:33	Fine	003313	2.7750	2.7804	1349.79	1350.79	1.00	1.14	1.14	1.14	68	79
17-Jul-12	9:38	Fine	003311	2.7866	2.7909	1350.79	1351.79	1.00	1.19	1.19	1.19	71	60
17-Jul-12	10:41	Fine	003309	2.7883	2.7935	1351.79	1352.79	1.00	1.14	1.04	1.09	66	79
23-Jul-12	8:09	Rainy	003395	2.7652	2.7792	1376.78	1377.78	1.00	1.14	1.14	1.14	68	205
23-Jul-12	9:50	Rainy	003397	2.7800	2.7897	1377.78	1378.78	1.00	1.04	1.04	1.04	63	155
23-Jul-12	10:55	Rainy	003328	2.7575	2.7671	1378.78	1379.78	1.00	1.18	1.18	1.18	71	135

Location: CMA2a - Causeway Bay Community Centre

Report on 24-hour TSP monitoring  
Action Level ( $\mu\text{g}/\text{m}^3$ ) - 169.5  
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
28-Jun-12	8:00	Fine	003033	2.7918	2.9458	10954.35	10978.34	23.99	1.40	1.40	1.40	2013	77
4-Jul-12	8:00	Sunny	002973	2.7834	2.9043	10981.34	11005.35	24.01	1.40	1.40	1.40	2018	60
10-Jul-12	8:00	Sunny	002552	2.7467	2.8545	11008.35	11032.35	24.00	1.42	1.42	1.42	2047	53
16-Jul-12	8:00	Fine	003183	2.7471	2.8661	11035.35	11059.34	23.99	1.38	1.38	1.38	1981	60
21-Jul-12	8:00	Fine	003306	2.7874	3.0485	11062.34	11086.34	24.00	1.37	1.38	1.38	1981	132

Report on 1-hour TSP monitoring  
Action Level ( $\mu\text{g}/\text{m}^3$ ) - 323.4  
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
29-Jun-12	10:58	Fine	002978	2.7694	2.7864	10978.34	10979.34	1.00	1.38	1.38	1.38	83	206
29-Jun-12	13:04	Fine	002977	2.7731	2.7915	10979.34	10980.34	1.00	1.38	1.38	1.38	83	223
29-Jun-12	14:14	Fine	002975	2.7715	2.7895	10980.34	10981.34	1.00	1.38	1.38	1.38	83	218
5-Jul-12	13:48	Cloudy	003001	2.7446	2.7561	11005.35	11006.35	1.00	1.42	1.42	1.42	85	135
5-Jul-12	14:54	Cloudy	002873	2.7829	2.7960	11006.35	11007.35	1.00	1.42	1.42	1.42	85	153
5-Jul-12	15:57	Cloudy	002872	2.7844	2.7966	11007.35	11008.35	1.00	1.42	1.42	1.42	85	143
11-Jul-12	8:30	Sunny	003176	2.7583	2.7621	11032.35	11033.35	1.00	1.42	1.42	1.42	85	45
11-Jul-12	9:42	Sunny	003178	2.7562	2.7604	11033.35	11034.35	1.00	1.42	1.42	1.42	85	49
11-Jul-12	10:47	Sunny	003181	2.7399	2.7449	11034.35	11035.35	1.00	1.42	1.42	1.42	85	59
17-Jul-12	8:44	Fine	003332	2.7368	2.7442	11059.34	11060.34	1.00	1.38	1.38	1.38	83	90
17-Jul-12	9:48	Fine	003310	2.7857	2.7930	11060.34	11061.34	1.00	1.38	1.38	1.38	83	88
17-Jul-12	10:51	Fine	003308	2.7976	2.8053	11061.34	11062.34	1.00	1.38	1.38	1.38	83	93
23-Jul-12	8:21	Rainy	003396	2.7786	2.7902	11086.34	11087.34	1.00	1.42	1.42	1.42	85	136
23-Jul-12	9:58	Rainy	003398	2.7957	2.8041	11087.34	11088.34	1.00	1.42	1.42	1.42	85	99
23-Jul-12	13:00	Rainy	003327	2.7504	2.7586	11088.34	11089.34	1.00	1.42	1.42	1.42	85	96





Location: CMA3a - CWB PRE Site Office Area

Report on 24-hour TSP monitoring  
 Action Level ( $\mu\text{g}/\text{m}^3$ ) - 171  
 Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
28-Jun-12	8:00	Fine	002389	2.8090	2.9651	11649.84	11673.83	23.99	1.50	1.49	1.50	2154	72
4-Jul-12	8:00	Sunny	002533	2.7672	2.9067	11676.83	11700.83	24.00	1.47	1.48	1.47	2123	66
11-Jul-12	8:00	Sunny	003214	2.7523	2.8219	11706.71	11730.71	24.00	1.47	1.47	1.47	2122	33
18-Jul-12	8:00	Fine	003371	2.7665	2.8782	11733.70	11757.70	24.00	1.52	1.52	1.52	2189	51
21-Jul-12	8:00	Fine	003334	2.7514	3.0932	11757.70	11781.70	24.00	1.57	1.56	1.57	2254	152

\* Due to lack of electricity supply, the 24 hr-TSP was rescheduled from 10 and 16 July 2012 to 11 and 18 July 2012

Report on 1-hour TSP monitoring  
 Action Level ( $\mu\text{g}/\text{m}^3$ ) - 311.3  
 Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
29-Jun-12	9:42	Fine	002539	2.7680	2.7949	11673.83	11674.83	1.00	1.47	1.47	1.47	88	305
29-Jun-12	10:45	Fine	002537	2.7591	2.7855	11674.83	11675.83	1.00	1.47	1.47	1.47	88	299
29-Jun-12	13:00	Fine	002535	2.7406	2.7669	11675.83	11676.83	1.00	1.47	1.47	1.47	88	298
5-Jul-12	8:08	Cloudy	002475	2.7091	2.7255	11700.83	11701.83	1.00	1.48	1.48	1.48	89	185
5-Jul-12	9:10	Cloudy	002558	2.7537	2.7704	11701.83	11702.83	1.00	1.48	1.48	1.48	89	189
5-Jul-12	13:00	Cloudy	002557	2.7606	2.7763	11702.83	11703.83	1.00	1.48	1.48	1.48	89	177
11-Jul-12	8:40	Sunny	002970	2.7945	2.8001	11703.71	11704.71	1.00	1.47	1.47	1.47	88	63
11-Jul-12	9:46	Sunny	002870	2.7983	2.8041	11704.71	11705.71	1.00	1.47	1.47	1.47	88	66
11-Jul-12	10:53	Sunny	003215	2.7438	2.7481	11705.71	11706.71	1.00	1.47	1.47	1.47	88	49
17-Jul-12	11:00	Fine	003319	2.7624	2.7742	11730.71	11731.70	0.99	1.42	1.42	1.42	85	139
17-Jul-12	13:00	Fine	003322	2.7580	2.7688	11731.70	11732.70	1.00	1.47	1.47	1.47	88	122
17-Jul-12	14:05	Fine	003166	2.7505	2.7626	11732.70	11733.70	1.00	1.47	1.47	1.47	88	137
24-Jul-12	13:05	Fine	002424	2.7323	2.7498	11781.70	11782.70	1.00	1.43	1.43	1.43	86	205
24-Jul-12	14:41	Fine	003351	2.7540	2.7717	11782.70	11783.70	1.00	1.43	1.43	1.43	86	207
24-Jul-12	15:44	Fine	003342	2.7500	2.7673	11783.70	11784.70	1.00	1.43	1.43	1.43	86	202

\* Due to adverse weather condition, the 1-hr TSP was rescheduled from 23 July 2012 to 24 July 2012



Location: CMA4a - SPCA

Report on 24-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 171.2  
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
28-Jun-12	8:00	Fine	002543	2.7397	2.8500	15175.14	15199.14	24.00	1.20	1.19	1.19	1720	64
4-Jul-12	8:00	Sunny	002542	2.7523	2.8525	15202.14	15226.14	24.00	1.27	1.27	1.27	1830	55
10-Jul-12	8:00	Sunny	002965	2.7730	2.8285	15229.14	15253.14	24.00	1.22	1.22	1.22	1757	32
16-Jul-12	8:00	Fine	003216	2.7408	2.7974	15256.14	15280.13	23.99	1.19	1.19	1.19	1720	33
21-Jul-12	8:00	Fine	003321	2.7512	3.0092	15283.13	15307.13	24.00	1.22	1.22	1.22	1754	147

Report on 1-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 312.5  
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
29-Jun-12	9:55	Fine	002538	2.7644	2.7832	15199.14	15200.14	1.00	1.17	1.17	1.17	70	268
29-Jun-12	10:59	Fine	002536	2.7573	2.7779	15200.14	15201.14	1.00	1.17	1.17	1.17	70	294
29-Jun-12	13:00	Fine	002534	2.7547	2.7755	15201.14	15202.14	1.00	1.17	1.17	1.17	70	297
5-Jul-12	8:18	Cloudy	002541	2.7430	2.7554	15226.14	15227.14	1.00	1.17	1.17	1.17	70	176
5-Jul-12	9:22	Cloudy	002477	2.7163	2.7270	15227.14	15228.14	1.00	1.17	1.17	1.17	70	152
5-Jul-12	13:00	Cloudy	002553	2.7588	2.7692	15228.14	15229.14	1.00	1.17	1.17	1.17	70	148
11-Jul-12	8:51	Sunny	003217	2.7567	2.7596	15253.14	15254.14	1.00	0.93	0.97	0.95	57	51
11-Jul-12	9:56	Sunny	002869	2.7920	2.7956	15254.14	15255.14	1.00	1.02	1.02	1.02	61	59
11-Jul-12	13:00	Sunny	002871	2.7927	2.7955	15255.14	15256.14	1.00	1.22	1.17	1.19	72	39
17-Jul-12	10:50	Fine	003317	2.7617	2.7672	15280.13	15281.13	1.00	1.22	1.22	1.22	73	75
17-Jul-12	13:00	Fine	003225	2.7512	2.7572	15281.13	15282.13	1.00	1.22	1.22	1.22	73	82
17-Jul-12	14:03	Fine	003320	2.7521	2.7576	15282.13	15283.13	1.00	1.22	1.22	1.22	73	75
24-Jul-12	13:20	Rainy	002425	2.7200	2.7305	15307.13	15308.13	1.00	1.17	1.17	1.17	70	149
24-Jul-12	14:40	Rainy	003290	2.7766	2.7857	15308.13	15309.13	1.00	1.22	1.22	1.22	73	124
24-Jul-12	16:06	Rainy	003292	2.7808	2.7926	15309.13	15310.13	1.00	1.22	1.22	1.22	73	161

\* Due to adverse weather condition, the 1-hr TSP was rescheduled from 23 July 2012 to 24 July 2012



Location: CMA5a - Children Garden opposite to Pedestrian Plaza

Report on 24-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 181  
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
28-Jun-12	8:00	Fine	002388	2.8056	2.9412	16164.93	16188.92	23.99	1.46	1.45	1.45	2094	65
5-Jul-12	15:17	Cloudy	003154	2.7632	2.8384	16198.32	16222.32	24.00	1.46	1.46	1.46	2102	36
10-Jul-12	8:00	Cloudy	003270	2.7614	2.8315	16222.32	16246.32	24.00	1.46	1.45	1.46	2097	33
16-Jul-12	8:00	Fine	003143	2.7429	2.8259	16249.32	16273.31	23.99	1.45	1.45	1.45	2094	40
24-Jul-12	8:00	Rainy	003359	2.7620	2.9921	16282.40	16306.41	24.01	1.46	1.46	1.46	2104	109

\* Due to lack of electricity supply, the 24 hr-TSP was rescheduled from 4 and 21 July 2012 to 5 and 24 July 2012

Report on 1-hour TSP monitoring

Action Level ( $\mu\text{g}/\text{m}^3$ ) - 332  
Limit Level ( $\mu\text{g}/\text{m}^3$ ) - 500

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
29-Jun-12	9:55	Fine	002442	2.7152	2.7303	16188.92	16189.92	1.00	1.45	1.45	1.45	87	173
29-Jun-12	11:00	Fine	003165	2.7417	2.7573	16189.92	16190.92	1.00	1.45	1.45	1.45	87	179
29-Jun-12	13:00	Fine	003163	2.7532	2.7698	16190.92	16191.92	1.00	1.45	1.45	1.45	87	190
5-Jul-12	8:55	Cloudy	003159	2.7411	2.7507	16195.32	16196.32	1.00	1.46	1.46	1.46	88	110
5-Jul-12	10:45	Cloudy	003142	2.7527	2.7609	16196.32	16197.32	1.00	1.46	1.46	1.46	88	94
5-Jul-12	13:00	Cloudy	003156	2.7480	2.7576	16197.32	16198.32	1.00	1.46	1.46	1.46	88	110
11-Jul-12	8:56	Sunny	003315	2.7558	2.7599	16246.32	16247.32	1.00	1.45	1.45	1.45	87	47
11-Jul-12	9:58	Sunny	003147	2.7741	2.7782	16247.32	16248.32	1.00	1.45	1.45	1.45	87	47
11-Jul-12	11:00	Sunny	003145	2.7751	2.7796	16248.32	16249.32	1.00	1.45	1.45	1.45	87	52
17-Jul-12	13:00	Fine	003305	2.8046	2.8098	16273.31	16274.31	1.00	1.45	1.45	1.45	87	60
17-Jul-12	14:44	Fine	003301	2.7962	2.8014	16274.31	16275.31	1.00	1.45	1.45	1.45	87	60
17-Jul-12	15:50	Fine	003299	2.7920	2.7973	16275.31	16276.31	1.00	1.45	1.45	1.45	87	61
23-Jul-12	10:00	Rainy	003324	2.7466	2.7599	16279.4	16280.4	1.00	1.34	1.34	1.34	80	165
23-Jul-12	13:00	Rainy	003170	2.7561	2.7690	16280.4	16281.4	1.00	1.45	1.45	1.45	87	149
23-Jul-12	16:30	Rainy	003251	2.8009	2.8118	16281.4	16282.4	1.00	1.45	1.45	1.45	87	126



Location: CMA6a - WD2 PRE Office

Report on 24-hour TSP monitoring

Action Level - 187.3  $\mu\text{g}/\text{m}^3$   
Limit Level - 260  $\mu\text{g}/\text{m}^3$

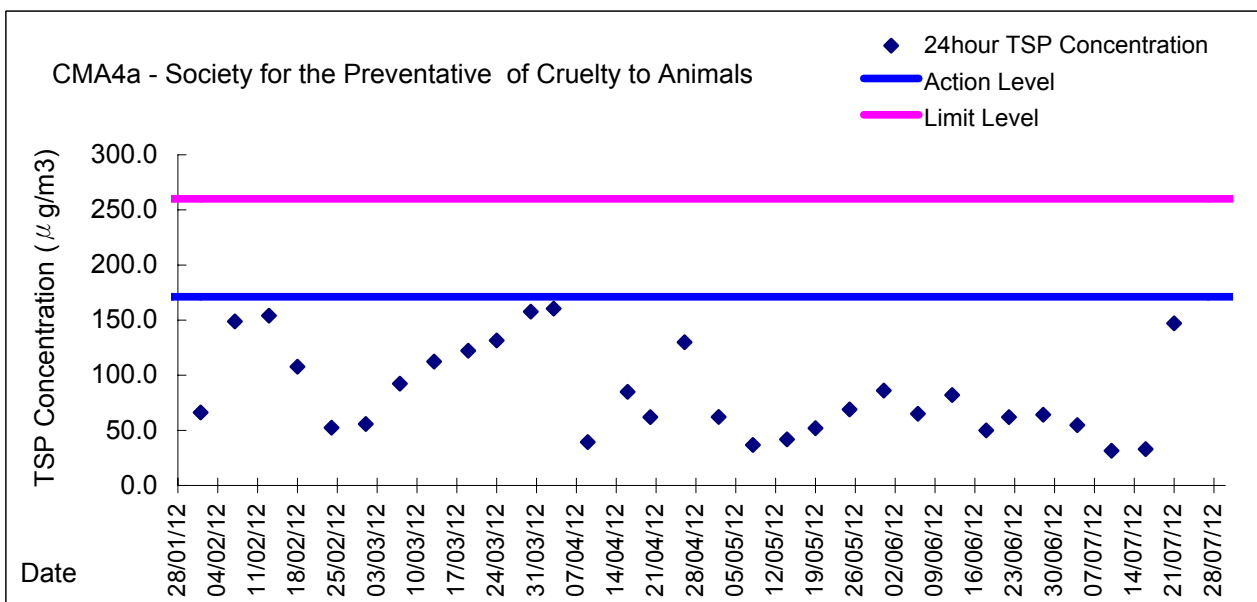
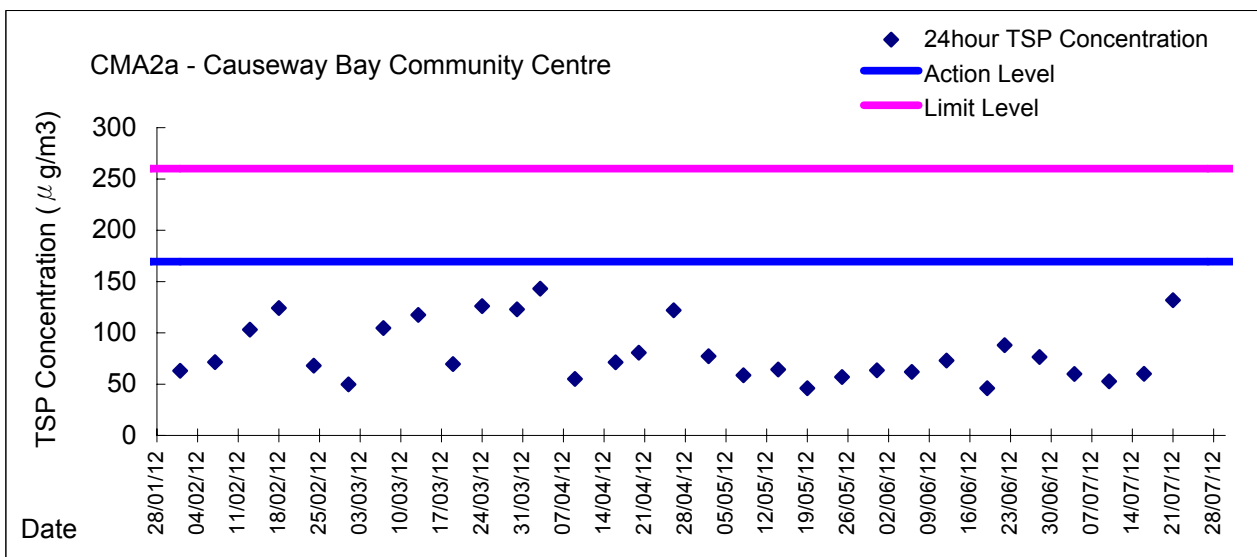
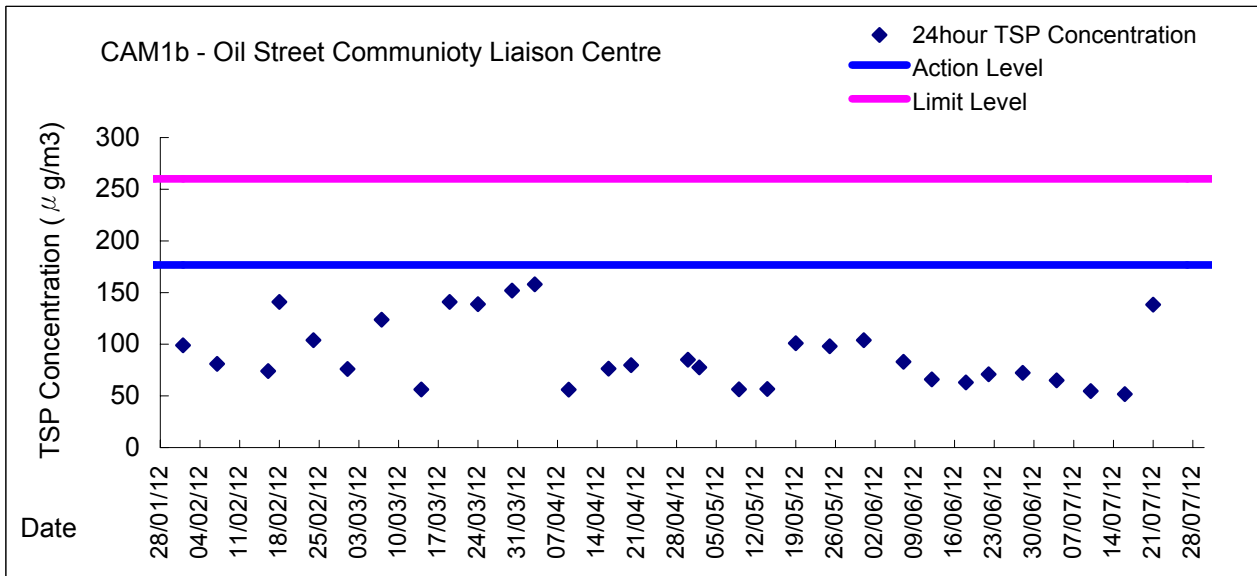
Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
28-Jun-12	8:00	Fine	002540	2.7479	2.8549	14478.81	14502.81	24.00	1.22	1.22	1.22	1757	61
4-Jul-12	8:00	Sunny	003162	2.7557	2.8265	14505.81	14529.81	24.00	1.27	1.27	1.27	1830	39
10-Jul-12	8:00	Sunny	003155	2.7471	2.8014	14532.81	14556.81	24.00	1.22	1.22	1.22	1759	31
16-Jul-12	8:00	Fine	003145	2.7543	2.8254	14559.81	14583.81	24.00	1.17	1.17	1.17	1688	42
21-Jul-12	8:00	Fine	003393	2.7754	2.9886	14586.81	14610.81	24.00	1.22	1.22	1.22	1753	122

Report on 1-hour TSP monitoring

Action Level - 300.1  $\mu\text{g}/\text{m}^3$   
Limit Level - 500  $\mu\text{g}/\text{m}^3$

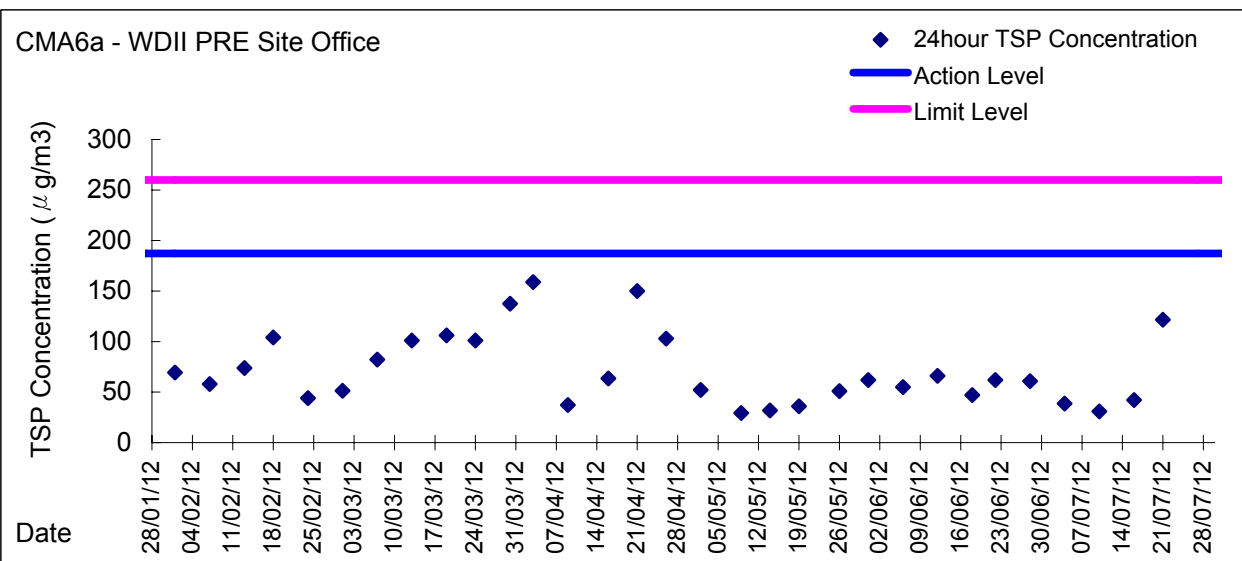
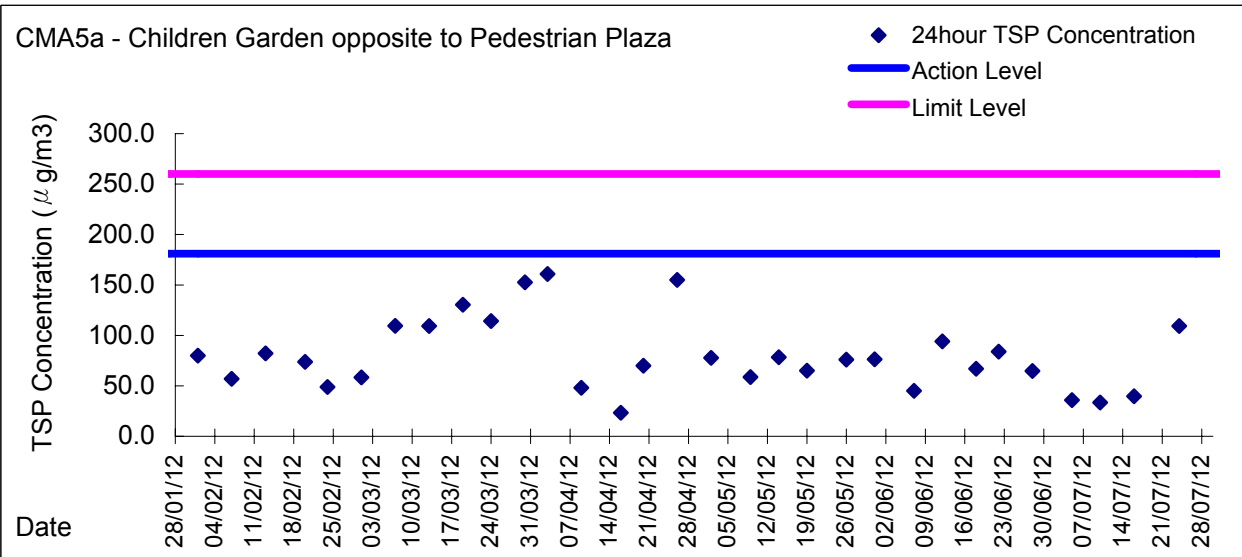
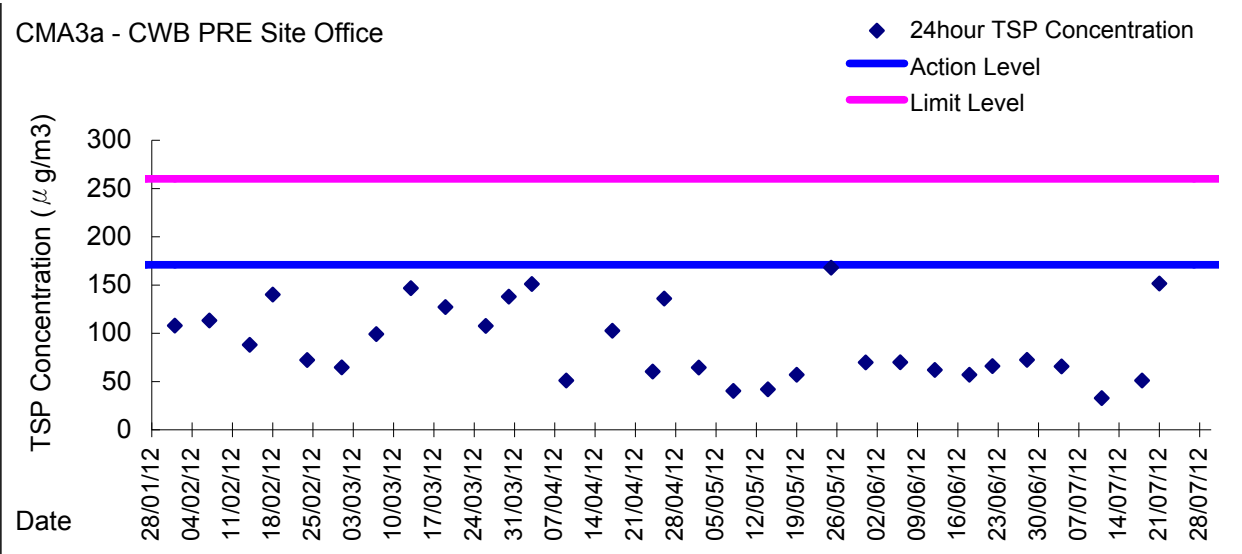
Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, $\text{m}^3/\text{min}$			Total Volume, $\text{m}^3$	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, $Q_{si}$	Final, $Q_{sf}$	Average		
29-Jun-12	9:45	Fine	002655	2.7946	2.8071	14502.81	14503.81	1.00	1.22	1.22	1.22	73	171
29-Jun-12	10:50	Fine	002658	2.8012	2.8157	14503.81	14504.81	1.00	1.27	1.27	1.27	76	191
29-Jun-12	13:00	Fine	003164	2.7458	2.7601	14504.81	14505.81	1.00	1.24	1.24	1.24	75	192
5-Jul-12	9:10	Cloudy	003158	2.7434	2.7495	14529.81	14530.81	1.00	1.25	1.25	1.25	75	81
5-Jul-12	10:23	Cloudy	003141	2.7633	2.7691	14530.81	14531.81	1.00	1.30	1.30	1.30	78	75
5-Jul-12	13:00	Cloudy	003157	2.7477	2.7537	14531.81	14532.81	1.00	1.20	1.22	1.21	73	82
11-Jul-12	8:10	Suuny	003316	2.7616	2.7643	14556.81	14557.81	1.00	1.22	1.23	1.23	74	37
11-Jul-12	9:30	Suuny	003148	2.7684	2.7711	14557.81	14558.81	1.00	1.22	1.28	1.25	75	36
11-Jul-12	10:38	Suuny	003146	2.7769	2.7791	14558.81	14559.81	1.00	1.22	1.21	1.21	73	30
17-Jul-12	13:16	Fine	003303	2.7995	2.8048	14583.81	14584.81	1.00	1.22	1.22	1.22	73	72
17-Jul-12	14:33	Fine	003302	2.8033	2.8078	14584.81	14585.81	1.00	1.22	1.22	1.22	73	61
17-Jul-12	15:48	Fine	003300	2.7914	2.7956	14585.81	14586.81	1.00	1.22	1.22	1.22	73	57
23-Jul-12	13:00	Rainy	003352	2.7522	2.7668	14610.81	14611.81	1.00	1.22	1.22	1.22	73	200
23-Jul-12	15:30	Rainy	003358	2.7465	2.7553	14611.81	14612.81	1.00	1.22	1.22	1.22	73	120
23-Jul-12	16:40	Rainy	003250	2.7921	2.8010	14612.81	14613.81	1.00	1.22	1.22	1.22	73	122

**Graphic Presentation of 24 hour TSP Result**



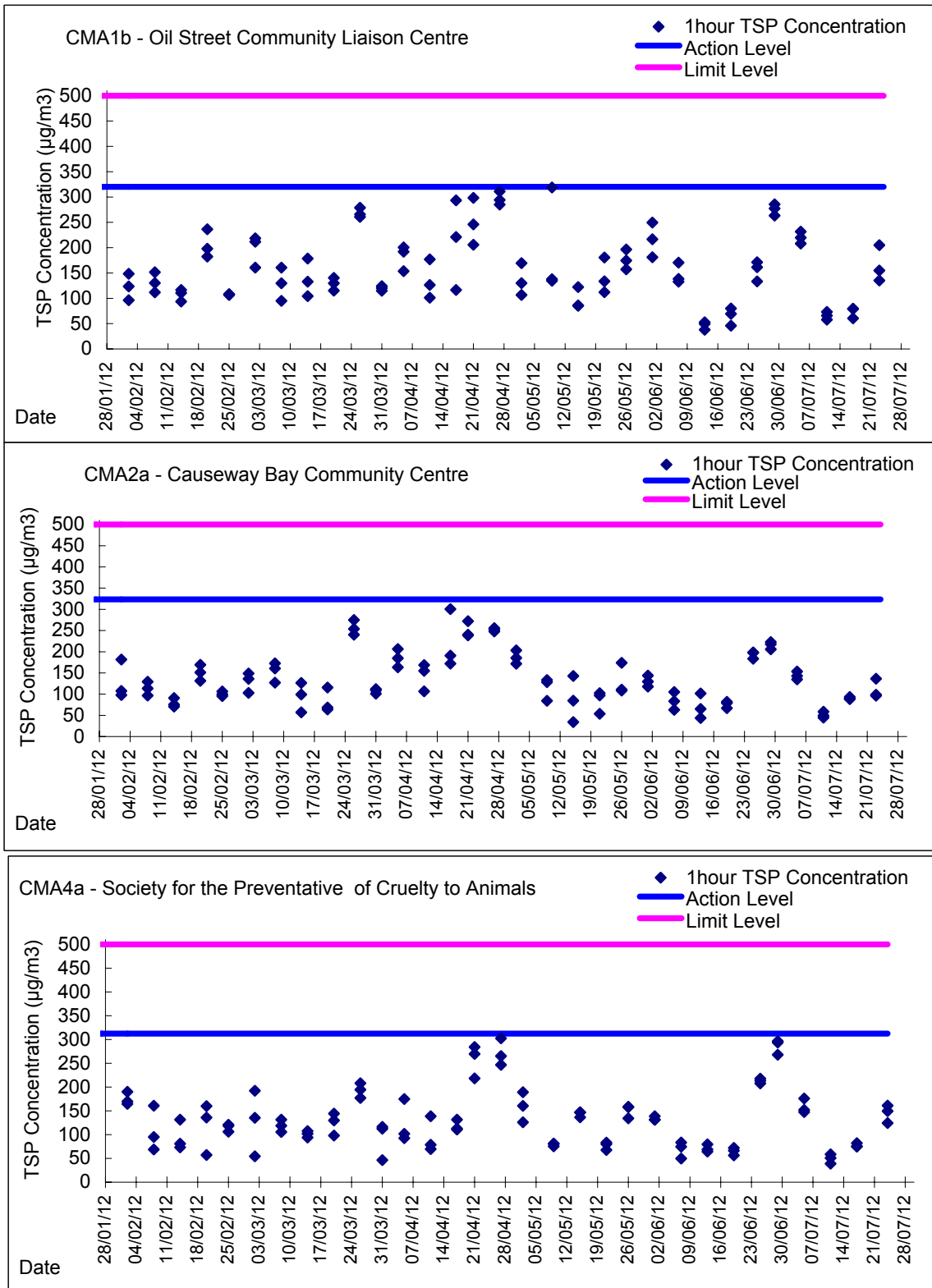


Graphic Presentation of 24 hour TSP Result

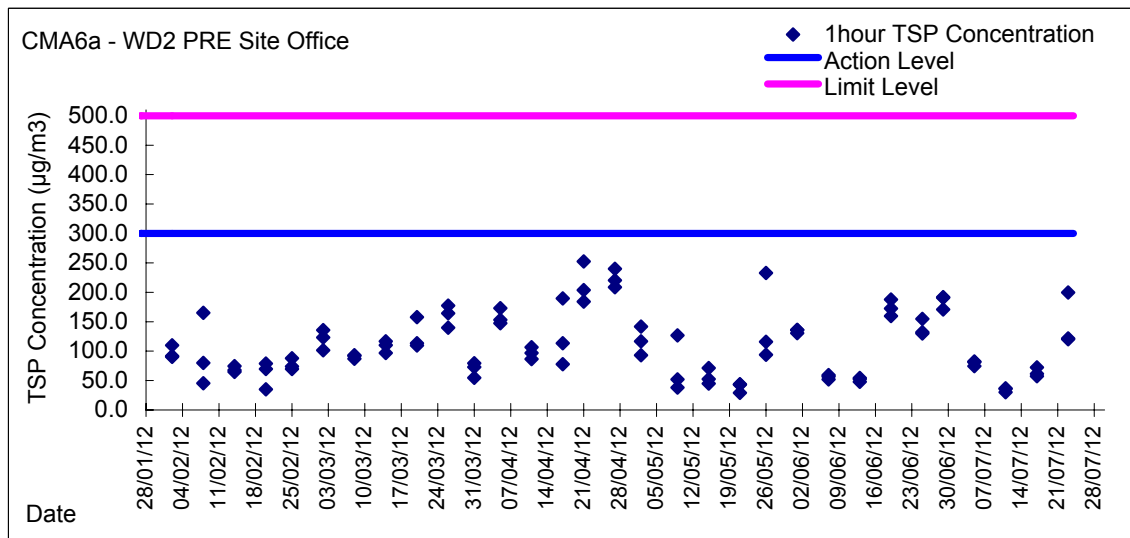
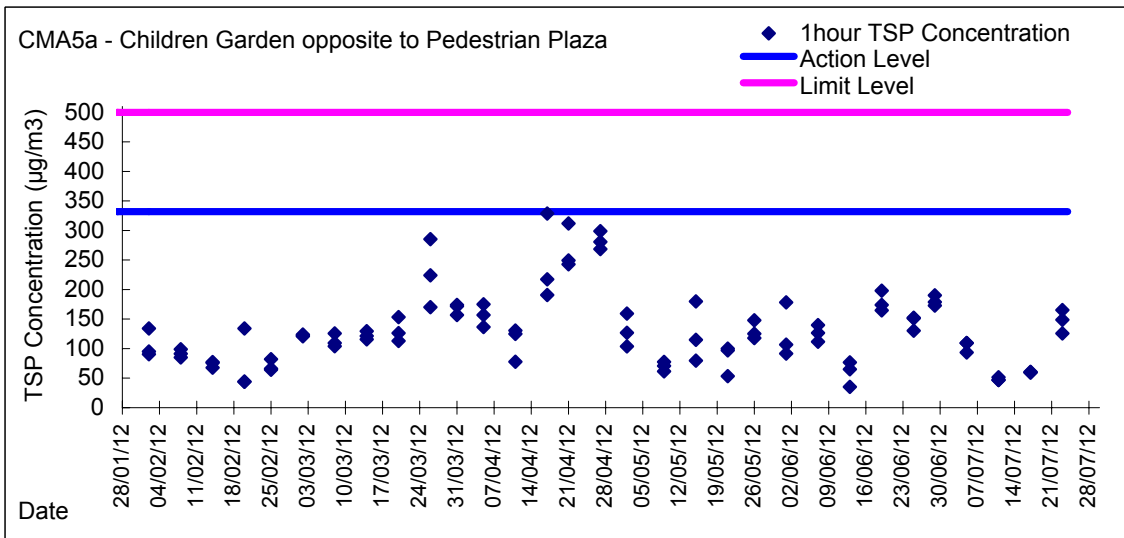
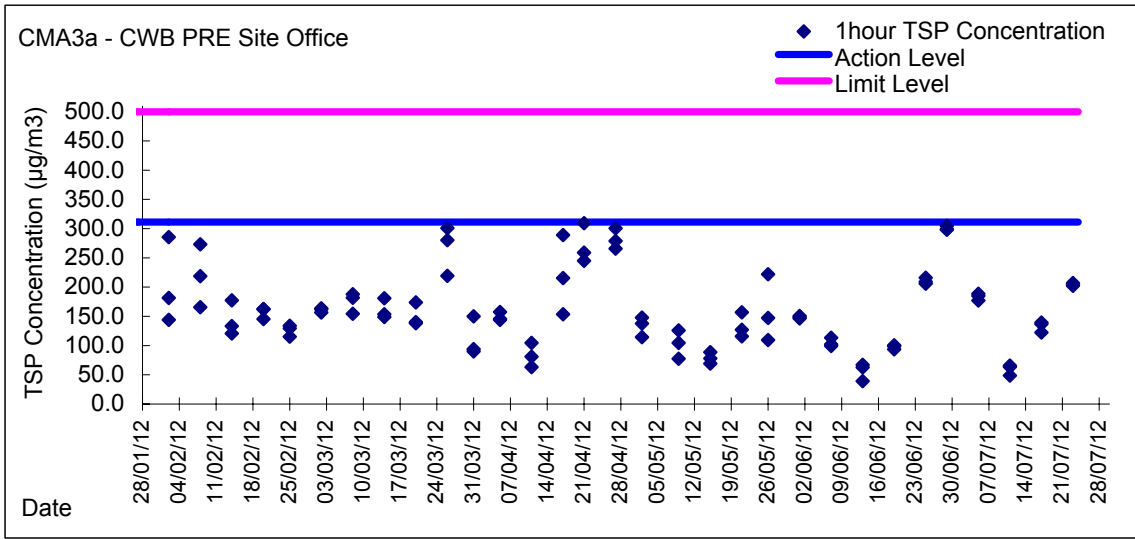




Graphic Presentation of 1 hour TSP Result



Graphic Presentation of 1 hour TSP Result





**Field Data Record Sheet**

Monitoring Date: 9-7-2012 Weather Condition: Fine Tidal Condition: EBB  
 Temperature: 32.5°C Relative Humidity: 63%

Location	Time	Temperature	Relative Humidity (%)	Odour Intensity	Odour Nature	Possible Odour Sources	Duration	Wind Speed(m/s)	Wind Direction	Remarks
OP7	14:04	29.8	72.0	0				1.6	S-SW	
OP6	14:15	33.7	60.8	0-1	Rotten Egg	Sea Intermittent		1.1	S-SW	
OP5	14:22	34.6	56.9	0				2.7	S-SW	
OP4	14:28	35.7	57.1	2	Rotten Egg	Sea Continuous		0.3	S-SW	
OP3	14:34	35.4	55.7	0				0.6	S-SW	
OP2	14:42	35.8	54.4	0				0.2	S-SW	
OP1	14:49	34.2	59.1	1	Rotten Egg	Sea Continuous		0.1	S-SW	

Remarks for Odour Intensity: The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:  
 0 – Not detected. No odour perceived or an odour so weak that it cannot be easily characterised or described;  
 1 – Slight Identifiable odour, and slight chance to have odour nuisance;  
 2 – Moderate Identifiable odour, and moderate chance to have odour nuisance  
 3 – Strong Identifiable, likely to have odour nuisance;  
 4 – Extreme Severe odour, and unacceptable level

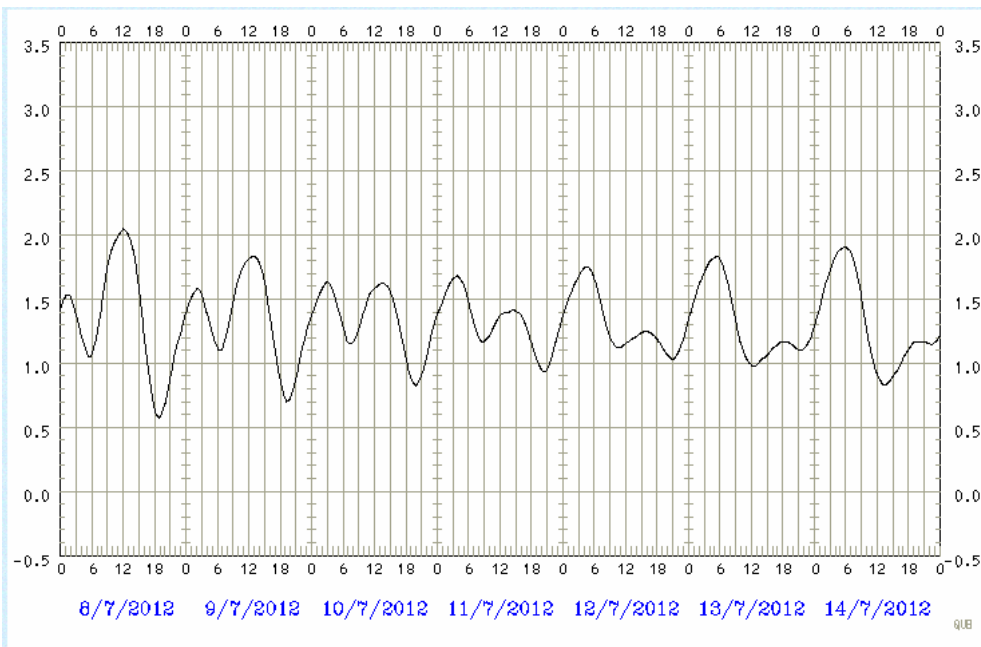


**Meteorological Conditions on 9 July 2012**

- **Hong Kong Observatory Weather Station at Hong Kong Observatory**  
Air Temperature: 27.8-32.9°C      Relative humidity: 60-85%
- **Hong Kong Observatory Weather Station at Hong Kong Park**  
Air Temperature: 27.6-33.3°C

- **The tidal data at Quarry Bay Station**

Tide Time	Tide Height (m)
2:14	1.6
6:27	1.1
12:49	1.8
19:18	0.7





**Field Data Record Sheet**

Monitoring Date: 27-7-2012 Weather Condition: Cloudy Tidal Condition: FLOOD  
 Temperature: 27.0°C Relative Humidity: 95%

Location	Time	Temperature	Relative Humidity (%)	Odour Intensity	Odour Nature	Possible Odour Sources	Duration	Wind Speed(m/s)	Wind Direction	Remarks
OP7	15:36	24.7	89.2	0				0.4	SE	
OP6	15:47	26.9	85.5	0				0.9	SE	
OP5	15:53	27.6	83.8	0				1.2	SE	
OP4	15:59	28.1	79.7	2	Rotten Egg Sea		Continuous	2.5	SE	
OP3	16:05	28.7	78.5	0				0.1	SE	
OP2	16:10	29.6	75.4	0				0.2	SE	
OP1	16:16	28.4	73.5	1-2	Rotten Egg Sea		Continuous	1.1	SE	

Remarks for Odour Intensity: The perceived odour intensity is to be divided into 5 levels which are ranked in the descending order as follows:  
 0 – Not detected. No odour perceived or an odour so weak that it cannot be easily characterised or described;  
 1 – Slight Identifiable odour, and slight chance to have odour nuisance;  
 2 – Moderate Identifiable odour, and moderate chance to have odour nuisance  
 3 – Strong Identifiable, likely to have odour nuisance;  
 4 – Extreme Severe odour, and unacceptable level

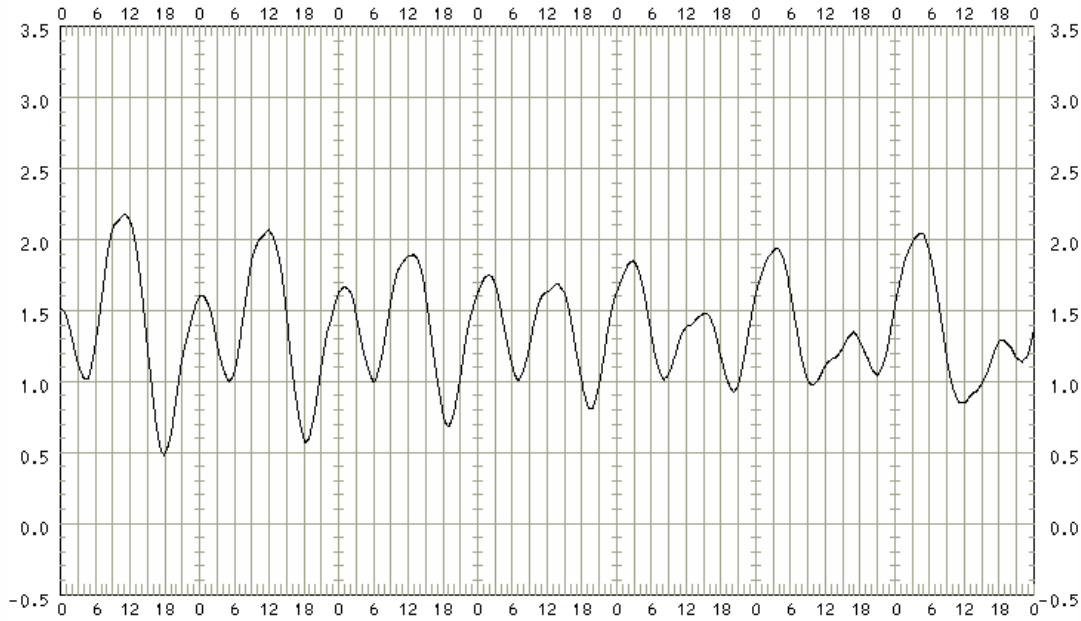


**Meteorological Conditions on 27 July 2012**

- **Hong Kong Observatory Weather Station at Hong Kong Observatory**  
Air Temperature: 25.1- 27.0 °C      Relative humidity: 94%
- **Hong Kong Observatory Weather Station at Hong Kong Park**  
Air Temperature: 24.5- 27.1 °C

• **The tidal data at Quarry Bay Station**

Tide Time	Tide Height (m)
03:37 1.9	
09:50 1.0	
16:50 1.3	
20:52 1.0	



22/7/2012 23/7/2012 24/7/2012 25/7/2012 26/7/2012 27/7/2012 28/7/2012





***Appendix 5.4***

***Water Quality Monitoring Results and Graphical Presentations***



**Water Monitoring Result at WSD9 - Tai Wan  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation		DO		Turbidity		Suspended Solids				
					°C			-			ppt			%		mg/L		NTU		mg/L				
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	17:01	Cloudy	Middle	2.5	26.26	26.26	26.26	8.02	8.02	8.02	29.13	29.13	29.14	81.5	81.5	81.5	5.58	5.59	5.59	2.55	2.78	2.66	9	11.00
	17:03		Middle	2.5	26.25	26.25		8.01	8.01		29.14	29.14		81.5	81.4		5.59	5.59		2.61	2.68		13	
3/7/2012	2:55	Fine	Middle	2.0	26.90	26.90	26.90	7.92	7.92	7.92	29.79	29.79	29.79	71.2	71.9	72.0	4.89	4.87	4.90	0.83	0.72	0.79	3	3.00
	2:56		Middle	2.0	26.90	26.90		7.92	7.92		29.79	29.79		72.4	72.3		4.93	4.91		0.84	0.75		3	
5/7/2012	20:00	Cloudy	Middle	2.0	27.40	27.40	27.40	7.96	7.96	7.96	27.22	27.22	27.22	69.5	69.5	70.1	4.94	4.94	4.94	3.49	3.36	3.37	4	4.00
	20:01		Middle	2.0	27.40	27.40		7.96	7.96		27.22	27.22		70.5	71.0		4.78	5.08		3.20	3.43		4	
7/7/2012	21:26	Cloudy	Middle	2.5	27.70	27.70	27.70	7.95	7.95	7.95	26.91	26.91	26.91	77.0	76.3	77.2	5.20	5.20	5.23	2.35	2.36	2.45	5	4.50
	21:27		Middle	2.5	27.70	27.70		7.94	7.94		26.91	26.91		77.8	77.8		5.26	5.26		2.62	2.46		4	
9/7/2012	23:23	Fine	Middle	2.5	27.90	27.90	27.90	7.97	7.97	7.97	27.30	27.30	27.30	84.8	85.7	85.0	5.71	5.77	5.72	4.11	4.22	3.97	7	7.50
	23:24		Middle	2.5	27.90	27.90		7.97	7.97		27.30	27.30		84.8	84.6		5.71	5.69		3.91	3.62		8	
11/7/2012	23:15	Fine	Middle	2.5	28.50	28.50	28.50	8.25	8.25	8.25	24.03	24.03	24.03	96.4	96.0	97.1	6.82	6.85	6.88	3.09	3.12	3.26	5	6.00
	23:16		Middle	2.5	28.50	28.50		8.25	8.25		24.03	24.03		98.9	97.1		7.00	6.86		3.31	3.53		7	
14/7/2012	0:46	Cloudy	Middle	2.5	28.50	28.50	28.50	8.25	8.25	8.25	21.68	21.68	21.68	99.5	99.5	98.9	7.11	7.11	6.94	2.44	2.15	2.30	4	3.50
	0:47		Middle	2.5	28.50	28.50		8.25	8.25		21.67	21.67		98.1	98.3		6.78	6.75		2.26	2.35		3	
16/7/2012	17:05	Cloudy	Middle	2.0	28.60	28.60	28.60	8.29	8.29	8.29	22.65	22.65	22.65	93.2	92.3	92.2	6.77	6.56	6.65	2.44	2.24	2.33	6	6.50
	17:06		Middle	2.0	28.60	28.60		8.29	8.29		22.65	22.65		92.3	91.1		6.67	6.61		2.28	2.34		7	
18/7/2012	17:30	Fine	Middle	2.0	27.30	27.30	27.30	8.13	8.13	8.13	26.37	26.37	26.37	82.5	81.4	82.4	6.05	5.65	5.80	2.90	2.91	2.95	5	5.50
	17:31		Middle	2.0	27.30	27.30		8.13	8.13		26.37	26.37		82.9	82.7		5.65	5.84		2.96	3.02		6	
20/7/2012	19:14	Cloudy	Middle	2.0	26.50	26.50	26.50	8.06	8.06	8.06	30.24	30.24	30.25	81.9	81.9	81.6	5.91	5.91	5.87	4.21	3.92	4.11	6	6.00
	19:15		Middle	2.0	26.50	26.50		8.06	8.06		30.25	30.25		81.7	80.7		5.80	5.85		4.22	4.07		6	
25/7/2012	1:30	Cloudy	Middle	2.5	25.70	25.70	25.70	8.01	8.01	8.01	30.42	30.42	30.42	69.7	69.9	70.0	5.24	5.22	5.17	3.20	3.07	2.99	5	4.50
	1:31		Middle	2.5	25.70	25.70		8.01	8.01		30.42	30.42		69.7	70.6		5.22	5.00		2.86	2.83		4	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at WSD17 - Quarry Bay  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		Turbidity			Suspended Solids		
					°C		-		ppt		%		mg/L		NTU		mg/L							
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	15:42	Cloudy	Middle	3.0	26.61	26.61	26.62	7.91	7.91	7.90	29.11	29.11	29.11	82.0	81.9	81.9	5.59	5.58	5.58	1.53	1.33	1.38	8	8.50
	15:44		Middle	3.0	26.62	26.62		7.88	7.88		29.10	29.10		81.8	81.7		5.57	5.56		1.28	1.36		9	
3/7/2012	5:40	Fine	Middle	3.0	26.70	26.70	26.70	8.00	8.00	8.00	30.23	30.23	30.23	80.5	80.7	80.5	5.54	5.56	5.52	1.01	1.00	1.02	3	4.00
	5:41		Middle	3.0	26.70	26.70		8.00	8.00		30.23	30.23		80.4	80.5		5.44	5.54		1.02	1.04		5	
5/7/2012	22:15	Cloudy	Middle	3.5	27.10	27.10	27.10	7.97	7.97	7.97	30.02	30.02	30.02	81.5	82.3	82.0	5.70	5.80	5.69	1.49	1.81	1.53	<2	<2
	22:16		Middle	3.5	27.10	27.10		7.97	7.97		30.02	30.02		82.5	81.8		5.55	5.69		1.52	1.30		<2	
7/7/2012	23:49	Cloudy	Middle	3.0	27.10	27.10	27.10	7.91	7.91	7.91	27.67	27.67	27.67	72.9	72.8	71.9	4.95	4.94	4.88	2.32	1.93	1.97	4	4.00
	23:50		Middle	3.0	27.10	27.10		7.91	7.91		27.66	27.66		70.0	71.9		4.74	4.87		1.85	1.79		4	
10/7/2012	1:00	Fine	Middle	3.5	27.80	27.80	27.80	7.97	7.97	7.97	26.18	26.18	26.18	83.3	83.2	83.1	5.70	5.80	5.74	1.80	1.88	1.73	5	5.50
	1:01		Middle	3.5	27.80	27.80		7.97	7.97		26.18	26.18		83.1	82.8		5.80	5.64		1.51	1.74		6	
12/7/2012	1:00	Fine	Middle	3.0	28.20	28.20	28.20	8.21	8.21	8.21	23.04	23.04	23.04	95.6	96.7	95.9	6.79	6.90	6.80	2.90	3.09	2.93	6	6.00
	1:01		Middle	3.0	28.20	28.20		8.21	8.21		23.04	23.04		95.5	95.8		6.70	6.81		3.00	2.74		6	
14/7/2012	3:11	Cloudy	Middle	3.0	28.40	28.40	28.40	8.28	8.28	8.28	21.35	21.35	21.36	94.8	93.6	94.5	6.81	6.47	6.60	1.98	2.01	2.00	3	3.00
	3:12		Middle	3.0	28.40	28.40		8.28	8.28		21.37	21.37		94.1	95.4		6.52	6.58		1.88	2.12		3	
16/7/2012	19:29	Cloudy	Middle	2.5	28.40	28.40	28.40	8.29	8.29	8.29	19.10	19.10	19.10	91.9	92.6	92.5	6.62	6.42	6.44	1.32	0.96	1.11	6	6.50
	19:30		Middle	2.5	28.40	28.40		8.29	8.29		19.09	19.09		93.9	91.4		6.46	6.25		0.97	1.20		7	
18/7/2012	19:10	Fine	Middle	2.5	27.70	27.70	27.70	8.25	8.25	8.25	25.58	25.58	25.58	93.4	92.3	93.3	6.76	6.64	6.72	2.07	1.64	1.73	4	4.50
	19:11		Middle	2.5	27.70	27.70		8.25	8.25		25.58	25.58		93.1	94.5		6.71	6.78		1.51	1.69		5	
20/7/2012	21:35	Cloudy	Middle	2.5	25.30	25.30	25.30	8.03	8.03	8.03	31.61	31.61	31.61	72.5	73.7	72.8	5.15	5.08	5.06	0.63	0.51	0.60	3	3.50
	21:36		Middle	2.5	25.30	25.30		8.03	8.03		31.61	31.61		73.9	71.0		5.06	4.94		0.59	0.67		4	
25/7/2012	23:05	Cloudy	Middle	3.5	25.80	25.80	25.80	8.02	8.02	8.02	30.15	30.15	30.15	69.7	69.9	69.9	4.84	5.24	5.05	3.26	3.55	3.45	5	5.50
	23:06		Middle	3.5	25.80	25.80		8.02	8.02		30.15	30.15		70.1	70.0		4.84	5.28		3.48	3.52		6	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C9 - Provident Centre  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation		DO		Turbidity			Suspended Solids			
					°C			-			ppt			%		mg/L		NTU			mg/L			
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average	Value	Average	Value	Average	Value	Average
30/6/2012	15:13	Cloudy	Middle	2.0	26.58	26.58	26.59	7.67	7.67	7.66	28.61	28.61	28.60	77.5	77.4	77.2	5.29	5.28	5.27	3.43	3.39	3.47	7	6.50
	15:15		Middle	2.0	26.59	26.59		7.64	7.64		28.59	28.59		77.1	76.9		5.27	5.25		3.49	3.58		6	
3/7/2012	5:20	Fine	Middle	2.0	26.80	26.80	26.80	7.98	7.98	7.98	28.57	28.57	28.57	84.7	85.0	84.9	5.79	5.79	5.79	1.27	1.35	1.24	5	5.50
	5:21		Middle	2.0	26.80	26.80		7.98	7.98		28.56	28.56		85.2	84.8		5.80	5.79		1.19	1.13		6	
5/7/2012	21:55	Cloudy	Middle	2.0	27.50	27.50	27.50	7.91	7.91	7.91	27.82	27.82	27.82	77.5	77.9	77.7	5.31	5.41	5.38	2.77	3.09	2.82	4	3.50
	21:56		Middle	2.0	27.50	27.50		7.90	7.90		27.82	27.82		77.7	77.5		5.41	5.40		2.88	2.54		3	
7/7/2012	23:23	Cloudy	Middle	2.0	27.40	27.40	27.40	7.94	7.94	7.94	28.07	28.07	28.07	80.3	81.0	80.3	5.44	5.47	5.45	2.76	2.94	2.79	4	4.50
	23:24		Middle	2.0	27.40	27.40		7.94	7.94		28.06	28.06		79.3	80.4		5.36	5.51		2.78	2.68		5	
10/7/2012	0:35	Fine	Middle	2.0	28.10	28.10	28.10	8.04	8.04	8.04	25.84	25.84	25.84	88.9	89.2	88.3	6.03	6.04	5.98	2.36	2.40	2.34	12	12.00
	0:36		Middle	2.0	28.10	28.10		8.04	8.04		25.84	25.84		87.6	87.5		5.93	5.92		2.18	2.41		12	
12/7/2012	0:30	Fine	Middle	2.0	28.30	28.30	28.30	8.17	8.17	8.17	23.59	23.59	23.61	90.5	90.3	90.1	6.19	6.18	6.17	4.61	4.09	4.32	6	6.00
	0:31		Middle	2.0	28.30	28.30		8.17	8.17		23.62	23.62		90.8	88.9		6.27	6.02		4.49	4.10		6	
14/7/2012	2:45	Cloudy	Middle	2.0	28.50	28.50	28.50	8.25	8.25	8.25	20.50	20.50	20.51	93.0	91.1	92.2	6.66	6.38	6.54	2.71	2.56	2.55	4	4.00
	2:46		Middle	2.0	28.50	28.50		8.25	8.25		20.52	20.52		92.2	92.4		6.53	6.57		2.39	2.52		4	
16/7/2012	19:12	Cloudy	Middle	1.5	28.40	28.40	28.40	8.23	8.23	8.23	22.74	22.74	22.74	90.4	90.1	90.7	6.53	6.47	6.59	3.80	4.07	3.82	9	9.50
	19:13		Middle	1.5	28.40	28.40		8.23	8.23		22.74	22.74		90.2	92.2		6.56	6.80		3.65	3.77		10	
18/7/2012	18:46	Fine	Middle	1.5	27.80	27.80	27.80	8.18	8.18	8.18	19.61	19.61	19.63	86.6	88.6	87.6	6.53	6.49	6.46	4.20	3.98	4.07	10	10.00
	18:47		Middle	1.5	27.80	27.80		8.18	8.18		19.61	19.69		88.3	86.7		6.51	6.31		4.06	4.03		10	
20/7/2012	21:15	Cloudy	Middle	2.0	26.90	26.90	26.90	8.02	8.02	8.02	29.18	29.17	29.18	83.7	84.9	83.9	5.79	6.07	5.88	1.83	1.81	1.79	4	4.00
	21:16		Middle	2.0	26.90	26.90		8.02	8.02		29.19	29.19		83.8	83.3		5.74	5.93		1.75	1.76		4	
25/7/2012	22:41	Cloudy	Middle	2.0	25.80	25.80	25.80	7.89	7.89	7.89	29.63	29.63	29.68	64.6	65.2	64.9	4.52	4.81	4.75	4.92	4.91	5.03	5	6.50
	22:42		Middle	2.0	25.80	25.80		7.89	7.90		29.72	29.72		65.0	64.7		4.84	4.82		5.21	5.09		8	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C8 - City Garden  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation		DO		Turbidity			Suspended Solids			
					°C			-			ppt			%		mg/L		NTU			mg/L			
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average	Value	Average	Value	Average	Value	Average
30/6/2012	14:56	Cloudy	Middle	2.0	26.88	26.88	26.89	7.44	7.44	7.44	23.29	23.29	23.29	77.0	77.0	77.0	5.39	5.39	5.39	19.00	18.80	<u>18.30</u>	18	17.50
	14:58		Middle	2.0	26.89	26.89		7.44	7.44		23.29	23.29		77.0	77.0		5.39	5.39		17.70	17.70		17	
3/7/2012	5:07	Fine	Middle	2.0	26.70	26.70	26.70	7.88	7.88	7.88	28.33	28.33	28.33	70.5	70.9	70.6	5.02	5.07	5.05	1.44	1.49	1.46	4	4.00
	5:08		Middle	2.0	26.70	26.70		7.88	7.88		28.33	28.33		70.9	70.0		5.07	5.02		1.39	1.51		4	
5/7/2012	21:40	Cloudy	Middle	2.0	27.70	27.70	27.75	7.92	7.92	7.92	27.56	27.56	27.57	71.1	70.5	70.9	4.79	4.75	4.77	2.97	2.88	2.89	4	3.50
	21:41		Middle	2.0	27.80	27.80		7.91	7.91		27.57	27.57		71.4	70.4		4.81	4.74		2.97	2.72		3	
7/7/2012	23:11	Cloudy	Middle	2.0	27.80	27.80	27.80	7.89	7.89	7.88	27.64	27.64	27.64	74.1	74.0	73.5	5.13	5.13	5.03	3.63	3.46	3.58	4	4.50
	23:12		Middle	2.0	27.80	27.80		7.86	7.86		27.63	27.63		72.7	73.1		4.92	4.92		3.71	3.53		5	
10/7/2012	0:23	Fine	Middle	2.0	28.30	28.30	28.30	8.01	8.01	8.01	25.77	25.77	25.77	85.0	85.7	84.8	5.74	5.81	5.73	3.49	3.60	3.53	11	10.50
	0:24		Middle	2.0	28.30	28.30		8.01	8.01		25.77	25.77		84.8	83.7		5.72	5.64		3.61	3.43		10	
12/7/2012	0:18	Fine	Middle	2.0	28.60	28.60	28.60	8.17	8.17	8.17	23.20	23.20	23.20	91.3	90.8	91.1	6.37	6.37	6.39	2.83	3.18	2.83	4	4.50
	0:19		Middle	2.0	28.60	28.60		8.17	8.17		23.20	23.20		91.0	91.4		6.43	6.38		2.54	2.75		5	
14/7/2012	2:35	Cloudy	Middle	2.0	28.70	28.70	28.70	8.25	8.25	8.25	21.21	21.21	21.22	89.9	87.9	88.7	6.21	6.04	6.23	3.11	3.19	3.05	5	5.00
	2:36		Middle	2.0	28.70	28.70		8.25	8.25		21.23	21.23		88.0	88.8		6.29	6.36		3.10	2.80		5	
16/7/2012	18:55	Cloudy	Middle	1.5	28.30	28.30	28.30	8.20	8.20	8.20	21.19	21.19	21.19	85.6	88.0	87.0	6.17	6.28	6.25	5.27	4.85	5.02	12	12.00
	18:56		Middle	1.5	28.30	28.30		8.20	8.20		21.19	21.19		87.4	87.1		6.27	6.27		4.64	5.32		12	
18/7/2012	18:32	Fine	Middle	1.5	28.10	28.10	28.10	8.17	8.17	8.17	25.35	25.35	25.36	89.9	90.0	89.4	6.54	6.57	6.54	4.17	4.20	3.85	8	8.00
	18:33		Middle	1.5	28.10	28.10		8.17	8.17		25.37	25.38		89.3	88.5		6.54	6.49		3.53	3.48		8	
20/7/2012	21:07	Cloudy	Middle	2.0	26.80	26.80	26.80	8.06	8.06	8.06	29.19	29.19	29.19	74.4	74.4	75.1	5.21	5.21	5.23	2.04	1.85	1.84	4	4.00
	21:08		Middle	2.0	26.80	26.80		8.06	8.06		29.19	29.19		75.8	75.9		5.22	5.27		1.77	1.70		4	
25/7/2012	22:30	Cloudy	Middle	2.0	26.10	26.10	26.10	7.91	7.87	7.89	27.02	27.02	27.02	59.0	59.7	59.7	4.38	4.35	4.41	3.39	3.59	3.46	4	4.50
	22:31		Middle	2.0	26.10	26.10		7.87	7.89		27.02	27.02		59.9	60.0		4.40	4.50		3.32	3.55		5	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C7 - Windsor House  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
					°C			-			ppt			%			mg/L			NTU			mg/L	
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average
30/6/2012	14:40	Cloudy	Middle	1.5	26.62	26.62	26.63	7.00	7.00	7.00	26.75	26.75	26.75	55.3	55.1	55.0	3.82	3.80	4.30	2.44	2.16	2.28	7	8.00
	14:42		Middle	1.5	26.63	26.63		7.00	7.00		26.74	26.74		26.75	54.9		54.6	55.0		3.79	5.77		4.30	
3/7/2012	4:35	Fine	Middle	1.5	26.70	26.70	26.70	7.68	7.68	7.67	27.50	27.50	27.50	55.8	55.8	55.7	3.87	3.87	3.85	1.25	1.12	1.19	3	3.00
	4:36		Middle	1.5	26.70	26.70		7.65	7.65		27.50	27.50		27.50	55.5		55.7	55.7		3.82	3.82		3.85	
5/7/2012	21:15	Cloudy	Middle	1.5	27.60	27.60	27.60	7.66	7.66	7.66	26.59	26.59	26.59	58.6	58.9	58.8	4.00	4.05	4.02	1.25	1.02	1.11	2	2.50
	21:16		Middle	1.5	27.60	27.60		7.66	7.66		26.59	26.58		26.59	58.9		58.7	58.8		4.05	3.99		4.02	
7/7/2012	22:45	Cloudy	Middle	1.5	28.00	28.00	28.00	7.67	7.67	7.67	26.15	26.16	26.15	60.1	60.3	59.7	4.07	4.08	4.04	1.49	1.40	1.46	2	2.50
	22:46		Middle	1.5	28.00	28.00		7.67	7.67		26.15	26.15		26.15	59.3		59.1	59.7		4.01	4.00		4.04	
10/7/2012	0:00	Fine	Middle	1.5	28.20	28.20	28.20	7.87	7.87	7.87	25.14	25.14	25.14	69.0	69.5	68.7	4.94	4.78	4.88	1.42	1.49	1.48	11	10.50
	0:01		Middle	1.5	28.20	28.20		7.87	7.87		25.14	25.14		25.14	69.0		67.2	68.7		4.94	4.87		4.88	
11/7/2012	23:55	Fine	Middle	1.5	28.40	28.40	28.40	8.11	8.11	8.11	23.02	23.02	23.02	88.4	88.6	88.1	6.25	6.29	6.20	2.89	2.62	2.70	5	4.50
	23:56		Middle	1.5	28.40	28.40		8.11	8.11		23.02	23.02		23.02	87.0		88.4	88.1		5.99	6.25		6.20	
14/7/2012	2:00	Cloudy	Middle	1.5	28.60	28.60	28.60	8.04	8.04	8.03	20.15	20.15	20.15	76.2	76.3	76.4	5.45	5.38	5.47	1.77	2.04	1.84	6	6.50
	2:01		Middle	1.5	28.60	28.60		8.01	8.01		20.14	20.14		20.15	76.1		77.0	76.4		5.47	5.57		5.47	
16/7/2012	18:28	Cloudy	Middle	1.5	28.80	28.80	28.80	7.95	7.95	7.95	21.34	21.34	21.34	66.5	67.3	66.1	4.69	4.77	4.64	2.43	2.00	2.11	6	6.00
	18:29		Middle	1.5	28.80	28.80		7.95	7.95		21.34	21.34		21.34	65.1		65.4	66.1		4.54	4.55		4.64	
18/7/2012	18:00	Fine	Middle	1.0	28.50	28.50	28.50	7.94	7.94	7.94	23.40	23.40	23.40	69.0	69.6	68.8	4.83	4.74	4.72	2.07	2.10	2.05	2	2.50
	18:01		Middle	1.0	28.50	28.50		7.94	7.94		23.40	23.40		23.40	68.1		68.4	68.8		4.64	4.67		4.72	
20/7/2012	20:41	Cloudy	Middle	1.5	27.20	27.20	27.20	7.88	7.88	7.88	27.72	27.72	27.72	73.6	74.6	73.4	5.06	5.30	5.18	0.47	0.38	0.41	3	3.00
	20:42		Middle	1.5	27.20	27.20		7.88	7.88		27.72	27.72		27.72	73.2		72.0	73.4		5.26	5.09		5.18	
25/7/2012	21:50	Cloudy	Middle	1.5	25.70	25.70	25.70	7.71	7.71	7.71	24.33	24.33	24.33	65.1	66.7	66.0	4.91	5.00	4.97	2.30	2.35	2.37	<2	<2
	21:51		Middle	1.5	25.70	25.70		7.71	7.71		24.33	24.33		24.33	66.9		65.2	66.0		5.05	4.93		4.97	

Remarks:  
 Single underline denotes exceedance over Action Level  
 Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C1 - HKCEC Extension  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
					°C			-			ppt			%			mg/L			NTU			mg/L	
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average
30/6/2012	-	Cloudy	Middle	-	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	-	#DIV/0!	-	#DIV/0!
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	5:05	Fine	Middle	2.0	26.50	26.50	26.55	7.70	7.70	7.71	26.86	26.86	26.87	69.6	70.7	70.3	4.82	4.90	4.87	1.55	1.72	1.56	3	3.00
	5:07		Middle	2.0	26.60	26.60	26.55	7.71	7.71	7.71	26.87	26.87	26.87	70.5	70.3	70.3	4.88	4.87	4.87	1.48	1.50	1.56	3	3.00
5/7/2012	19:42	Cloudy	Middle	2.0	26.90	26.90	26.95	7.80	7.80	7.79	25.79	25.79	25.79	78.0	78.4	78.2	5.38	5.41	5.40	3.50	3.56	3.62	3	3.00
	19:44		Middle	2.0	27.00	27.00	26.95	7.77	7.77	7.79	25.79	25.79	25.79	78.0	78.5	78.2	5.38	5.41	5.40	3.61	3.80	3.62	3	3.00
7/7/2012	21:40	Cloudy	Middle	2.0	27.60	27.60	27.55	7.73	7.73	7.73	25.59	25.59	25.60	70.5	73.1	72.3	4.82	4.99	4.94	2.66	2.80	2.76	10	9.50
	21:42		Middle	2.0	27.50	27.50	27.55	7.72	7.72	7.73	25.60	25.60	25.60	72.8	72.7	72.3	4.97	4.97	4.94	2.68	2.88	2.76	9	9.50
9/7/2012	22:40	Fine	Middle	2.0	28.00	28.00	28.05	7.89	7.89	7.90	23.85	23.85	23.86	86.0	87.4	86.5	5.90	5.99	5.94	2.61	2.48	2.56	4	4.00
	22:42		Middle	2.0	28.10	28.10	28.05	7.90	7.90	7.90	23.86	23.86	23.86	86.7	85.9	86.5	5.95	5.90	5.94	2.60	2.55	2.56	4	4.00
12/7/2012	0:40	Fine	Middle	2.0	28.20	28.20	28.15	8.06	8.06	8.06	21.47	21.47	21.48	70.5	77.6	72.4	4.88	5.31	5.05	3.30	3.50	3.38	3	3.50
	0:42		Middle	2.0	28.10	28.10	28.15	8.05	8.05	8.06	21.48	21.48	21.48	72.3	69.3	72.4	5.20	4.80	5.05	3.37	3.36	3.38	4	3.50
14/7/2012	3:31	Cloudy	Middle	2.0	27.90	27.90	27.95	8.12	8.12	8.13	26.10	26.10	26.11	82.4	82.9	82.0	6.80	6.84	6.77	3.33	3.71	3.50	7	7.50
	3:33		Middle	2.0	28.00	28.00	27.95	8.13	8.13	8.13	26.11	26.11	26.11	82.5	80.1	82.0	6.81	6.61	6.77	3.40	3.54	3.50	8	7.50
16/7/2012	16:28	Cloudy	Middle	2.0	28.70	28.70	28.75	8.11	8.11	8.11	21.40	21.40	21.40	104.4	103.5	104.1	7.10	7.02	7.07	2.53	2.58	2.43	6	5.50
	16:31		Middle	2.0	28.80	28.80	28.75	8.10	8.10	8.11	21.40	21.40	21.40	104.2	104.3	104.1	7.07	7.09	7.07	2.23	2.36	2.43	5	5.50
18/7/2012	19:01	Fine	Middle	2.0	26.90	26.90	26.85	7.90	7.80	7.85	25.12	25.12	25.12	79.3	79.8	79.5	6.00	6.37	6.26	4.30	3.68	3.81	6	5.50
	19:03		Middle	2.0	26.80	26.80	26.85	7.90	7.80	7.85	25.12	25.12	25.12	79.4	79.3	79.5	6.34	6.32	6.26	3.71	3.55	3.81	5	5.50
20/7/2012	19:32	Cloudy	Middle	2.0	26.60	26.60	26.60	7.81	7.81	7.81	28.00	28.00	28.01	59.1	63.9	65.1	3.93	4.67	4.54	3.69	3.74	3.60	6	5.00
	19:34		Middle	2.0	26.60	26.60	26.60	7.81	7.81	7.81	28.01	28.01	28.01	70.1	67.2	65.1	4.82	4.74	4.54	3.48	3.49	3.60	4	5.00
25/7/2012	22:45	Cloudy	Middle	2.0	25.60	25.60	25.65	7.65	7.65	7.65	28.69	28.69	28.69	58.7	57.6	57.8	4.08	4.00	4.01	3.43	3.02	3.31	3	3.50
	22:48		Middle	2.0	25.70	25.70	25.65	7.65	7.65	7.65	28.69	28.69	28.69	57.8	57.0	57.8	4.02	3.95	4.01	3.59	3.20	3.31	4	3.50

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level





**Water Monitoring Result at C2 - TH / APA / SOC  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		Turbidity			Suspended Solids		
					°C		-		ppt		%		mg/L		NTU		mg/L							
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	12:48	Cloudy	Middle	1.5	26.90	26.90	26.90	7.70	7.70	7.70	27.26	27.26	27.26	69.3	69.7	69.5	4.75	4.78	4.76	6.40	6.27	6.54	9	9.00
	12:50		Middle	1.5	26.90	26.90		7.70	7.70		27.26	27.26		69.5	69.3		4.77	4.75		6.56	6.92		9	
3/7/2012	3:21	Fine	Middle	1.0	26.20	26.20	26.25	7.60	7.60	7.61	27.21	27.21	27.22	70.2	70.3	70.0	4.88	4.88	4.86	1.48	1.62	1.52	5	4.00
	3:23		Middle	1.0	26.30	26.30		7.61	7.61		27.22	27.22		69.7	69.8		4.84	4.85		1.52	1.44		3	
5/7/2012	21:51	Cloudy	Middle	1.5	28.00	28.00	28.05	7.67	7.67	7.67	25.98	25.98	25.98	61.1	61.0	61.1	4.15	4.13	4.14	1.63	1.51	1.58	<2	<2
	21:53		Middle	1.5	28.10	28.10		7.67	7.67		25.98	25.98		60.8	61.5		4.12	4.17		1.61	1.55		<2	
7/7/2012	22:01	Cloudy	Middle	1.0	27.60	27.60	27.55	7.53	7.53	7.54	25.10	25.10	25.11	77.5	77.2	75.6	5.34	5.32	5.21	2.70	2.72	2.75	6	5.50
	22:03		Middle	1.0	27.50	27.50		7.54	7.54		25.11	25.11		73.7	74.0		5.07	5.10		2.80	2.77		5	
9/7/2012	23:11	Fine	Middle	1.5	27.50	27.50	27.45	7.88	7.88	7.89	24.03	24.03	24.04	88.4	88.8	87.7	6.11	6.14	6.06	3.76	3.60	3.71	7	7.00
	23:13		Middle	1.5	27.40	27.40		7.89	7.89		24.04	24.04		87.0	86.5		6.01	5.98		3.78	3.70		7	
11/7/2012	23:00	Fine	Middle	1.5	29.00	29.00	28.95	7.94	7.94	7.94	22.85	22.85	22.86	89.1	82.7	88.0	6.05	5.61	5.97	3.50	3.43	3.35	6	5.50
	23:02		Middle	1.5	28.90	28.90		7.93	7.93		22.86	22.86		91.8	88.4		6.23	6.00		3.25	3.21		5	
14/7/2012	1:30	Cloudy	Middle	1.5	28.10	28.10	28.05	8.45	8.45	8.45	26.38	26.38	26.39	72.2	72.3	73.5	5.92	5.93	6.04	1.84	1.99	1.93	<2	<2
	1:32		Middle	1.5	28.00	28.00		8.44	8.44		26.39	26.39		76.4	73.2		6.29	6.02		2.01	1.88		<2	
16/7/2012	16:09	Cloudy	Middle	0.5	29.10	29.10	29.15	7.83	7.83	7.85	21.17	21.17	21.18	95.6	95.4	96.1	6.52	6.51	6.56	3.78	3.63	3.72	8	7.50
	16:11		Middle	0.5	29.20	29.20		7.86	7.86		21.19	21.19		96.5	96.9		6.59	6.61		3.79	3.68		7	
18/7/2012	18:10	Fine	Middle	1.0	28.60	28.60	28.65	7.85	7.85	7.85	23.98	23.98	23.99	79.2	78.5	78.1	6.00	5.91	5.68	5.01	5.01	4.97	5	4.50
	18:12		Middle	1.0	28.70	28.70		7.84	7.84		23.99	23.99		76.9	77.9		5.63	5.16		5.15	4.72		4	
20/7/2012	20:02	Cloudy	Middle	1.5	27.50	27.50	27.50	7.81	7.81	7.80	27.72	27.72	27.73	69.6	70.3	70.2	4.71	4.73	4.74	2.36	2.43	2.40	3	3.50
	20:04		Middle	1.5	27.50	27.50		7.78	7.78		27.73	27.73		70.6	70.3		4.77	4.75		2.42	2.39		4	
25/7/2012	20:30	Cloudy	Middle	2.0	25.50	25.50	25.55	7.63	7.63	7.63	28.89	28.89	28.88	68.6	65.8	65.2	4.77	4.58	4.53	3.97	3.41	3.50	2	3.00
	20:33		Middle	2.0	25.60	25.60		7.63	7.63		28.87	28.87		63.8	62.5		4.44	4.34		3.18	3.44		4	

Remarks:  
 Single underline denotes exceedance over Action Level  
 Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C3 - HKCEC Phase I  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		Turbidity		Suspended Solids			
					°C			-			ppt			%			mg/L		NTU		mg/L			
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average	Value	Average	Value	Average	Value	Average
30/6/2012	-	Cloudy	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	4:13	Fine	Middle	2.5	26.30	26.30	26.25	7.66	7.66	7.66	27.87	27.87	27.88	67.6	68.1	68.2	4.66	4.70	4.70	2.51	2.42	2.36	3	3.00
	4:15		Middle	2.5	26.20	26.20	26.25	7.65	7.65	7.66	27.88	27.88	27.88	68.2	68.7	68.2	4.70	4.74	4.70	2.18	2.32	2.36	3	3.00
5/7/2012	21:35	Cloudy	Middle	2.5	28.10	28.10	28.10	7.67	7.67	7.67	25.70	25.70	25.71	55.0	55.4	55.5	3.72	3.75	3.76	4.44	4.48	4.53	<2	<2
	21:37		Middle	2.5	28.10	28.10	28.10	7.66	7.66	7.67	25.71	25.71	25.71	55.7	55.7	55.5	3.78	3.77	3.76	4.64	4.56	4.53	<2	<2
7/7/2012	20:48	Cloudy	Middle	2.5	27.20	27.20	27.25	7.61	7.61	7.61	25.01	25.01	25.02	63.9	65.4	64.9	4.41	4.52	4.49	2.00	1.83	1.96	3	3.00
	20:50		Middle	2.5	27.30	27.30	27.25	7.60	7.60	7.61	25.02	25.02	25.02	65.1	65.3	64.9	4.50	4.52	4.49	1.91	2.11	1.96	3	3.00
9/7/2012	21:30	Fine	Middle	2.5	28.30	28.30	28.25	7.60	7.60	7.61	24.30	24.30	24.31	74.8	75.3	75.8	5.05	5.08	5.12	2.11	2.01	2.13	8	7.50
	21:32		Middle	2.5	28.20	28.20	28.25	7.61	7.61	7.61	24.31	24.31	24.31	76.4	76.6	75.8	5.16	5.17	5.12	2.23	2.17	2.13	7	7.50
11/7/2012	23:53	Fine	Middle	2.0	28.80	28.80	28.75	7.87	7.87	7.87	23.01	23.01	23.03	67.3	69.2	67.1	4.56	4.71	4.56	5.82	5.39	5.63	8	8.00
	23:55		Middle	2.0	28.70	28.70	28.75	7.86	7.86	7.87	23.05	23.05	23.03	67.2	64.5	67.1	4.57	4.39	4.56	5.79	5.50	5.63	8	8.00
14/7/2012	2:18	Cloudy	Middle	3.0	27.70	27.70	27.65	8.41	8.41	8.41	27.43	27.43	27.44	68.4	68.2	68.2	5.60	5.58	5.58	3.31	3.40	3.34	<2	<2
	2:20		Middle	3.0	27.60	27.60	27.65	8.40	8.40	8.41	27.44	27.44	27.44	68.1	68.0	68.2	5.57	5.57	5.58	3.21	3.42	3.34	<2	<2
16/7/2012	17:53	Cloudy	Middle	2.0	29.30	29.30	29.25	7.87	7.87	7.87	21.90	21.90	21.88	68.0	67.7	68.1	4.62	4.60	4.63	6.40	6.73	6.50	12	11.50
	17:56		Middle	2.0	29.20	29.20	29.25	7.87	7.87	7.87	21.86	21.86	21.88	68.3	68.2	68.1	4.64	4.64	4.63	6.53	6.34	6.50	11	11.50
18/7/2012	20:47	Fine	Middle	2.0	28.20	28.20	28.20	7.38	7.38	7.40	24.04	24.04	24.04	68.5	68.3	68.0	4.98	4.96	4.89	4.18	4.59	4.38	5	5.00
	20:49		Middle	2.0	28.20	28.20	28.20	7.42	7.42	7.40	24.04	24.04	24.04	67.7	67.5	68.0	4.83	4.80	4.89	4.32	4.44	4.38	5	5.00
20/7/2012	18:34	Cloudy	Middle	2.5	27.30	27.30	27.30	7.70	7.70	7.70	27.64	27.64	27.64	53.8	54.0	53.7	3.59	3.60	3.61	5.32	5.39	5.38	9	8.50
	18:37		Middle	2.5	27.30	27.30	27.30	7.70	7.70	7.70	27.63	27.63	27.64	53.7	53.4	53.7	3.64	3.62	3.61	5.41	5.40	5.38	8	8.50
25/7/2012	22:25	Cloudy	Middle	2.0	25.60	25.60	25.65	7.67	7.67	7.67	25.93	25.93	25.94	53.9	53.7	51.5	3.73	3.72	3.59	2.94	2.74	2.96	4	3.50
	22:27		Middle	2.0	25.70	25.70	25.65	7.67	7.67	7.67	25.94	25.94	25.94	49.0	49.4	51.5	3.43	3.49	3.59	3.01	3.14	2.96	3	3.50

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C4e - WCT / GEC  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		Turbidity			Suspended Solids		
					°C			-			ppt			%			mg/L		NTU			mg/L		
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average	Value	Average	Value
30/6/2012	-	Cloudy	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	3:40	Fine	Middle	1.0	26.40	26.40	26.35	7.61	7.61	7.61	27.86	27.86	27.86	55.8	56.7	56.6	3.85	3.91	3.90	2.68	2.88	2.70	4	4.50
	3:42		Middle	1.0	26.30	26.30	26.35	7.61	7.61	7.61	27.86	27.86	27.86	56.9	56.8	56.6	3.92	3.92	3.90	2.52	2.71	2.70	5	4.50
5/7/2012	21:16	Cloudy	Middle	1.5	27.90	27.90	27.90	7.72	7.72	7.71	25.79	25.79	25.79	59.5	60.0	59.9	4.06	4.08	4.08	2.62	2.55	2.40	<2	<2
	21:18		Middle	1.5	27.90	27.90	27.90	7.70	7.70	7.71	25.79	25.79	25.79	60.2	60.0	59.9	4.10	4.08	4.08	2.21	2.21	2.40	<2	<2
7/7/2012	20:26	Cloudy	Middle	1.5	27.50	27.50	27.45	7.57	7.57	7.57	24.94	24.94	24.94	51.2	52.9	51.9	3.53	3.65	3.58	2.18	2.20	2.18	6	5.50
	20:28		Middle	1.5	27.40	27.40	27.45	7.57	7.57	7.57	24.93	24.93	24.94	51.3	52.2	51.9	3.54	3.60	3.58	2.16	2.17	2.18	5	5.50
9/7/2012	21:11	Fine	Middle	1.0	28.60	28.60	28.55	7.69	7.69	7.69	24.38	24.38	24.39	65.6	66.7	66.4	4.45	4.53	4.51	2.96	2.99	2.96	7	7.50
	21:13		Middle	1.0	28.50	28.50	28.55	7.69	7.69	7.69	24.39	24.39	24.39	66.6	66.8	66.4	4.52	4.54	4.51	3.07	2.81	2.96	8	7.50
11/7/2012	23:20	Fine	Middle	1.5	28.90	28.90	28.85	7.92	7.92	7.92	22.91	22.91	22.92	75.0	71.4	70.6	5.08	4.84	4.79	4.76	4.53	4.59	8	8.00
	23:22		Middle	1.5	28.80	28.80	28.85	7.91	7.91	7.92	22.92	22.92	22.92	69.3	66.7	70.6	4.70	4.52	4.79	4.61	4.47	4.59	8	8.00
14/7/2012	1:52	Cloudy	Middle	1.0	27.40	27.40	27.45	8.38	8.38	8.38	24.33	24.33	24.33	68.7	67.2	67.9	5.70	5.57	5.63	2.99	2.78	2.84	4	4.50
	1:54		Middle	1.0	27.50	27.50	27.45	8.37	8.37	8.38	24.32	24.32	24.33	67.3	68.5	67.9	5.58	5.68	5.63	2.79	2.80	2.84	5	4.50
16/7/2012	17:28	Cloudy	Middle	2.0	29.40	29.40	29.35	7.89	7.89	7.89	21.79	21.79	21.80	73.6	73.1	73.3	4.99	4.96	4.97	5.73	5.68	5.74	10	10.50
	17:30		Middle	2.0	29.30	29.30	29.35	7.89	7.89	7.89	21.80	21.80	21.80	73.2	73.1	73.3	4.96	4.96	4.97	5.55	5.98	5.74	11	10.50
18/7/2012	20:23	Fine	Middle	2.5	26.90	26.90	26.95	7.65	7.65	7.65	25.80	25.80	25.79	68.8	68.7	68.7	4.96	4.94	4.94	3.33	3.78	3.64	6	5.50
	20:25		Middle	2.5	27.00	27.00	26.95	7.65	7.65	7.65	25.78	25.78	25.79	68.5	68.7	68.7	4.93	4.94	4.94	4.04	3.39	3.64	5	5.50
20/7/2012	18:13	Cloudy	Middle	1.0	27.30	27.30	27.30	7.64	7.64	7.64	27.56	27.56	27.57	51.5	52.8	53.5	3.66	3.69	3.71	5.28	5.32	5.41	8	8.00
	18:15		Middle	1.0	27.30	27.30	27.30	7.64	7.64	7.64	27.57	27.57	27.57	54.4	55.4	53.5	3.72	3.77	3.71	5.47	5.58	5.41	8	8.00
25/7/2012	22:05	Cloudy	Middle	2.0	25.50	25.50	25.50	7.64	7.64	7.64	26.70	26.70	26.70	43.9	44.8	45.2	3.04	3.06	3.11	2.20	1.82	2.01	4	3.00
	22:07		Middle	2.0	25.50	25.50	25.50	7.64	7.64	7.64	26.69	26.69	26.70	44.3	47.6	45.2	3.05	3.30	3.11	1.93	2.10	2.01	2	3.00

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C4w - WCT / GEC  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		Turbidity		Suspended Solids			
					°C			-			ppt			%			mg/L		NTU		mg/L			
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average	Value	Average	Value	Average	Value	Average
30/6/2012	-	Cloudy	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	3:58	Fine	Middle	1.0	26.30	26.30	26.35	7.63	7.63	7.63	27.80	27.80	27.80	59.9	60.3	60.1	4.13	4.16	4.15	3.01	3.11	2.97	5	4.50
	4:01		Middle	1.0	26.40	26.40		7.62	7.62		7.62	27.80		27.80	27.80		60.1	60.2		60.1	4.16		4.16	
5/7/2012	21:22	Cloudy	Middle	1.5	28.40	28.40	28.40	7.59	7.59	7.59	25.64	25.64	25.64	43.8	44.0	44.1	2.96	2.97	<u>2.98</u>	1.74	1.72	1.60	<2	<2
	21:24		Middle	1.5	28.40	28.40		7.59	7.59		7.59	25.64		25.64	25.64		44.1	44.4		44.1	2.98		2.99	
7/7/2012	20:33	Cloudy	Middle	1.5	27.40	27.40	27.45	7.59	7.59	7.59	24.86	24.86	24.86	56.1	57.4	57.3	3.87	3.96	3.96	1.81	1.91	1.85	5	4.00
	20:36		Middle	1.5	27.50	27.50		7.58	7.58		7.58	24.85		24.85	24.85		57.7	57.9		57.7	3.99		4.01	
9/7/2012	21:18	Fine	Middle	1.5	28.50	28.50	28.45	7.57	7.57	7.57	24.43	24.43	24.44	70.1	71.2	70.8	4.76	4.84	4.81	3.12	3.14	3.18	8	8.00
	21:20		Middle	1.5	28.40	28.40		7.56	7.56		7.56	24.44		24.44	24.44		70.9	71.1		70.9	4.82		4.83	
11/7/2012	23:31	Fine	Middle	1.5	29.20	29.20	29.15	7.79	7.79	7.79	22.96	22.96	22.97	65.1	62.3	62.1	4.40	4.21	4.20	2.75	2.96	2.80	3	3.00
	23:33		Middle	1.5	29.10	29.10		7.78	7.78		7.78	22.97		22.97	22.97		60.0	60.9		60.0	4.06		4.12	
14/7/2012	2:07	Cloudy	Middle	1.5	27.70	27.70	27.75	8.28	8.28	8.29	25.11	25.11	25.12	69.3	69.4	69.8	5.75	5.76	5.80	4.01	4.18	4.08	6	6.50
	2:09		Middle	1.5	27.80	27.80		8.30	8.30		8.30	25.12		25.12	25.12		71.1	69.5		71.1	5.91		5.78	
16/7/2012	17:41	Cloudy	Middle	2.0	29.50	29.50	29.50	7.86	7.86	7.86	21.89	21.89	21.88	66.6	67.1	66.0	4.51	4.54	4.46	3.91	3.55	3.80	12	11.50
	17:43		Middle	2.0	29.50	29.50		7.86	7.86		7.86	21.86		21.86	21.86		66.2	64.2		66.2	4.43		4.35	
18/7/2012	20:30	Fine	Middle	2.5	28.10	28.10	28.10	7.71	7.71	7.71	24.28	24.28	24.29	54.6	55.1	54.9	3.87	3.91	3.90	3.01	3.29	3.01	4	4.00
	20:32		Middle	2.5	28.10	28.10		7.71	7.71		7.71	24.29		24.29	24.29		55.2	54.8		55.2	3.92		3.89	
20/7/2012	18:24	Cloudy	Middle	1.5	27.20	27.20	27.15	7.70	7.70	7.71	27.52	27.52	27.53	52.0	51.7	52.1	3.53	3.51	3.53	5.56	5.80	5.70	6	6.50
	18:26		Middle	1.5	27.10	27.10		7.71	7.71		7.71	27.53		27.53	27.53		52.3	52.2		52.3	3.55		3.54	
25/7/2012	22:10	Cloudy	Middle	1.5	25.70	25.70	25.75	7.68	7.68	7.69	26.69	26.69	26.69	72.2	73.5	72.5	5.07	5.15	5.07	2.16	2.05	2.11	4	3.50
	22:13		Middle	1.5	25.80	25.80		7.69	7.69		7.69	26.69		26.69	26.69		71.7	72.7		71.7	4.95		5.10	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C5e - Sun Hung Kai Centre  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
					°C			-			ppt			%			mg/L			NTU			mg/L	
			m		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average
30/6/2012	18:36	Cloudy	Middle	1.5	27.12	27.12	27.13	8.05	8.05	8.05	28.31	28.31	28.30	67.1	67.2	67.1	4.55	4.55	4.55	2.72	2.64	2.43	3	3.00
	18:38		Middle	1.5	27.13	27.13		8.04	8.04		28.29	28.29		67.0	67.1		4.54	4.54		2.14	2.22		3	
3/7/2012	4:41	Fine	Middle	1.5	26.60	26.60	26.55	7.66	7.66	7.66	27.20	27.20	27.21	71.1	71.4	71.1	4.89	4.91	4.89	3.01	3.03	3.11	5	4.50
	4:43		Middle	1.5	26.50	26.50		7.65	7.65		27.21	27.21		71.2	70.6		4.90	4.86		3.22	3.19		4	
5/7/2012	20:44	Cloudy	Middle	1.0	28.40	28.40	28.35	7.71	7.71	7.71	26.03	26.03	26.03	62.0	61.9	62.0	4.17	4.17	4.18	1.30	1.40	1.30	<2	<2
	20:46		Middle	1.0	28.30	28.30		7.70	7.70		26.03	26.03		62.1	62.1		4.18	4.18		1.27	1.23		<2	
7/7/2012	21:22	Cloudy	Middle	1.5	28.50	28.50	28.50	7.50	7.51	7.51	25.29	25.29	25.29	78.6	80.4	80.0	5.30	5.43	5.40	2.00	2.01	2.03	8	7.50
	21:25		Middle	1.5	28.50	28.50		7.51	7.50		25.28	25.28		80.5	80.6		5.43	5.44		2.12	1.98		7	
9/7/2012	22:16	Fine	Middle	1.5	29.70	29.70	29.65	7.93	7.93	7.94	24.55	24.55	24.56	82.6	85.4	85.1	5.49	5.68	5.66	3.01	3.03	3.07	13	13.00
	22:18		Middle	1.5	29.60	29.60		7.94	7.94		24.56	24.56		86.3	86.2		5.74	5.73		3.07	3.18		13	
12/7/2012	0:17	Fine	Middle	1.5	28.80	28.80	28.75	7.87	7.87	7.87	22.47	22.47	22.47	62.9	62.1	61.7	4.14	4.19	4.11	3.23	3.51	3.44	8	7.00
	0:19		Middle	1.5	28.70	28.70		7.86	7.86		22.46	22.46		61.6	60.0		4.10	4.00		3.61	3.40		6	
14/7/2012	3:05	Cloudy	Middle	1.5	28.10	28.10	28.15	8.20	8.20	8.20	24.88	24.88	24.89	83.7	84.7	84.1	6.98	7.06	7.01	3.22	3.41	3.35	6	7.00
	3:07		Middle	1.5	28.20	28.20		8.19	8.19		24.89	24.89		84.8	83.0		7.07	6.92		3.40	3.38		8	
16/7/2012	17:05	Cloudy	Middle	1.0	31.30	31.30	31.30	8.03	8.03	8.03	21.98	21.98	21.98	68.4	68.4	68.9	4.49	4.49	4.52	8.88	8.91	8.89	18	<b>18.50</b>
	17:07		Middle	1.0	31.30	31.30		8.02	8.02		21.98	21.98		69.0	69.8		4.53	4.58		9.01	8.77		19	
18/7/2012	19:58	Fine	Middle	2.0	27.80	27.80	27.80	7.84	7.84	7.84	25.08	25.08	25.08	74.6	74.5	74.6	5.51	5.51	5.51	6.14	6.15	6.00	7	6.50
	20:00		Middle	2.0	27.80	27.80		7.83	7.83		25.07	25.07		74.7	74.4		5.52	5.50		5.65	6.06		6	
20/7/2012	17:02	Cloudy	Middle	1.5	28.40	28.40	28.40	7.72	7.72	7.72	27.83	27.83	27.84	49.0	53.9	52.7	3.30	3.59	3.51	5.50	5.63	5.47	9	8.50
	17:05		Middle	1.5	28.40	28.40		7.72	7.72		27.84	27.84		53.7	54.2		3.52	3.62		5.43	5.33		8	
25/7/2012	21:37	Cloudy	Middle	1.0	26.00	26.00	26.05	7.70	7.70	7.70	28.03	28.03	28.04	48.3	49.6	48.9	3.38	3.45	3.41	2.51	2.29	2.44	2	2.00
	21:39		Middle	1.0	26.10	26.10		7.70	7.70		28.04	28.04		48.2	49.3		3.38	3.43		2.34	2.61		2	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C5w - Sun Hung Kai Centre  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
					°C			-			ppt			%			mg/L			NTU			mg/L	
			m		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
30/6/2012	18:45	Cloudy	Middle	1.5	27.12	27.12	27.13	7.99	7.99	7.98	28.04	28.04	28.04	71.5	71.4	71.4	4.86	4.85	4.85	2.49	2.23	2.49	9	9.00
	18:47		Middle	1.5	27.13	27.13		7.97	7.97		28.03	28.03		71.3	71.4		4.85	4.85		2.50	2.75		9	
3/7/2012	4:47	Fine	Middle	1.0	26.50	26.50	26.55	7.68	7.68	7.68	27.22	27.22	27.22	73.2	73.5	73.3	5.04	5.06	5.04	2.87	2.89	2.79	3	3.00
	4:49		Middle	1.0	26.60	26.60		7.67	7.67		27.21	27.21		73.5	72.8		5.05	5.01		2.61	2.80		3	
5/7/2012	20:52	Cloudy	Middle	1.0	28.30	28.30	28.30	7.74	7.74	7.74	26.01	26.01	26.02	63.7	64.2	64.2	4.29	4.33	4.33	5.41	5.21	5.50	9	8.50
	20:54		Middle	1.0	28.30	28.30		7.73	7.73		26.03	26.03		64.5	64.4		4.35	4.34		5.66	5.71		8	
7/7/2012	21:16	Cloudy	Middle	1.5	28.50	28.50	28.45	7.38	7.38	7.38	25.20	25.20	25.21	77.0	77.8	77.2	5.20	5.25	5.21	1.21	1.31	1.32	9	8.00
	21:18		Middle	1.5	28.40	28.40		7.37	7.37		25.21	25.21		77.0	76.9		5.19	5.19		1.42	1.33		7	
9/7/2012	22:07	Fine	Middle	1.0	29.50	29.50	29.45	7.98	7.98	7.98	24.50	24.50	24.51	86.8	87.4	87.6	5.77	5.81	5.82	3.91	3.88	3.90	17	16.00
	22:09		Middle	1.0	29.40	29.40		7.97	7.97		24.51	24.51		88.2	87.8		5.88	5.83		3.80	3.99		15	
12/7/2012	0:19	Fine	Middle	1.5	28.70	28.70	28.65	7.87	7.87	7.87	22.40	22.40	22.40	66.6	67.2	67.0	4.46	4.51	4.50	3.02	3.17	3.16	6	6.00
	0:21		Middle	1.5	28.60	28.60		7.86	7.86		22.40	22.40		66.7	67.3		4.50	4.52		3.13	3.33		6	
14/7/2012	2:55	Cloudy	Middle	1.0	28.00	28.00	27.95	8.14	8.14	8.15	24.30	24.30	24.31	81.5	81.2	81.7	6.80	6.78	6.82	2.60	2.77	2.70	6	6.00
	2:57		Middle	1.0	27.90	27.90		8.15	8.15		24.31	24.31		81.1	82.8		6.77	6.91		2.71	2.73		6	
16/7/2012	17:10	Cloudy	Middle	1.0	31.40	31.40	31.35	8.02	8.02	8.02	22.04	22.04	22.04	68.6	69.3	69.5	4.50	4.54	4.63	9.00	8.89	8.74	16	16.50
	17:12		Middle	1.0	31.30	31.30		8.02	8.02		22.04	22.04		69.7	70.4		4.87	4.62		8.70	8.38		17	
18/7/2012	20:05	Fine	Middle	2.0	28.00	28.00	28.00	7.90	7.90	7.86	18.14	18.14	18.15	81.1	80.5	80.7	6.00	5.95	5.97	5.92	5.77	5.87	10	9.50
	20:07		Middle	2.0	28.00	28.00		7.82	7.82		18.16	18.16		80.6	80.5		5.96	5.95		6.05	5.73		9	
20/7/2012	17:10	Cloudy	Middle	1.5	28.30	28.30	28.30	7.70	7.70	7.70	27.92	27.92	27.92	50.9	52.8	52.2	3.45	3.47	3.49	4.94	4.73	4.86	8	7.50
	17:13		Middle	1.5	28.30	28.30		7.70	7.70		27.92	27.92		51.5	53.4		3.43	3.60		4.82	4.95		7	
25/7/2012	21:45	Cloudy	Middle	1.0	26.00	26.00	26.10	7.70	7.70	7.70	28.36	28.36	28.37	48.3	53.2	51.0	3.37	3.69	3.54	2.47	2.53	2.45	8	8.00
	21:47		Middle	1.0	26.20	26.20		7.70	7.70		28.37	28.37		48.9	53.5		3.38	3.73		2.48	2.31		8	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at WSD21 - Wan Chai  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
					°C		-		ppt		%		mg/L		NTU		mg/L							
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	
30/6/2012	18:58	Cloudy	Middle	1.5	26.76	26.76	27.27	7.86	7.86	7.85	29.02	29.02	29.02	73.5	73.3	73.2	5.00	4.98	4.97	3.11	2.81	2.94	7	7.00
	19:00		Middle	1.5	27.77	27.77		7.83	7.83		29.01	29.01		72.9	72.9		4.96	4.95		2.97	2.86		7	
3/7/2012	4:32	Fine	Middle	1.5	26.60	26.60	26.55	7.66	7.66	7.66	27.26	27.26	27.26	63.9	66.1	65.7	4.41	4.56	4.54	1.23	1.12	1.14	3	3.00
	4:34		Middle	1.5	26.50	26.50		7.65	7.65		27.25	27.25		66.1	66.7		4.57	4.60		1.14	1.08		3	
5/7/2012	20:28	Cloudy	Middle	1.5	28.40	28.40	28.40	7.71	7.71	7.71	25.93	25.93	25.93	61.2	60.7	61.2	4.12	4.09	4.12	3.93	3.36	3.76	3	3.50
	20:30		Middle	1.5	28.40	28.40		7.71	7.71		25.93	25.93		61.1	61.6		4.11	4.15		3.80	3.96		4	
7/7/2012	21:04	Cloudy	Middle	1.5	28.30	28.30	28.25	7.72	7.72	7.73	25.32	25.33	25.33	73.9	75.0	74.3	5.00	5.08	5.03	3.02	3.01	3.05	8	7.50
	21:06		Middle	1.5	28.20	28.20		7.73	7.73		25.33	25.33		74.0	74.1		5.01	5.02		3.11	3.07		7	
9/7/2012	21:49	Fine	Middle	1.5	29.40	29.40	29.40	7.91	7.91	7.91	24.68	24.68	24.68	88.5	87.8	87.2	5.90	5.86	5.82	5.20	5.28	5.22	8	8.50
	21:51		Middle	1.5	29.40	29.40		7.90	7.90		24.67	24.67		86.5	86.1		5.77	5.75		5.20	5.18		9	
12/7/2012	0:10	Fine	Middle	1.5	29.00	29.00	28.95	7.97	7.97	7.92	22.88	22.88	22.89	64.5	64.7	62.7	4.35	4.37	4.24	4.12	4.00	4.12	32	<u>32.00</u>
	0:12		Middle	1.5	28.90	28.90		7.76	7.96		22.89	22.89		60.6	61.1		4.09	4.13		4.25	4.11		32	
14/7/2012	2:38	Cloudy	Middle	1.5	27.80	27.80	27.75	8.01	8.01	8.02	24.10	24.10	24.10	82.5	82.7	83.0	6.82	6.84	6.86	3.01	3.00	3.03	3	3.00
	2:40		Middle	1.5	27.70	27.70		8.02	8.02		24.09	24.09		82.4	84.2		6.81	6.97		2.97	3.12		3	
16/7/2012	16:44	Cloudy	Middle	1.5	29.50	29.60	29.58	7.96	7.96	7.96	22.08	22.08	22.09	76.3	75.9	76.0	5.14	5.12	5.13	6.36	7.04	6.73	10	11.00
	16:46		Middle	1.5	29.60	29.60		7.95	7.95		22.10	22.10		75.8	76.0		5.11	5.13		6.76	6.75		12	
18/7/2012	19:41	Fine	Middle	2.0	28.20	28.20	28.20	7.84	7.84	7.84	24.91	24.91	24.90	62.7	62.5	62.7	4.72	4.70	4.71	10.71	9.80	9.50	13	13.50
	19:43		Middle	2.0	28.20	28.20		7.83	7.83		24.89	24.89		62.6	62.8		4.71	4.72		8.59	8.88		14	
20/7/2012	18:48	Cloudy	Middle	1.0	28.80	28.80	28.75	7.69	7.69	7.70	27.88	27.88	27.89	57.3	56.1	56.5	3.79	3.72	3.75	5.82	5.90	5.85	6	5.50
	18:50		Middle	1.0	28.70	28.70		7.70	7.70		27.89	27.89		56.2	56.5		3.73	3.74		5.77	5.91		5	
25/7/2012	21:20	Cloudy	Middle	1.0	26.00	26.00	26.00	7.68	7.68	7.68	28.38	28.38	28.38	51.2	54.4	52.4	3.57	3.78	3.50	3.92	3.76	3.85	7	7.50
	21:22		Middle	1.0	26.00	26.00		7.68	7.68		28.38	28.38		51.6	52.5		3.58	3.06		3.72	4.01		8	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level





**Water Monitoring Result at WSD19 - Sheung Wan  
Mid-Flood Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
					°C			-			ppt			%			mg/L			NTU			mg/L	
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average		Value	Average
30/6/2012	13:36	Cloudy	Middle	2.0	27.43	27.43	27.43	7.76	7.76	7.77	28.71	28.71	28.70	77.6	77.0	76.7	5.28	5.23	5.22	24.90	25.20	<u>25.38</u>	12	13.00
	13:38		Middle	2.0	27.42	27.42		7.77	7.77		28.68	28.68		76.4	75.9		5.20	5.16		26.30	25.10		14	
3/7/2012	3:55	Fine	Middle	2.0	27.00	27.00	27.00	8.14	8.14	8.14	27.24	27.24	27.24	74.8	74.9	75.2	5.31	5.31	5.32	2.33	2.22	2.30	5	5.50
	3:56		Middle	2.0	27.00	27.00		8.14	8.14		27.24	27.24		75.5	75.5		5.33	5.33		2.15	2.48		6	
5/7/2012	23:10	Cloudy	Middle	2.0	27.20	27.20	27.20	7.90	7.90	7.90	27.63	27.63	27.64	75.2	75.0	75.4	5.11	5.09	5.15	2.43	2.37	2.41	2	2.00
	23:11		Middle	2.0	27.20	27.20		7.90	7.90		27.65	27.65		76.3	75.2		5.30	5.11		2.47	2.35		2	
7/7/2012	0:45	Cloudy	Middle	2.0	27.60	27.60	27.60	7.91	7.91	7.89	26.54	26.54	26.55	80.6	80.7	80.2	5.46	5.47	5.44	2.64	2.27	2.46	6	5.50
	0:46		Middle	2.0	27.60	27.60		7.87	7.87		26.55	26.55		79.7	79.7		5.41	5.41		2.40	2.54		5	
9/7/2012	1:55	Fine	Middle	2.0	28.10	28.10	28.10	8.05	8.05	8.05	24.91	24.91	24.92	88.6	88.8	88.1	6.02	6.03	5.99	2.29	2.18	2.15	6	6.00
	1:56		Middle	2.0	28.10	28.10		8.05	8.05		24.93	24.93		87.0	87.8		5.92	5.97		2.12	2.01		6	
12/7/2012	2:10	Fine	Middle	2.0	28.40	28.40	28.40	8.17	8.17	8.17	21.50	21.50	21.50	94.7	94.3	94.3	6.80	6.62	6.61	2.02	2.10	1.96	4	4.00
	2:11		Middle	2.0	28.40	28.40		8.17	8.17		21.49	21.49		94.1	93.9		6.49	6.54		1.94	1.79		4	
14/7/2012	4:00	Cloudy	Middle	2.0	28.60	28.60	28.60	8.29	8.29	8.29	20.24	20.24	20.24	95.6	92.6	93.7	6.85	6.59	6.65	2.45	2.27	2.46	4	3.50
	4:01		Middle	2.0	28.60	28.60		8.29	8.29		20.24	20.24		93.2	93.4		6.66	6.50		2.55	2.56		3	
16/7/2012	20:30	Cloudy	Middle	2.0	28.30	28.30	28.30	8.26	8.26	8.26	22.53	22.53	22.53	90.5	90.2	90.4	6.47	6.61	6.67	1.88	1.77	1.86	7	7.50
	20:31		Middle	2.0	28.30	28.30		8.26	8.26		22.53	22.53		89.6	91.4		6.74	6.87		1.88	1.89		8	
18/7/2012	20:15	Fine	Middle	2.0	27.20	27.20	27.20	8.07	8.05	8.06	27.10	27.10	27.10	74.7	73.4	74.0	5.06	4.98	5.11	2.42	2.36	2.38	4	4.00
	20:16		Middle	2.0	27.20	27.20		8.05	8.05		27.10	27.10		73.1	74.9		5.18	5.21		2.22	2.51		4	
20/7/2012	22:20	Cloudy	Middle	2.0	25.90	25.90	25.90	8.00	8.00	8.00	30.50	30.49	30.50	63.9	63.9	63.7	4.56	4.56	4.50	1.04	1.05	1.04	8	8.00
	22:21		Middle	2.0	25.90	25.90		8.00	8.00		30.51	30.51		64.1	62.9		4.57	4.30		1.01	1.05		8	
25/7/2012	21:02	Cloudy	Middle	1.5	25.50	25.50	25.50	7.78	7.78	7.78	22.62	22.62	22.62	69.5	69.9	69.8	4.79	4.82	4.81	3.76	3.48	3.49	4	3.50
	21:03		Middle	1.5	25.50	25.50		7.78	7.78		22.62	22.62		69.9	69.9		4.82	4.82		3.27	3.46		3	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at WSD9 - Tai Wan  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation		DO		Turbidity		Suspended Solids				
					°C			-			ppt			%		mg/L		NTU		mg/L				
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	12:58	Sunny	Middle	2.5	28.32	28.32	28.32	7.17	7.17	7.16	29.20	29.20	29.19	70.9	70.9	71.0	4.70	4.70	4.70	0.88	0.73	0.79	2	2.50
	13:00		Middle	2.5	28.32	28.32		7.15	7.15		29.18	29.18		71.0	71.0		4.70	4.70		0.76	0.78		3	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	12:36	Fine	Middle	3.0	27.88	27.88	27.89	7.63	7.63	7.62	28.01	28.01	28.01	73.3	73.4	73.4	4.92	4.92	4.92	1.83	1.63	1.62	4	3.50
	12:38		Middle	3.0	27.90	27.90		7.60	7.60		28.00	28.00		73.4	73.4		4.92	4.92		1.54	1.48		3	
9/7/2012	13:58	Fine	Middle	2.5	29.12	29.12	29.13	6.60	6.60	6.59	26.49	26.49	26.50	63.8	63.8	63.8	4.23	4.23	4.23	2.36	2.32	2.34	9	9.00
	14:00		Middle	2.5	29.13	29.13		6.57	6.57		26.51	26.51		63.8	63.7		4.23	4.22		2.35	2.31		9	
11/7/2012	15:21	Sunny	Middle	2.0	28.65	28.68	28.67	7.42	7.42	7.41	24.23	24.23	24.21	86.4	86.6	86.7	5.84	5.85	5.86	3.79	3.69	3.64	7	7.00
	15:23		Middle	2.0	28.67	28.67		7.40	7.40		24.18	24.18		86.9	87.0		5.87	5.88		3.46	3.62		7	
14/7/2012	7:33	Fine	Middle	3.0	28.03	28.03	28.03	8.32	8.32	8.31	21.13	21.13	21.14	73.8	73.8	73.9	5.13	5.13	5.14	3.75	3.83	3.79	4	4.50
	7:35		Middle	3.0	28.02	28.02		8.29	8.29		21.14	21.14		73.9	73.9		5.14	5.14		3.94	3.62		5	
16/7/2012	8:02	Fine	Middle	3.0	27.72	27.72	27.73	7.87	7.87	7.87	24.60	24.60	24.60	51.4	51.4	51.4	3.53	3.52	3.52	4.47	4.85	4.85	5	4.50
	8:04		Middle	3.0	27.74	27.74		7.86	7.86		24.59	24.59		51.4	51.3		3.52	3.51		5.25	4.84		4	
18/7/2012	10:04	Rainy	Middle	2.5	26.51	26.51	26.50	8.25	8.25	8.24	25.42	25.42	25.43	44.3	44.3	44.4	3.09	3.09	<u>3.10</u>	2.58	2.51	2.36	7	6.50
	10:06		Middle	2.5	26.49	26.49		8.23	8.23		25.44	25.44		44.4	44.4		3.10	3.10		2.20	2.15		6	
20/7/2012	10:42	Fine	Middle	2.5	26.16	26.16	26.14	7.14	7.14	7.17	30.25	30.25	30.27	33.8	33.8	33.7	2.31	2.31	<u>2.31</u>	4.15	4.09	4.34	5	5.50
	10:44		Middle	2.5	26.12	26.12		7.19	7.19		30.29	30.29		33.7	33.6		2.30	2.30		4.55	4.57		6	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at WSD17 - Quarry Bay  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth	Water Temperature				pH		Salinity			DO Saturation		DO			Turbidity		Suspended Solids				
				m	°C		-		ppt		%		mg/L		NTU		mg/L							
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	11:31	Sunny	Middle	4	27.32	27.32	27.35	7.10	7.10	7.07	29.78	29.78	29.78	69.5	69.4	69.3	4.66	4.65	4.65	2.51	2.55	2.45	3	2.50
	11:32		Middle	4	27.37	27.37		7.04	7.04		29.78	29.78		69.3	69.0		4.64	4.63		2.29	2.44		2	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	15:29	Fine	Middle	3	28.60	28.60	28.60	6.71	6.71	6.71	27.05	27.05	27.06	68.3	68.2	68.2	4.56	4.55	4.55	2.84	2.53	2.68	3	3.00
	15:31		Middle	3	28.60	28.60		6.70	6.70		27.07	27.07		68.1	68.1		4.54	4.54		2.80	2.56		3	
9/7/2012	16:39	Fine	Middle	3	28.69	28.69	28.70	6.70	6.70	6.69	26.82	26.82	26.81	69.9	70.1	70.2	4.66	4.67	4.68	2.24	2.13	2.20	7	7.00
	16:41		Middle	3	28.70	28.71		6.68	6.68		26.80	26.80		70.4	70.3		4.69	4.68		2.26	2.16		7	
11/7/2012	18:30	Sunny	Middle	2	28.18	28.18	28.17	7.71	7.71	7.71	24.72	24.72	24.71	70.1	70.5	70.6	4.76	4.78	4.79	3.58	3.47	3.34	5	5.00
	18:32		Middle	2	28.16	28.16		7.70	7.70		24.70	24.70		70.8	71.1		4.80	4.82		3.17	3.15		5	
14/7/2012	9:08	Fine	Middle	3	27.46	27.46	27.46	8.38	8.38	8.37	21.88	21.88	21.88	53.3	53.5	53.6	3.73	3.75	3.75	3.80	4.28	4.18	4	5.00
	9:10		Middle	3	27.46	27.46		8.35	8.35		21.88	21.88		53.8	53.9		3.76	3.77		3.96	4.67		6	
16/7/2012	12:03	Fine	Middle	3	28.41	28.41	28.43	7.72	7.72	7.70	23.23	23.23	23.23	52.5	52.8	52.8	3.60	2.61	3.36	3.28	3.43	3.33	5	5.50
	12:05		Middle	3	28.44	28.44		7.68	7.68		23.23	23.23		52.9	53.0		3.62	3.62		3.18	3.42		6	
18/7/2012	11:46	Rainy	Middle	2	26.58	26.58	26.59	7.93	7.93	7.92	26.72	26.72	26.70	34.8	34.8	35.0	2.41	2.41	<u>2.42</u>	3.74	3.64	3.71	4	3.50
	11:48		Middle	2	26.59	26.59		7.90	7.90		26.68	26.68		35.1	35.1		2.43	2.43		3.68	3.78		3	
20/7/2012	14:08	Fine	Middle	3	26.30	26.30	26.45	8.11	8.11	8.11	31.37	31.37	31.36	72.7	71.9	71.8	4.90	4.85	4.84	4.91	4.45	4.52	4	4.00
	14:10		Middle	3	26.60	26.60		8.11	8.11		31.35	31.35		71.5	71.0		4.82	4.79		4.46	4.24		4	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C9 - Provident Centre  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation		DO		Turbidity		Suspended Solids				
					°C			-			ppt			%		mg/L		NTU		mg/L				
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/7/2012	11:04	Sunny	Middle	3	27.17	27.17	27.17	7.11	7.11	7.11	28.18	28.18	28.19	83.6	83.4	83.4	5.66	5.66	5.66	2.30	2.42	2.37	2	2.00
	11:06		Middle	3	27.16	27.16		7.10	7.10		28.20	28.20		83.2	83.2		5.65	5.65		2.43	2.32		2	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/7/2012	15:10	Fine	Middle	2	28.70	28.70	28.71	6.49	6.49	6.49	26.09	26.09	26.08	72.8	72.8	72.8	4.87	4.87	4.87	3.52	3.63	3.50	6	6.50
	15:12		Middle	2	28.71	28.71		6.48	6.48		26.07	26.07		72.8	72.8		4.87	4.87		3.36	3.48		7	
9/7/2012	16:15	Fine	Middle	2	29.17	29.17	29.18	6.60	6.60	6.59	25.11	25.11	25.11	80.7	80.7	80.8	5.38	5.38	5.39	3.67	3.91	3.64	9	8.00
	16:17		Middle	2	29.18	29.18		6.57	6.57		25.11	25.11		80.8	80.9		5.39	5.39		3.53	3.45		7	
11/7/2012	18:10	Sunny	Middle	2	29.08	29.08	29.09	7.86	7.86	7.86	23.46	23.46	23.46	79.3	79.8	80.1	5.34	5.38	5.40	3.79	3.25	3.67	7	7.00
	18:12		Middle	2	29.09	29.09		7.85	7.85		23.46	23.46		80.3	81.0		5.41	5.45		3.83	3.80		7	
14/7/2012	11:25	Fine	Middle	3	28.44	28.44	28.44	8.35	8.35	8.34	20.12	20.12	20.12	64.2	64.4	64.5	4.46	4.48	4.48	4.44	4.21	4.31	8	7.50
	11:27		Middle	3	28.44	28.44		8.32	8.32		20.12	20.12		64.6	64.7		4.49	4.50		4.38	4.19		7	
16/7/2012	11:30	Fine	Middle	2	28.12	28.12	28.14	7.88	7.88	7.87	22.36	22.36	22.35	51.1	51.5	51.5	3.52	3.55	3.55	5.20	5.48	5.49	7	7.50
	11:32		Middle	2	28.15	28.15		7.85	7.85		22.33	22.33		51.4	51.8		3.55	3.57		5.78	5.49		8	
18/7/2012	11:25	Rainy	Middle	2	27.02	27.02	27.04	8.28	8.28	8.27	24.47	24.47	24.47	36.5	36.9	37.1	2.54	2.56	<u>2.58</u>	4.60	4.38	4.46	4	4.00
	11:27		Middle	2	27.05	27.05		8.26	8.26		24.46	24.46		37.3	37.6		2.59	2.61		4.37	4.48		4	
20/7/2012	13:50	Fine	Middle	2	28.40	28.40	28.45	8.11	8.11	8.11	28.44	28.44	28.45	88.6	89.0	89.1	5.87	5.90	5.91	6.65	6.95	6.79	5	5.00
	13:52		Middle	2	28.50	28.50		8.11	8.11		28.45	28.45		89.0	89.8		5.90	5.95		6.81	6.73		5	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Remarks:  
 Single underline denotes exceedance over Action Level  
 Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C8 - City Garden  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO			Turbidity			Suspended Solids	
			m		°C		-		ppt		%		mg/L		NTU		mg/L							
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	10:50	Sunny	Middle	2	27.23	27.23	27.22	7.08	7.08	7.07	28.46	28.46	28.48	76.5	76.5	76.5	5.18	5.18	5.18	2.13	2.06	1.98	<2	<2
	10:52		Middle	2	27.21	27.21		7.06	7.06		28.50	28.50		76.4	76.4		5.18	5.17		1.95	1.78		<2	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	14:45	Fine	Middle	2	28.89	28.90	28.90	5.92	5.92	5.92	22.01	22.01	22.03	60.2	69.8	62.1	4.10	4.07	4.06	14.30	14.30	<u>14.35</u>	9	9.50
	14:47		Middle	2	28.90	28.90		5.92	5.92		22.05	22.05		59.4	58.8		4.04	4.01		14.60	14.20		10	
9/7/2012	16:00	Fine	Middle	2	29.16	29.16	29.17	6.27	6.27	6.28	23.67	23.67	23.65	75.1	75.4	75.7	5.05	5.07	5.09	9.21	9.13	9.10	8	8.00
	16:02		Middle	2	29.17	29.17		6.28	6.28		23.63	23.63		76.1	76.3		5.12	5.13		9.12	8.93		8	
11/7/2012	17:55	Sunny	Middle	2	29.04	29.04	29.05	7.54	7.54	7.53	22.16	22.16	22.18	78.0	78.3	78.4	5.31	5.33	5.34	7.39	7.79	7.61	6	7.00
	17:57		Middle	2	29.05	29.05		7.51	7.51		22.19	22.19		78.5	78.7		5.34	5.36		7.56	7.70		8	
14/7/2012	11:06	Fine	Middle	2	28.46	28.46	28.46	8.42	8.42	8.41	19.54	19.54	19.54	61.8	62.2	62.3	4.30	4.33	4.34	5.89	5.84	5.83	6	6.00
	11:08		Middle	2	28.45	28.45		8.40	8.40		19.54	19.54		62.5	62.8		4.36	4.38		5.63	5.96		6	
16/7/2012	11:19	Fine	Middle	2	28.35	28.35	28.36	7.64	7.64	7.63	22.02	22.02	22.01	51.4	51.5	51.9	3.54	3.55	3.57	5.38	5.23	5.21	8	8.00
	11:21		Middle	2	28.37	28.37		7.61	7.61		21.99	21.99		52.0	52.5		3.59	3.61		4.85	5.39		8	
18/7/2012	11:03	Rainy	Middle	2	27.14	27.14	27.12	8.21	8.21	8.20	20.33	20.33	20.33	36.9	36.9	36.9	2.62	2.62	<u>2.62</u>	8.39	8.31	8.48	7	6.50
	11:05		Middle	2	27.10	27.10		8.19	8.19		20.33	20.33		36.9	36.9		2.62	2.62		8.68	8.52		6	
20/7/2012	13:18	Fine	Middle	2	28.30	28.30	28.30	7.24	7.24	7.24	23.58	23.58	23.59	65.8	66.5	66.4	4.49	4.53	4.53	22.20	21.70	<u>21.75</u>	8	15.50
	13:20		Middle	2	28.30	28.30		7.24	7.24		23.59	23.59		66.7	66.5		4.55	4.53		21.50	21.60		23	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C7 - Windsor House  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO		Turbidity		Suspended Solids					
			m		°C		-		ppt		%		mg/L		NTU		mg/L							
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average						
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/7/2012	10:31	Sunny	Middle	2	27.40	27.40	27.41	6.82	6.82	6.82	27.77	27.77	27.77	57.7	57.5	57.4	3.91	3.89	3.89	0.92	0.94	0.98	<2	<2
	10:33		Middle	2	27.41	27.41		6.81	6.81		27.77	27.77		57.3	57.1		3.88	3.87		0.95	1.11			
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/7/2012	14:31	Fine	Middle	2	29.45	29.45	29.46	6.19	6.19	6.18	25.95	25.95	25.94	57.0	56.7	56.7	3.77	3.75	3.75	1.31	1.25	1.27	4	4.00
	14:33		Middle	2	29.46	29.46		6.16	6.16		25.92	25.92		56.6	56.5		3.74	3.74		1.31	1.20		4	
9/7/2012	15:47	Fine	Middle	2	29.99	29.99	29.99	5.36	5.36	5.36	24.80	24.80	24.81	62.6	62.4	62.4	4.14	4.12	4.12	1.50	1.32	1.49	8	8.00
	15:49		Middle	2	29.99	29.99		5.35	5.35		24.82	24.82		62.4	62.3		4.12	4.11		1.46	1.68		8	
11/7/2012	17:32	Sunny	Middle	2	29.72	29.72	29.73	7.54	7.54	7.54	22.99	22.99	23.00	71.5	71.7	71.9	4.77	4.78	4.80	3.12	3.00	2.98	21	<u>20.50</u>
	17:34		Middle	2	29.74	29.74		7.53	7.53		23.01	23.01		72.1	72.2		4.82	4.82		2.86	2.92		20	
14/7/2012	10:49	Fine	Middle	1	28.29	28.29	28.29	8.00	8.00	8.00	18.12	18.12	18.12	48.0	48.1	48.0	3.38	3.38	3.38	8.30	8.64	8.49	10	10.00
	10:51		Middle	1	28.29	28.29		7.99	7.99		18.12	18.12		48.0	48.0		3.38	3.38		8.79	8.21		10	
16/7/2012	10:55	Fine	Middle	2	29.41	29.41	29.42	7.63	7.63	7.62	20.28	20.28	20.28	41.4	41.4	41.4	2.83	2.83	<u>2.83</u>	2.87	2.57	2.79	3	4.00
	10:57		Middle	2	29.42	29.42		7.60	7.60		20.27	20.27		41.4	41.4		2.83	2.83		2.87	2.85		5	
18/7/2012	13:47	Rainy	Middle	2	28.55	28.55	28.56	7.42	8.42	7.66	22.68	22.68	22.68	29.1	29.0	29.1	1.99	1.98	<u>1.99</u>	4.57	4.83	4.74	5	4.50
	13:49		Middle	2	28.56	28.56		7.40	7.40		22.68	22.68		29.1	29.1		1.99	1.99		4.87	4.68		4	
20/7/2012	13:00	Fine	Middle	2	28.80	28.80	28.80	7.99	7.99	7.99	27.04	27.04	27.05	70.8	71.8	71.4	4.71	4.77	4.74	3.22	3.67	3.38	9	9.00
	13:02		Middle	2	28.80	28.80		7.98	7.98		27.05	27.05		71.7	71.1		4.77	4.72		3.42	3.21		9	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C1 - HKCEC  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH		Salinity			DO Saturation		DO		Turbidity		Suspended Solids					
					°C			-		ppt			%		mg/L		NTU		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	12:27	Sunny	Middle	2.5	27.40	27.40	27.35	7.78	7.78	7.78	26.59	26.59	26.59	77.1	77.3	77.7	5.26	5.27	5.30	5.46	5.31	5.08	2	2.50
	12:30		Middle	2.5	27.30	27.30	27.35	7.79	7.78	7.78	26.58	26.58	26.59	78.0	78.2	77.7	5.32	5.33	5.30	4.74	4.80	5.08	3	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	13:35	Fine	Middle	2.5	27.90	27.90	27.95	7.80	7.80	7.81	25.30	25.30	25.31	74.8	74.1	75.0	5.09	5.04	5.11	4.05	4.28	4.30	5	5.00
	13:37		Middle	2.5	28.00	28.00	27.95	7.81	7.81	7.81	25.31	25.31	25.31	75.2	75.9	75.0	5.13	5.16	5.11	4.25	4.63	4.30	5	
9/7/2012	17:12	Fine	Middle	2.0	28.40	28.40	28.35	7.96	7.96	7.97	23.82	23.82	23.83	99.6	99.9	99.7	6.76	6.80	6.78	2.75	2.97	2.93	9	7.50
	17:15		Middle	2.0	28.30	28.30	28.35	7.97	7.97	7.97	23.83	23.83	23.83	99.7	99.5	99.7	6.79	6.75	6.78	3.00	3.01	2.93	6	
11/7/2012	16:50	Sunny	Middle	2.0	28.20	28.20	28.15	8.15	8.15	8.16	22.38	22.38	22.38	80.5	79.6	79.2	5.55	5.47	5.45	4.54	4.70	4.51	5	5.50
	16:52		Middle	2.0	28.10	28.10	28.15	8.16	8.16	8.16	22.38	22.38	22.38	78.5	78.0	79.2	5.41	5.37	5.45	4.38	4.40	4.51	6	
14/7/2012	11:00	Fine	Middle	2.0	29.00	29.00	29.05	8.19	8.19	8.19	18.99	18.99	19.00	103.6	103.3	103.0	7.13	7.10	7.10	5.21	4.51	4.77	6	6.50
	11:03		Middle	2.0	29.10	29.10	29.05	8.18	8.18	8.19	19.00	19.00	19.00	102.7	102.2	103.0	7.11	7.07	7.10	4.68	4.67	4.77	7	
16/7/2012	12:17	Fine	Middle	2.0	28.50	28.50	28.55	8.10	8.10	8.11	20.82	20.82	20.83	97.2	96.5	96.8	6.72	6.68	6.70	4.59	4.36	4.16	6	6.50
	12:20		Middle	2.0	28.60	28.60	28.55	8.11	8.11	8.11	20.83	20.83	20.83	96.9	96.6	96.8	6.70	6.69	6.70	3.90	3.80	4.16	7	
18/7/2012	9:20	Rainy	Middle	2.5	26.90	26.90	26.85	7.94	7.94	7.94	23.36	23.36	23.37	73.1	76.2	75.6	5.12	5.34	5.30	4.46	4.52	4.46	4	3.50
	9:22		Middle	2.5	26.80	26.80	26.85	7.93	7.93	7.94	23.37	23.37	23.37	75.7	77.4	75.6	5.31	5.41	5.30	4.44	4.40	4.46	3	
20/7/2012	13:46	Fine	Middle	2.0	27.70	27.70	27.80	7.87	7.87	7.87	27.06	27.06	27.10	85.1	85.2	85.2	5.75	5.76	5.75	3.94	3.71	3.82	4	4.00
	13:48		Middle	2.0	27.90	27.90	27.80	7.87	7.87	7.87	27.13	27.13	27.10	85.4	85.1	85.2	5.77	5.70	5.75	4.01	3.60	3.82	4	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level





**Water Monitoring Result at C2 - TH / APA / SOC  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO		Turbidity		Suspended Solids					
					°C			-			ppt		%		mg/L		NTU		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	10:58	Sunny	Middle	1.5	27.30	27.30	27.35	7.71	7.71	7.72	27.18	27.18	27.19	74.4	74.0	74.1	5.06	5.03	5.04	3.07	3.05	2.92	<2	<2
	11:01		Middle	1.5	27.40	27.40	27.35	7.72	7.72	7.72	27.19	27.19	27.19	73.9	74.1	74.1	5.02	5.04	5.04	2.61	2.95	2.92	<2	<2
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	13:20	Fine	Middle	2.0	28.00	28.00	28.05	7.82	7.82	7.82	25.67	25.67	25.67	74.4	74.6	75.0	5.04	5.05	5.08	3.49	3.53	3.42	4	4.00
	13:23		Middle	2.0	28.10	28.10	28.05	7.81	7.81	7.82	25.66	25.66	25.67	74.9	76.0	75.0	5.07	5.14	5.08	3.36	3.31	3.42	4	4.00
9/7/2012	15:30	Fine	Middle	1.0	28.70	28.70	28.75	7.91	7.91	7.92	24.30	24.30	24.31	99.8	99.3	99.3	6.73	6.69	6.69	4.38	4.31	4.36	8	7.50
	15:33		Middle	1.0	28.80	28.80	28.75	7.92	7.92	7.92	24.31	24.31	24.31	98.9	99.2	99.3	6.66	6.68	6.69	4.39	4.37	4.36	7	7.50
11/7/2012	18:00	Sunny	Middle	1.5	27.60	27.60	27.55	8.26	8.26	8.26	22.39	22.39	22.40	84.4	81.6	81.8	6.57	6.43	6.35	7.05	7.19	7.14	6	6.00
	18:02		Middle	1.5	27.50	27.50	27.55	8.25	8.25	8.26	22.40	22.40	22.40	77.0	84.1	81.8	5.92	6.47	6.35	7.21	7.10	7.14	6	6.00
14/7/2012	9:31	Fine	Middle	1.0	28.10	28.10	28.15	7.99	7.99	7.99	19.79	19.79	19.80	81.2	84.4	85.4	5.70	5.92	6.00	5.41	5.83	5.25	4	4.00
	9:34		Middle	1.0	28.20	28.20	28.15	7.98	7.98	7.99	19.80	19.80	19.80	87.7	88.3	85.4	6.17	6.20	6.00	4.71	5.05	5.25	4	4.00
16/7/2012	10:42	Fine	Middle	1.5	27.70	27.70	27.75	8.15	8.15	8.15	21.21	21.21	21.22	82.9	83.1	83.4	5.81	5.83	5.85	4.33	4.11	4.10	6	6.00
	10:45		Middle	1.5	27.80	27.80	27.75	8.14	8.14	8.15	21.22	21.22	21.22	83.4	84.1	83.4	5.85	5.89	5.85	3.89	4.08	4.10	6	6.00
18/7/2012	9:05	Rainy	Middle	2.0	26.30	26.30	26.25	7.82	7.82	7.82	23.34	23.34	23.35	62.4	65.2	65.2	4.43	4.63	4.63	3.92	3.81	3.91	3	3.00
	9:07		Middle	2.0	26.20	26.20	26.25	7.81	7.81	7.82	23.35	23.35	23.35	65.1	67.9	65.2	4.62	4.82	4.63	4.16	3.75	3.91	3	3.00
20/7/2012	13:30	Fine	Middle	1.0	27.10	27.10	27.40	7.79	7.79	7.75	27.20	27.20	27.20	85.9	85.7	85.5	5.87	5.82	5.81	5.28	5.51	5.35	4	4.50
	13:32		Middle	1.0	27.70	27.70	27.40	7.70	7.70	7.75	27.20	27.20	27.20	85.5	84.8	85.5	5.80	5.74	5.81	5.22	5.38	5.35	5	4.50
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C3 - HKCEC Phase I  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature				pH		Salinity			DO Saturation		DO			Turbidity		Suspended Solids			
					°C				-		ppt			%		mg/L			NTU		mg/L			
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average		
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	11:25	Sunny	Middle	2.5	26.40	26.40	26.45	7.70	7.70	7.71	28.01	28.01	28.02	62.4	63.6	64.8	4.31	4.41	4.49	2.89	3.11	3.03	2	2.50
	11:28		Middle	2.5	26.50	26.50	26.45	7.71	7.71	7.71	28.02	28.02	28.02	65.4	67.7	64.8	4.54	4.69	4.49	3.25	2.86	3.03	3	2.50
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	15:08	Fine	Middle	2.5	28.00	28.00	28.05	7.71	7.71	7.72	26.32	26.32	26.33	59.9	61.9	63.6	4.05	4.19	4.31	4.90	4.65	4.78	5	4.50
	15:11		Middle	2.5	28.10	28.10	28.05	7.72	7.72	7.72	26.33	26.33	26.33	65.4	67.0	63.6	4.45	4.54	4.31	4.71	4.87	4.78	4	4.50
9/7/2012	15:55	Fine	Middle	2.5	28.60	28.60	28.65	7.60	7.76	7.73	25.27	25.27	25.27	71.4	72.2	72.3	4.64	4.89	4.84	3.52	3.26	3.45	7	7.00
	15:58		Middle	2.5	28.70	28.70	28.65	7.77	7.77	7.73	25.27	25.27	25.27	72.6	73.1	72.3	4.90	4.93	4.84	3.44	3.56	3.45	7	7.00
11/7/2012	17:45	Sunny	Middle	2.0	29.50	29.50	29.45	7.85	7.85	7.85	23.45	23.45	23.45	62.2	60.1	62.3	4.15	4.01	4.16	7.37	7.21	7.31	10	10.50
	17:47		Middle	2.0	29.40	29.40	29.45	7.84	7.84	7.85	23.44	23.44	23.45	63.3	63.4	62.3	4.23	4.24	4.16	7.40	7.27	7.31	11	10.50
14/7/2012	10:05	Fine	Middle	2.5	28.50	28.50	28.45	7.93	7.93	7.94	19.72	19.72	19.73	76.2	77.2	77.6	5.31	5.38	5.40	7.71	7.68	7.56	9	9.50
	10:08		Middle	2.5	28.40	28.40	28.45	7.94	7.94	7.94	19.73	19.73	19.73	78.3	78.5	77.6	5.45	5.47	5.40	7.69	7.16	7.56	10	9.50
16/7/2012	11:12	Fine	Middle	2.0	28.90	28.90	28.85	7.92	7.92	7.92	21.57	21.57	21.58	70.7	71.6	72.0	4.84	4.85	4.91	9.40	9.55	9.11	16	15.50
	11:15		Middle	2.0	28.80	28.80	28.85	7.91	7.91	7.92	21.58	21.58	21.58	72.4	73.4	72.0	4.95	5.00	4.91	8.71	8.76	9.11	15	15.50
18/7/2012	10:55	Rainy	Middle	2.5	27.60	27.60	27.60	7.80	7.80	7.80	23.67	23.67	23.79	58.6	55.7	59.0	4.05	3.89	4.08	9.83	10.30	9.96	9	9.00
	10:57		Middle	2.5	27.60	27.60	27.60	7.79	7.79	7.80	23.90	23.90	23.79	60.7	60.9	59.0	4.19	4.20	4.08	9.97	9.72	9.96	9	9.00
20/7/2012	15:46	Fine	Middle	1.5	27.60	27.60	27.65	7.72	7.72	7.72	27.43	27.43	27.43	64.9	64.7	60.0	4.48	4.45	4.43	10.90	10.10	10.48	9	9.00
	15:48		Middle	1.5	27.70	27.70	27.65	7.72	7.72	7.72	27.43	27.43	27.43	64.4	45.9	60.0	4.40	4.37	4.43	9.83	11.10	10.48	9	9.00
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C4e - WCT / GEC  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO		Turbidity		Suspended Solids					
					°C			-			ppt		%		mg/L		NTU		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average			
30/6/2012	-	Strong Wind Signal No	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/7/2012	11:10	Sunny	Middle	2.0	27.80	27.80	27.75	7.70	7.70	7.71	27.99	27.99	28.00	64.8	65.6	66.2	4.38	4.42	4.46	4.65	4.40	4.68	3	3.00
	11:13		Middle	2.0	27.70	27.70		7.71	7.71		7.71	28.00		28.00	28.00		66.7	67.6		66.7	4.49		4.54	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	14:50	Fine	Middle	1.5	28.70	28.70	28.75	7.70	7.70	7.71	26.26	26.26	26.27	61.3	61.9	62.2	4.10	4.14	4.16	4.25	4.87	4.67	6	5.50
	14:53		Middle	1.5	28.80	28.80		7.71	7.71		7.71	26.27		26.27	26.27		62.5	62.9		62.2	4.18		4.20	
9/7/2012	15:40	Fine	Middle	1.5	29.00	29.00	29.05	7.77	7.77	7.77	25.20	25.20	25.21	72.6	73.5	73.6	4.86	4.91	4.93	4.36	4.12	4.04	8	8.50
	15:43		Middle	1.5	29.10	29.10		7.76	7.76		7.76	25.21		25.21	25.21		73.9	74.3		73.6	4.96		4.97	
11/7/2012	17:30	Sunny	Middle	1.5	29.80	29.80	29.75	7.89	7.89	7.89	23.40	23.40	23.41	69.8	69.7	66.7	4.60	4.60	4.42	7.12	7.61	7.43	10	10.00
	17:32		Middle	1.5	29.70	29.70		7.89	7.89		7.89	23.41		23.41	23.41		64.7	62.5		66.7	4.32		4.17	
14/7/2012	9:45	Fine	Middle	2.0	28.60	28.60	28.65	7.93	7.93	7.94	19.19	19.20	19.20	73.6	77.2	77.4	5.13	5.48	5.42	8.75	9.23	8.56	12	12.00
	9:48		Middle	2.0	28.70	28.70		7.94	7.94		7.94	19.20		19.20	19.20		79.1	79.8		77.4	5.51		5.56	
16/7/2012	11:00	Fine	Middle	1.0	28.90	28.90	28.95	7.90	7.90	7.91	21.50	21.50	21.51	70.5	71.5	71.8	4.83	4.90	4.92	5.61	5.80	5.58	9	9.50
	11:03		Middle	1.0	29.00	29.00		7.91	7.91		7.91	21.51		21.51	21.51		72.2	72.9		71.8	4.94		4.99	
18/7/2012	10:42	Rainy	Middle	2.0	27.50	27.50	27.45	7.76	7.76	7.76	22.84	22.84	22.84	51.2	51.0	51.5	3.56	3.54	3.58	5.87	5.54	5.55	5	4.00
	10:44		Middle	2.0	27.40	27.40		7.75	7.75		7.75	22.84		22.84	22.84		51.4	52.5		51.5	3.58		3.65	
20/7/2012	15:19	Fine	Middle	1.5	28.40	28.40	28.45	7.75	7.75	7.75	27.35	27.35	27.37	61.8	61.9	61.5	4.11	4.12	4.09	9.65	9.82	9.69	13	12.50
	15:21		Middle	1.5	28.50	28.50		7.74	7.74		7.74	27.39		27.39	27.37		61.3	61.1		61.5	4.08		4.05	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C4w - WCT / GEC  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO		Turbidity		Suspended Solids					
					°C			-			ppt		%		mg/L		NTU		mg/L					
				m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/7/2012	11:18	Sunny	Middle	1.5	27.40	27.40	27.45	7.68	7.68	7.68	27.97	27.97	27.98	59.7	60.6	61.0	4.04	4.10	4.13	3.03	3.40	3.13	5	3.50
	11:21		Middle	1.5	27.50	27.50	27.45	7.67	7.67	7.68	27.98	27.98	27.98	61.5	62.3	61.0	4.17	4.21	4.13	2.88	3.19	3.13	2	3.50
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	14:56	Fine	Middle	1.5	27.90	27.90	27.85	7.73	7.73	7.73	26.32	26.32	26.33	47.5	49.3	49.8	3.22	3.34	3.38	2.42	2.39	2.43	2	2.00
	14:59		Middle	1.5	27.80	27.80	27.85	7.72	7.72	7.73	26.34	26.34	26.33	50.6	51.8	49.8	3.43	3.53	3.38	2.48	2.43	2.43	2	2.00
9/7/2012	15:45	Fine	Middle	1.5	28.90	28.90	28.95	7.75	7.75	7.76	25.19	25.19	25.20	69.2	69.4	69.5	4.64	4.66	4.67	3.78	3.41	3.52	9	8.50
	15:48		Middle	1.5	29.00	29.00	28.95	7.76	7.76	7.76	25.20	25.20	25.20	69.6	69.8	69.5	4.67	4.69	4.67	3.54	3.36	3.52	8	8.50
11/7/2012	17:33	Sunny	Middle	1.5	29.60	29.60	29.55	7.87	7.87	7.87	23.39	23.40	23.40	60.8	64.7	63.8	4.07	4.33	4.31	7.32	7.50	7.24	11	11.00
	17:35		Middle	1.5	29.50	29.50	29.55	7.87	7.87	7.87	23.40	23.40	23.40	62.5	67.0	63.8	4.17	4.67	4.31	7.11	7.01	7.24	11	11.00
14/7/2012	9:53	Fine	Middle	1.5	28.70	28.70	28.75	7.78	7.78	7.79	19.61	19.61	19.62	60.4	61.1	61.6	4.21	4.24	4.28	2.94	3.52	3.15	3	3.00
	9:56		Middle	1.5	28.80	28.80	28.75	7.79	7.79	7.79	19.62	19.62	19.62	62.0	62.8	61.6	4.31	4.37	4.28	3.22	2.90	3.15	3	3.00
16/7/2012	11:05	Fine	Middle	1.5	29.10	29.10	26.65	8.51	8.51	8.52	21.50	21.50	21.51	70.2	71.7	71.5	4.79	4.90	4.88	4.56	4.27	4.32	11	11.00
	11:08		Middle	1.5	29.20	29.20	26.65	8.52	8.52	8.52	21.51	21.51	21.51	71.2	72.7	71.5	4.87	4.97	4.88	4.08	4.38	4.32	11	11.00
18/7/2012	10:47	Rainy	Middle	2.0	27.60	27.60	27.55	7.79	7.79	7.79	23.39	23.39	23.39	51.8	55.3	53.2	3.63	3.85	3.70	6.27	5.96	5.89	7	6.50
	10:49		Middle	2.0	27.50	27.50	27.55	7.78	7.78	7.79	23.38	23.38	23.39	51.9	53.7	53.2	3.59	3.72	3.70	5.71	5.63	5.89	6	6.50
20/7/2012	15:33	Fine	Middle	1.5	27.60	27.60	27.75	7.70	7.70	7.70	27.32	27.32	27.32	52.6	52.9	53.4	3.58	3.62	3.66	5.90	5.49	5.37	6	6.50
	15:35		Middle	1.5	27.90	27.90	27.75	7.69	7.69	7.70	27.31	27.31	27.32	54.0	54.2	53.4	3.70	3.72	3.66	5.06	5.02	5.37	7	6.50
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C5e - Sun Hung Kai Centre  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO		Turbidity		Suspended Solids					
			m		°C			-			ppt		%		mg/L		NTU		mg/L					
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	12:10	Sunny	Middle	1.5	28.20	28.20	28.25	7.72	7.72	7.73	27.63	27.63	27.64	71.2	71.5	71.7	4.76	4.77	4.79	3.04	2.83	2.94	3	2.50
	12:13		Middle	1.5	28.30	28.30	28.25	7.73	7.73	7.73	27.64	27.64	27.64	71.7	72.3	71.7	4.79	4.83	4.79	2.93	2.94	2.94	2	2.50
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	14:35	Fine	Middle	1.5	29.60	29.60	29.55	7.91	7.91	7.92	28.81	28.81	28.82	89.7	89.8	90.1	6.25	6.26	6.27	2.52	2.49	2.50	5	5.50
	14:38		Middle	1.5	29.50	29.50	29.55	7.92	7.92	7.92	28.82	28.82	28.82	89.9	91.0	90.1	6.28	6.30	6.27	2.56	2.42	2.50	6	5.50
9/7/2012	16:43	Fine	Middle	1.0	29.40	29.40	29.35	8.01	8.01	8.02	25.04	25.04	25.04	94.8	94.7	94.7	6.29	6.28	6.28	5.65	5.21	5.35	6	6.50
	16:46		Middle	1.0	29.30	29.30	29.35	8.02	8.02	8.02	25.03	25.03	25.04	94.6	94.5	94.7	6.27	6.26	6.28	5.07	5.46	5.35	7	6.50
11/7/2012	17:15	Sunny	Middle	1.5	29.80	29.80	29.75	8.09	8.09	8.10	23.32	23.32	23.32	67.6	67.0	66.8	4.50	4.45	4.45	7.23	7.05	7.17	10	9.50
	17:17		Middle	1.5	29.70	29.70	29.75	8.10	8.10	8.10	23.32	23.32	23.32	66.4	66.0	66.8	4.43	4.40	4.45	7.21	7.20	7.17	9	9.50
14/7/2012	10:34	Fine	Middle	1.0	28.90	28.90	28.95	7.99	7.99	7.99	20.37	20.37	20.38	83.0	83.4	83.6	5.72	5.75	5.76	7.87	7.96	7.81	9	8.50
	10:37		Middle	1.0	29.00	29.00	28.95	7.98	7.98	7.99	20.38	20.38	20.38	83.8	84.1	83.6	5.77	5.80	5.76	7.70	7.71	7.81	8	8.50
16/7/2012	12:00	Fine	Middle	1.0	29.10	29.10	29.15	8.40	8.40	8.41	21.78	21.78	21.79	79.6	79.1	79.4	5.42	5.37	5.40	8.51	8.95	8.64	16	15.50
	12:03		Middle	1.0	29.20	29.20	29.15	8.41	8.41	8.41	21.79	21.79	21.79	79.2	79.7	79.4	5.38	5.42	5.40	8.44	8.64	8.64	15	15.50
18/7/2012	10:20	Rainy	Middle	1.5	27.60	27.60	27.55	7.88	7.88	7.88	24.14	24.14	24.15	54.7	57.2	54.7	3.77	3.96	3.76	7.05	7.20	7.14	7	6.50
	10:22		Middle	1.5	27.50	27.50	27.55	7.87	7.87	7.88	24.15	24.15	24.15	54.5	52.3	54.7	3.74	3.56	3.76	7.28	7.04	7.14	6	6.50
20/7/2012	14:36	Fine	Middle	1.5	29.20	29.20	29.30	7.99	7.99	7.99	26.13	26.13	26.12	63.5	63.3	63.4	4.16	4.15	4.16	7.84	7.42	7.48	10	9.50
	14:38		Middle	1.5	29.40	29.40	29.30	7.98	7.98	7.99	26.10	26.10	26.12	63.0	63.6	63.4	4.15	4.18	4.16	7.12	7.53	7.48	9	9.50
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at C5w - Sun Hung Kai Centre  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature °C			pH			Salinity ppt		DO Saturation %		DO mg/L		Turbidity NTU		Suspended Solids mg/L					
			m		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average		
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/7/2012	12:15	Sunny	Middle	1.5	28.20	28.20	28.15	7.68	7.68	7.69	27.76	27.76	27.76	72.8	73.9	74.2	4.86	4.91	4.93	8.79	8.80	8.80	10	10.50
	12:18		Middle	1.5	28.10	28.10	28.15	7.70	7.70	7.69	27.75	27.75	27.76	74.6	75.4	74.2	4.95	5.01	4.93	8.76	8.86	8.80	11	10.50
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/7/2012	14:41	Fine	Middle	1.5	29.60	29.60	29.65	7.96	7.96	7.96	28.55	28.55	28.55	90.9	89.4	91.4	5.91	5.87	5.98	2.85	2.81	2.92	5	5.50
	14:43		Middle	1.5	29.70	29.70	29.65	7.95	7.95	7.96	28.54	28.54	28.55	92.2	93.1	91.4	6.04	6.10	5.98	3.04	2.97	2.92	6	5.50
9/7/2012	16:49	Fine	Middle	1.0	29.40	29.40	29.35	7.95	7.95	7.96	25.04	25.04	25.04	91.0	91.2	91.4	6.02	6.03	6.04	5.64	5.53	5.55	9	8.50
	16:52		Middle	1.0	29.30	29.30	29.35	7.96	7.96	7.96	25.03	25.03	25.04	91.5	91.8	91.4	6.05	6.07	6.04	5.81	5.23	5.55	8	8.50
11/7/2012	17:23	Sunny	Middle	1.5	29.70	29.70	29.70	8.08	8.08	8.08	23.45	23.45	23.46	73.4	69.2	69.5	4.90	4.65	4.71	7.56	7.70	7.68	13	13.50
	17:25		Middle	1.5	29.70	29.70	29.70	8.07	8.07	8.08	23.46	23.46	23.46	68.2	67.0	69.5	4.55	4.72	4.71	7.81	7.63	7.68	14	13.50
14/7/2012	10:40	Fine	Middle	1.0	28.90	28.90	28.95	7.97	7.97	7.97	20.93	20.93	20.94	80.9	81.0	81.2	5.57	5.58	5.61	8.72	8.70	8.58	12	11.50
	10:43		Middle	1.0	29.00	29.00	28.95	7.96	7.96	7.97	20.94	20.94	20.94	81.3	81.6	81.2	5.62	5.65	5.61	8.50	8.41	8.58	11	11.50
16/7/2012	12:05	Fine	Middle	1.0	29.10	29.10	29.05	7.96	7.96	7.97	21.96	21.96	21.97	77.8	78.6	78.7	5.29	5.34	5.35	8.42	8.45	8.52	14	13.00
	12:08		Middle	1.0	29.00	29.00	29.05	7.97	7.97	7.97	21.97	21.97	21.97	79.0	79.3	78.7	5.37	5.39	5.35	8.67	8.54	8.52	12	13.00
18/7/2012	10:25	Rainy	Middle	1.5	27.60	27.60	27.55	7.89	7.89	7.89	24.07	24.07	24.08	56.5	52.5	55.7	3.90	3.62	3.85	6.50	6.70	6.63	6	6.50
	10:27		Middle	1.5	27.50	27.50	27.55	7.88	7.88	7.89	24.08	24.08	24.08	56.6	57.3	55.7	3.91	3.97	3.85	6.69	6.63	6.63	7	6.50
20/7/2012	14:49	Fine	Middle	1.5	28.90	28.90	29.05	7.98	7.98	7.96	25.93	25.93	26.05	59.3	59.9	61.6	3.97	3.99	4.10	5.67	5.59	5.66	5	5.50
	14:51		Middle	1.5	29.20	29.20	29.05	7.93	7.93	7.96	26.16	26.16	26.05	63.7	63.6	61.6	4.22	4.20	4.10	5.73	5.63	5.66	6	5.50
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level



**Water Monitoring Result at WSD 21 - Wan Chai  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH		Salinity		DO Saturation		DO		Turbidity		Suspended Solids						
					°C			-		ppt		%		mg/L		NTU		mg/L						
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average					
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
3/7/2012	11:50	Sunny	Middle	1.5	27.40	27.40	27.35	7.69	7.69	7.68	27.61	27.61	27.62	68.2	69.1	69.5	4.62	4.68	4.71	3.49	3.71	3.63	<2	<2
	11:53		Middle	1.5	27.30	27.30	27.35	7.67	7.67	7.68	27.62	27.62	27.62	69.8	70.7	69.5	4.74	4.79	4.71	3.58	3.74	3.63	<2	<2
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	14:20	Fine	Middle	1.5	29.00	29.00	29.05	7.79	7.79	7.79	26.19	26.19	26.19	66.1	66.7	66.6	4.39	4.43	4.42	2.44	2.52	2.42	4	3.00
	14:25		Middle	1.5	29.10	29.10	29.05	7.78	7.78	7.79	26.18	26.18	26.19	66.9	66.5	66.6	4.44	4.42	4.42	2.33	2.40	2.42	2	3.00
9/7/2012	16:10	Fine	Middle	2.0	29.40	29.40	29.35	7.87	7.87	7.88	25.23	25.23	25.24	86.4	87.7	88.0	5.72	5.80	5.82	6.80	7.48	6.91	16	15.50
	16:13		Middle	2.0	29.30	29.30	29.35	7.88	7.88	7.88	25.24	25.24	25.24	88.8	89.0	88.0	5.87	5.88	5.82	7.00	6.34	6.91	15	15.50
11/7/2012	17:10	Sunny	Middle	1.5	29.80	29.80	29.80	8.05	8.05	8.05	23.43	23.43	23.44	78.1	73.1	75.4	5.22	4.80	4.99	7.91	8.24	8.08	10	10.00
	17:12		Middle	1.5	29.80	29.80	29.80	8.04	8.04	8.05	23.44	23.44	23.44	77.2	73.3	75.4	5.12	4.83	4.99	8.05	8.12	8.08	10	10.00
14/7/2012	10:20	Fine	Middle	1.5	28.90	28.90	28.85	7.99	7.99	7.99	20.06	20.06	20.06	83.4	83.9	83.8	5.78	5.79	5.79	7.51	6.92	7.01	6	6.50
	10:23		Middle	1.5	28.80	28.80	28.85	7.98	7.98	7.99	20.05	20.05	20.06	83.9	84.0	83.8	5.79	5.80	5.79	6.94	6.68	7.01	7	6.50
16/7/2012	11:40	Fine	Middle	1.5	28.80	28.80	28.85	7.94	7.94	7.95	22.31	22.31	22.32	72.9	73.4	74.0	4.95	4.99	5.04	7.96	7.66	7.79	9	9.00
	11:43		Middle	1.5	28.90	28.90	28.85	7.95	7.95	7.95	22.32	22.32	22.32	74.8	74.9	74.0	5.11	5.12	5.04	7.92	7.61	7.79	9	9.00
18/7/2012	10:08	Rainy	Middle	1.5	28.00	28.00	28.05	7.95	7.95	7.95	23.41	23.41	23.42	60.5	60.1	62.0	4.16	4.13	4.27	5.09	5.27	5.16	10	9.50
	10:10		Middle	1.5	28.10	28.10	28.05	7.94	7.94	7.95	23.42	23.42	23.42	63.2	64.3	62.0	4.35	4.42	4.27	5.13	5.16	5.16	9	9.50
20/7/2012	14:11	Fine	Middle	1.5	29.10	29.10	29.15	8.17	8.17	8.15	26.16	26.16	26.16	65.4	65.8	65.4	4.35	4.37	4.34	3.98	3.58	3.72	8	7.50
	14:13		Middle	1.5	29.20	29.20	29.15	8.12	8.12	8.15	26.15	26.15	26.16	65.3	65.1	65.4	4.33	4.32	4.34	3.71	3.59	3.72	7	7.50
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level

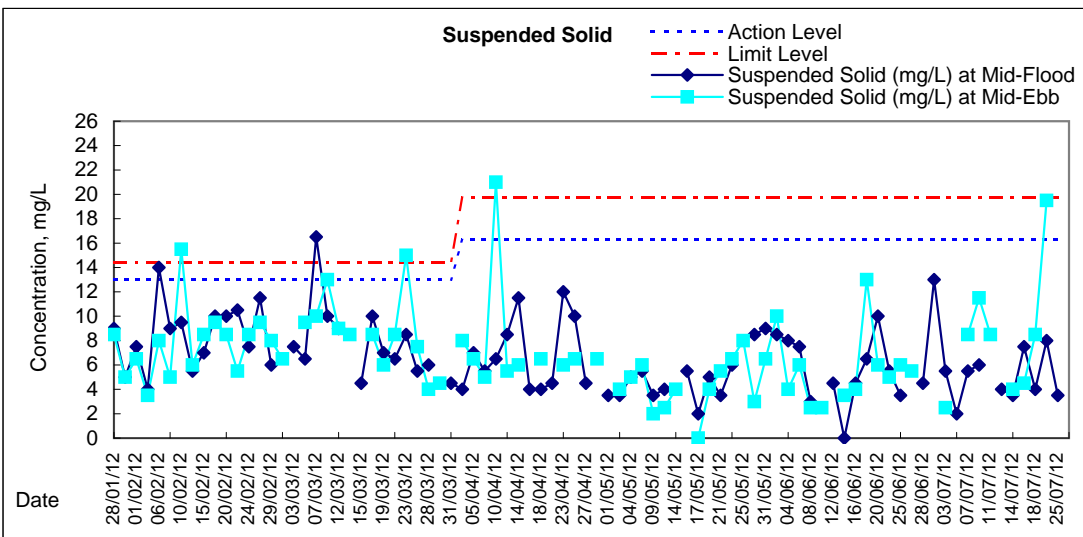
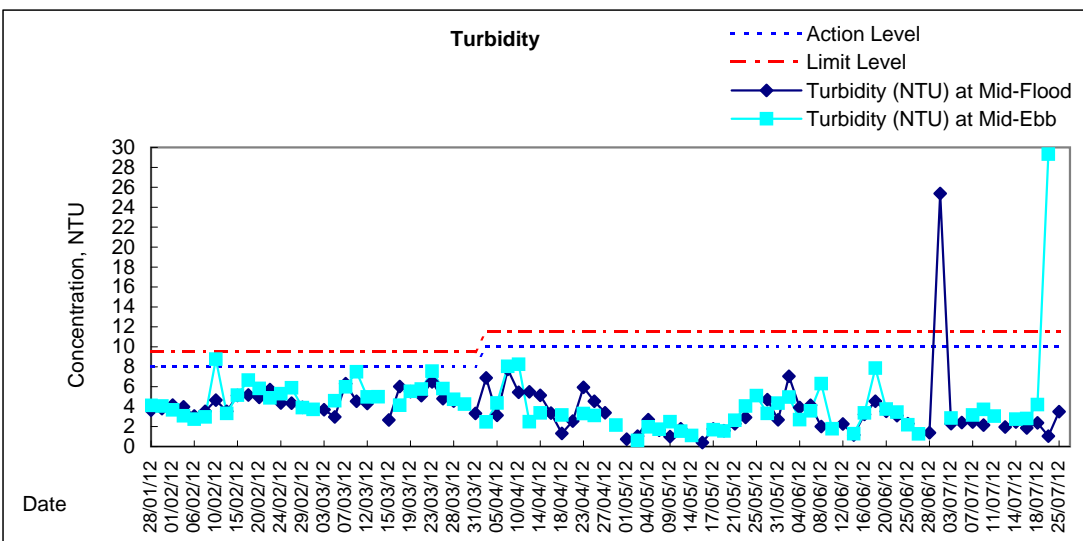
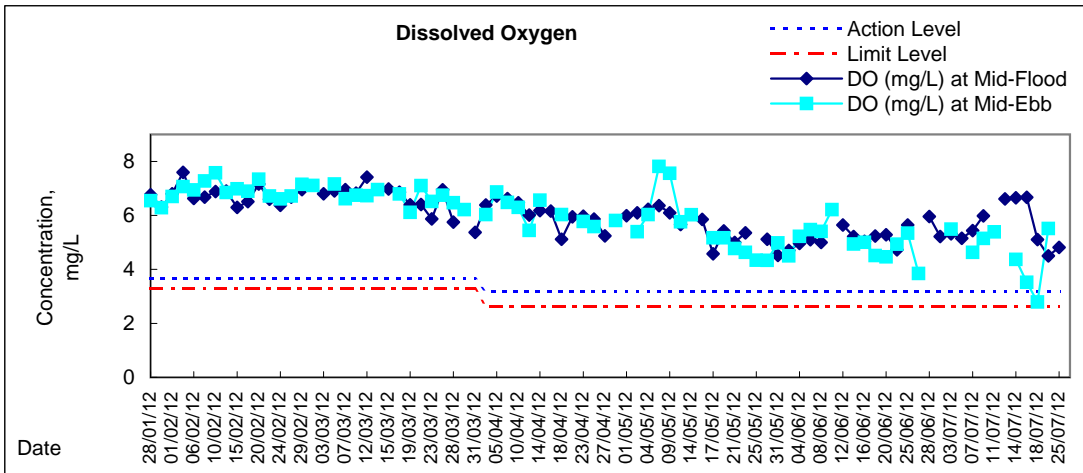




**Water Monitoring Result at WSD19 - Sheung Wan  
Mid-Ebb Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH		Salinity			DO Saturation		DO			Turbidity		Suspended Solids				
					°C			-		ppt			%		mg/L			NTU		mg/L				
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	9:22	Sunny	Middle	3.5	28.27	28.27	28.29	7.62	7.62	7.61	27.09	27.09	27.09	82.1	82.0	81.9	5.50	5.49	5.49	2.87	2.85	2.86	3	2.50
	9:24		Middle	3.5	28.31	28.31		7.60	7.60		27.08	27.08		81.8	81.8		5.48	5.48		3.01	2.70		2	
5/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	16:22	Fine	Middle	3.0	28.56	28.56	28.55	7.31	7.31	7.31	25.41	25.41	25.42	68.7	68.8	68.8	4.63	4.63	4.63	3.15	3.03	3.16	8	8.50
	16:24		Middle	3.0	28.54	28.54		7.30	7.30		25.42	25.42		68.8	68.9		4.63	4.64		3.24	3.23		9	
9/7/2012	17:30	Fine	Middle	2.5	28.57	28.57	28.59	7.20	7.20	7.21	24.50	24.50	24.49	76.1	76.2	76.2	5.14	5.15	5.15	3.78	3.98	3.73	12	11.50
	17:32		Middle	2.5	28.60	28.60		7.21	7.21		24.47	24.47		76.2	76.2		5.15	5.15		3.54	3.60		11	
11/7/2012	19:23	Sunny	Middle	2.0	28.56	28.56	28.55	7.95	7.95	7.93	22.69	22.69	22.70	78.5	78.6	78.8	5.37	5.38	5.39	3.02	3.16	3.05	8	8.50
	19:25		Middle	2.0	28.54	28.54		7.91	7.91		22.70	22.70		79.0	79.1		5.40	5.41		3.00	3.00		9	
14/7/2012	9:44	Fine	Middle	2.5	28.25	28.25	28.25	8.65	8.65	8.63	19.92	19.92	19.93	62.3	62.4	62.5	4.36	4.37	4.37	2.49	2.88	2.74	4	4.00
	9:46		Middle	2.5	28.24	28.24		8.61	8.61		19.94	19.94		62.6	62.7		4.38	4.38		2.54	3.04		4	
16/7/2012	9:48	Fine	Middle	2.5	28.68	28.68	28.69	7.99	7.99	7.99	21.25	21.25	21.24	51.3	51.4	51.5	3.51	3.52	3.52	2.93	2.67	2.81	4	4.50
	9:50		Middle	2.5	28.69	28.69		7.99	7.99		21.23	21.23		51.5	51.6		3.53	3.53		2.88	2.74		5	
18/7/2012	12:47	Rainy	Middle	2.0	27.78	27.78	27.79	8.08	8.08	8.07	23.87	23.87	23.89	40.4	40.5	40.6	2.78	2.79	<u>2.79</u>	4.04	4.33	4.21	8	8.50
	12:49		Middle	2.0	27.80	27.80		8.05	8.05		23.90	23.90		40.6	40.7		2.79	2.80		4.29	4.19		9	
20/7/2012	15:00	Fine	Middle	1.5	27.90	27.90	27.95	8.11	8.11	8.11	28.20	28.20	28.20	82.4	82.7	82.0	5.59	5.53	5.52	29.70	30.60	<u>29.33</u>	8	<u>19.50</u>
	15:02		Middle	1.5	28.00	28.00		8.11	8.11		28.19	28.19		81.6	81.4		5.49	5.45		28.90	28.10		31	
25/7/2012	-	Amber Rainstorm	Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level  
Double underline denotes exceedance over Limit Level

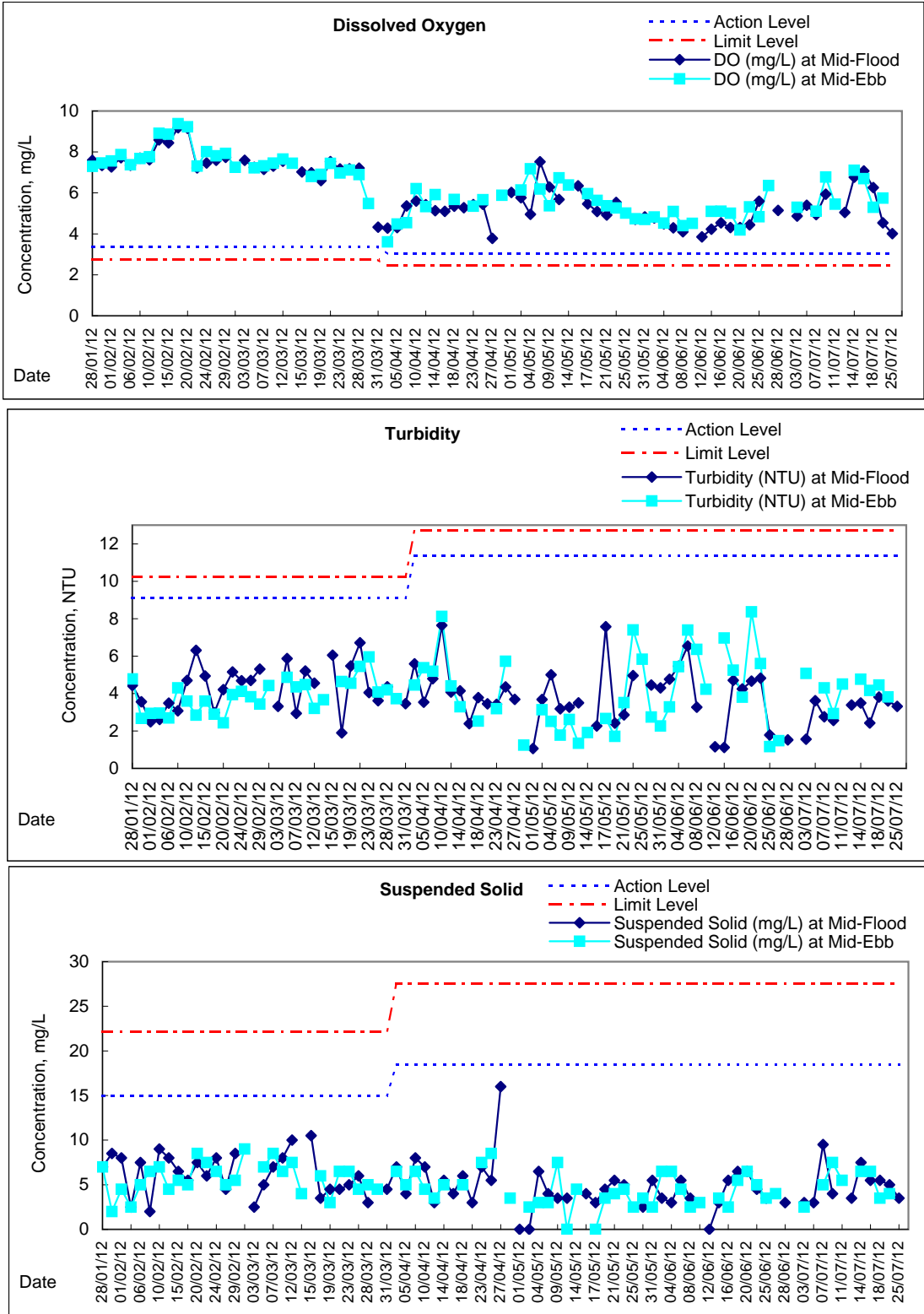


Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.

## Graphic Presentation of Water Quality Result of C1 - HKCEC

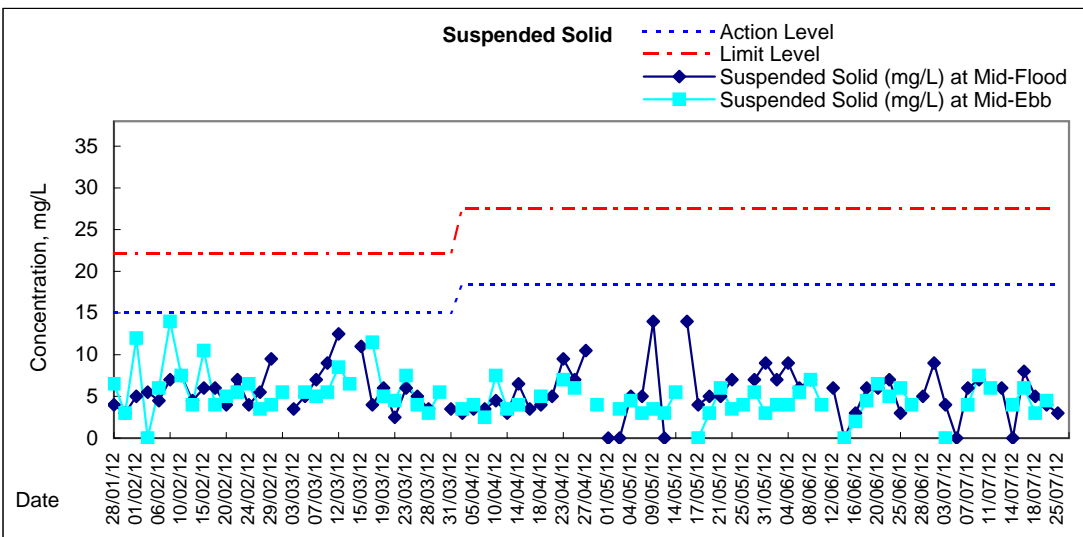
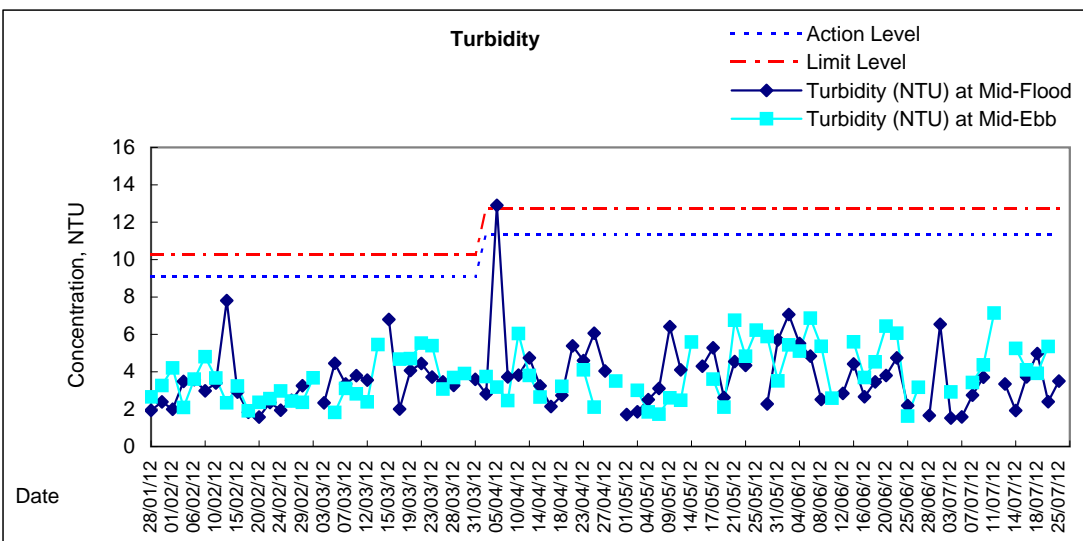
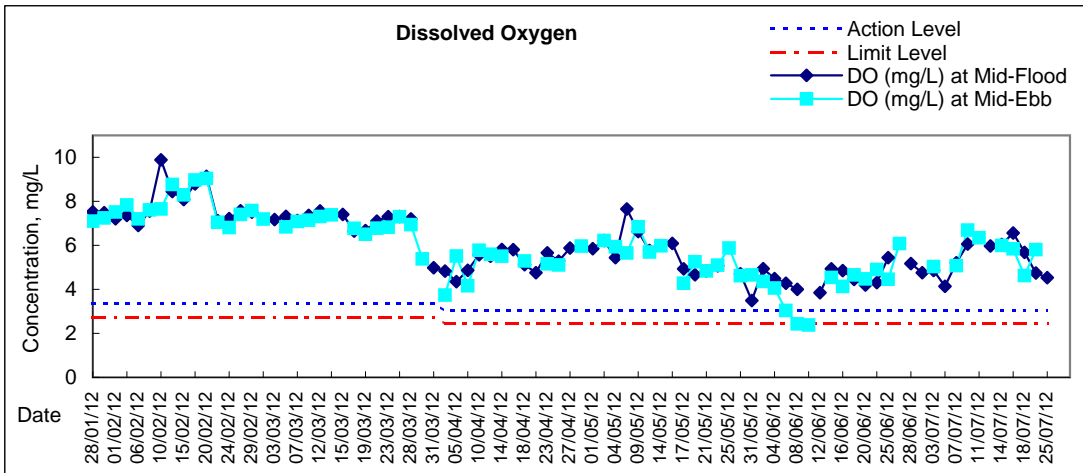


**Remarks:**

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.

\*Due to the celebration to the Anniversary of the Establishment of HKSAR to be held at the HKCEC and security search conducted at work sites of the HKCEC, the WQM at C1, C2, C4e & C4w at ebb and flood tides were temporary suspended on 30 Jun 12

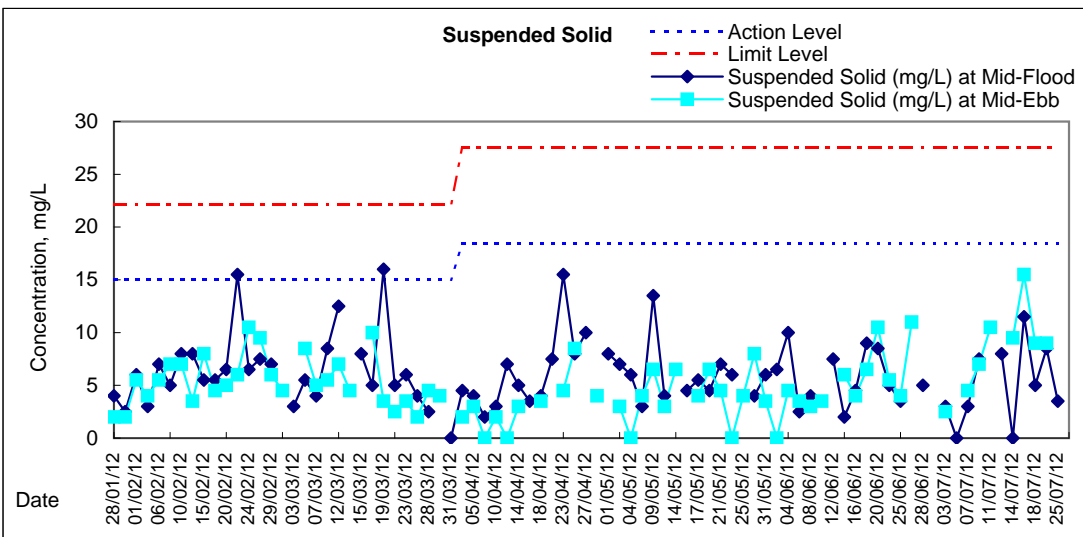
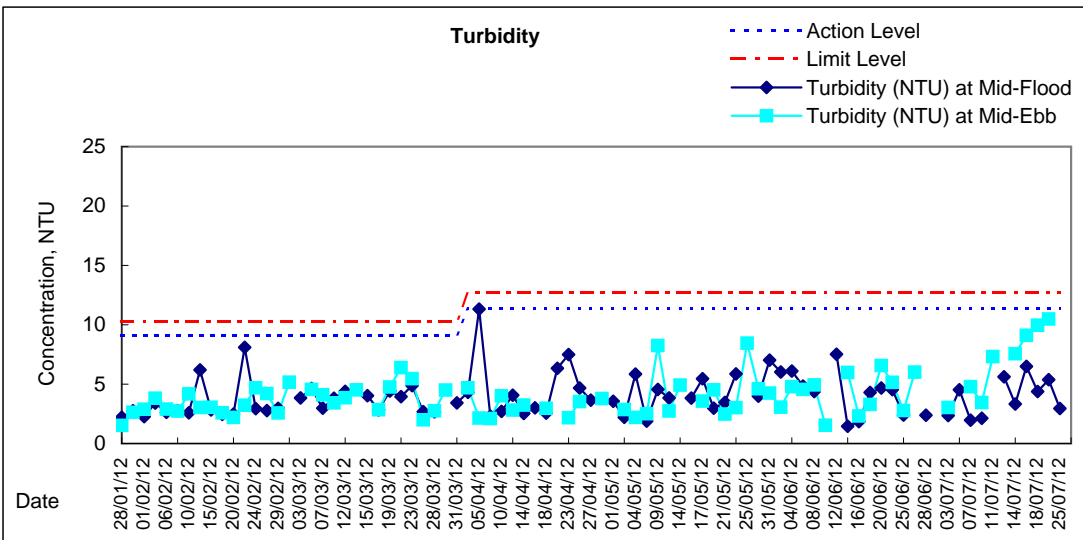
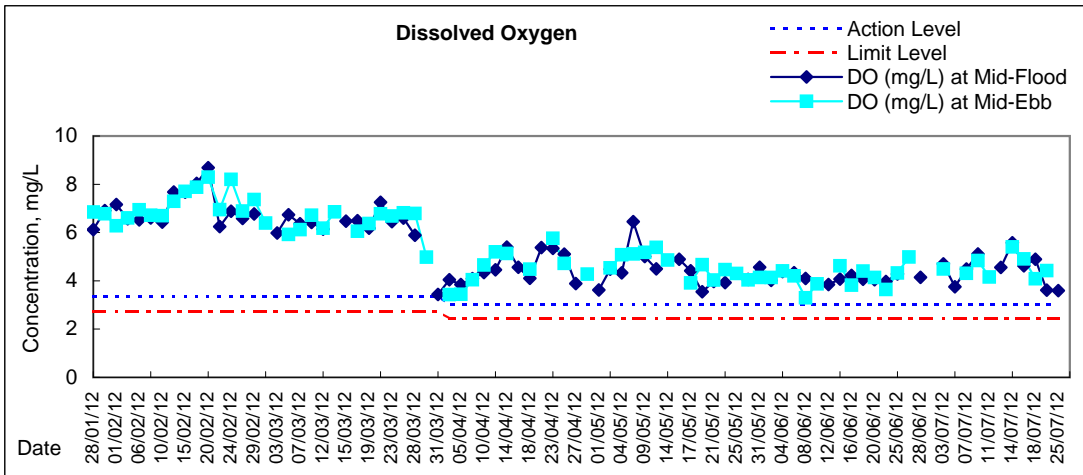


Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.

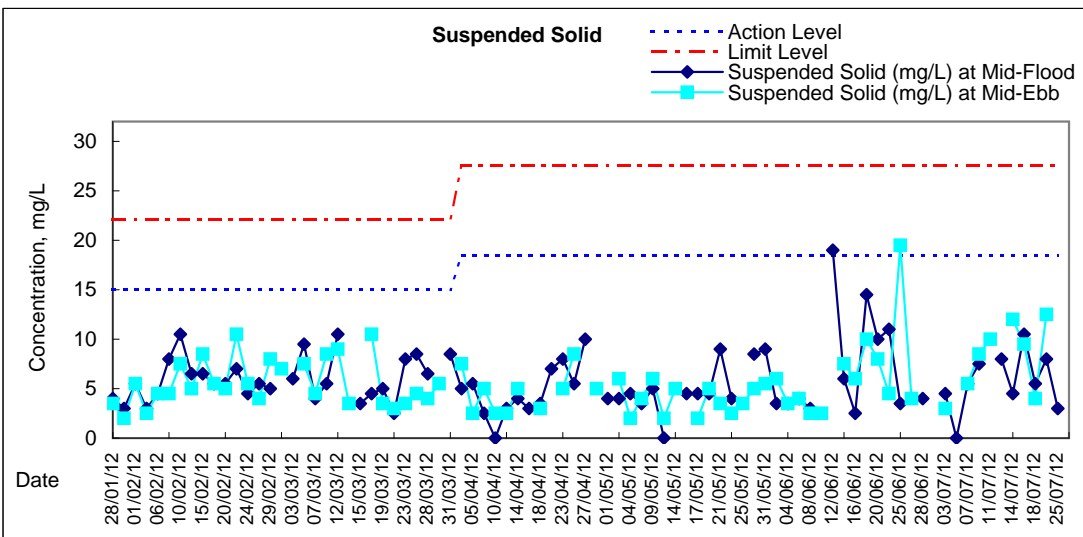
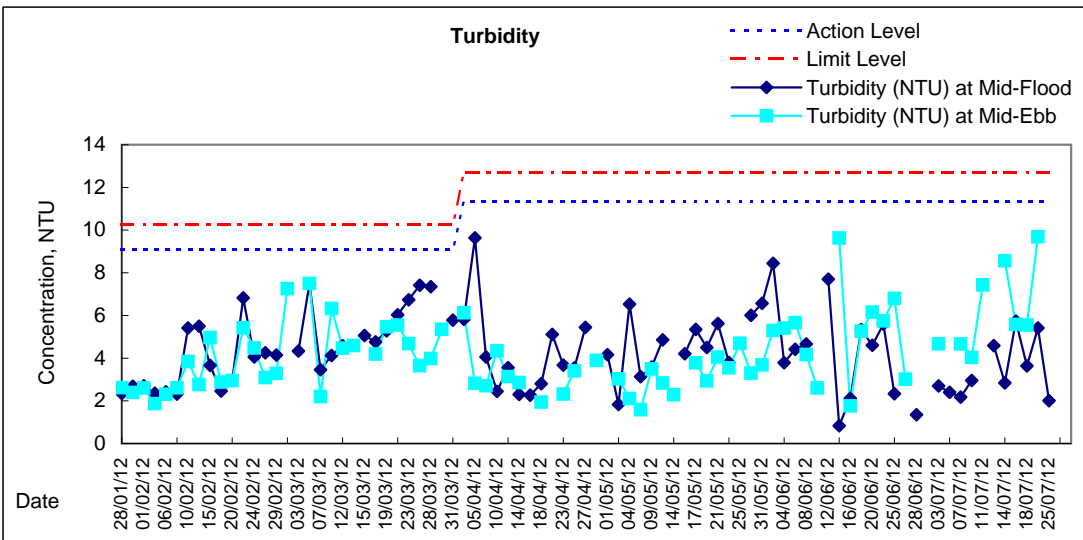
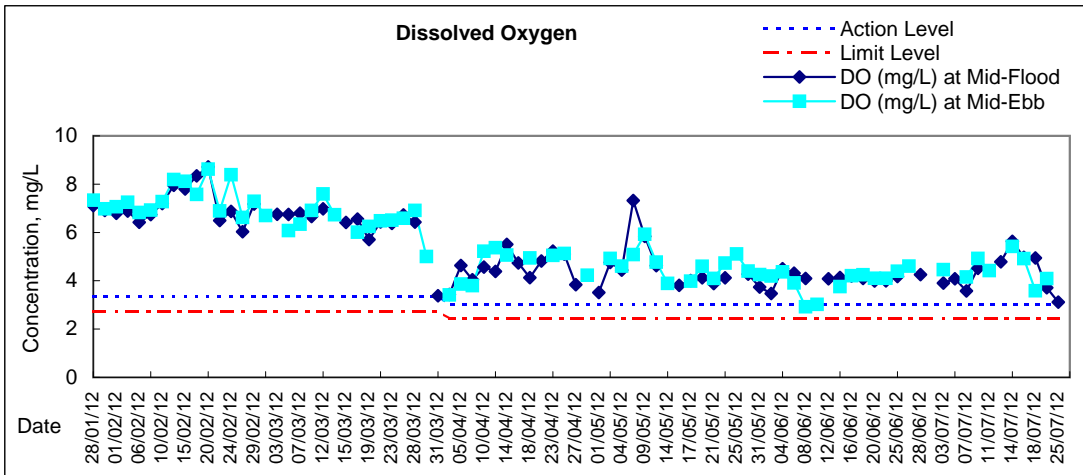
\*Due to the celebration to the Anniversary of the Establishment of HKSAR to be held at the HKCEC and security search conducted at work sites of the HKCEC, the WQM at C1, C2, C4e & C4w at ebb and flood tides were temporary suspended on 30 Jun 12



Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.

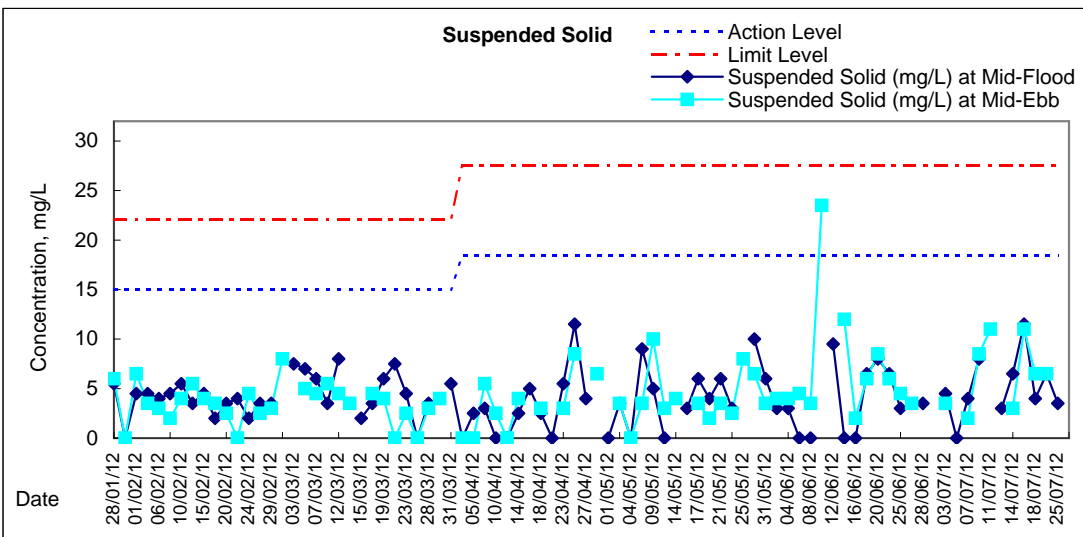
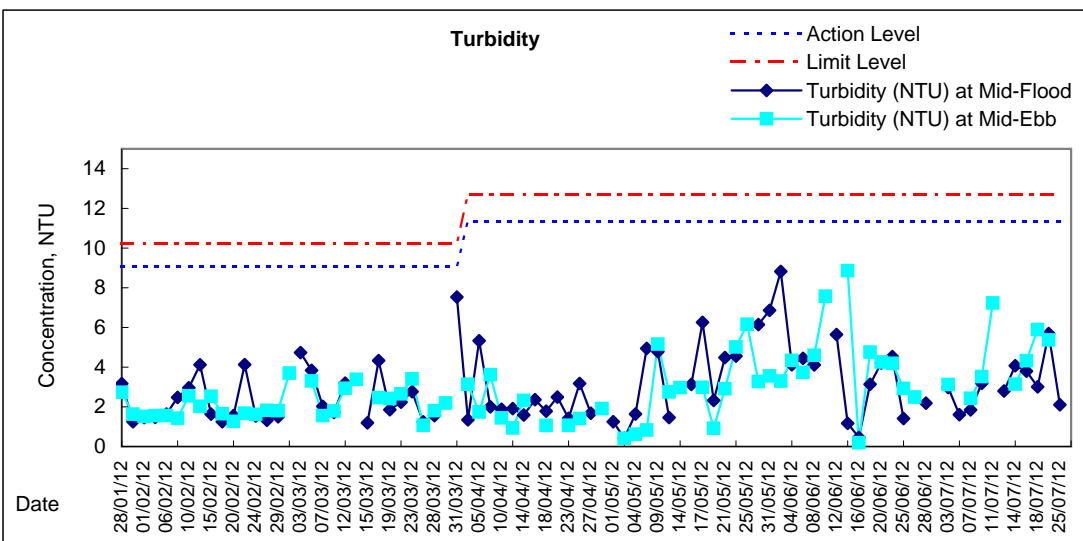
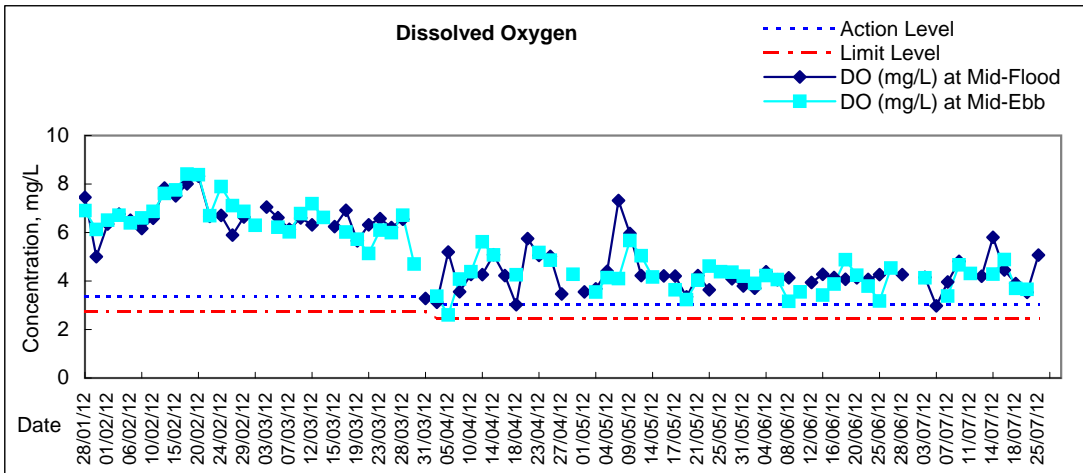


Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.

\*Due to the celebration to the Anniversary of the Establishment of HKSAR to be held at the HKCEC and security search conducted at work sites of the HKCEC, the WQM at C1, C2, C4e & C4w at ebb and flood tides were temporary suspended on 30 Jun 12



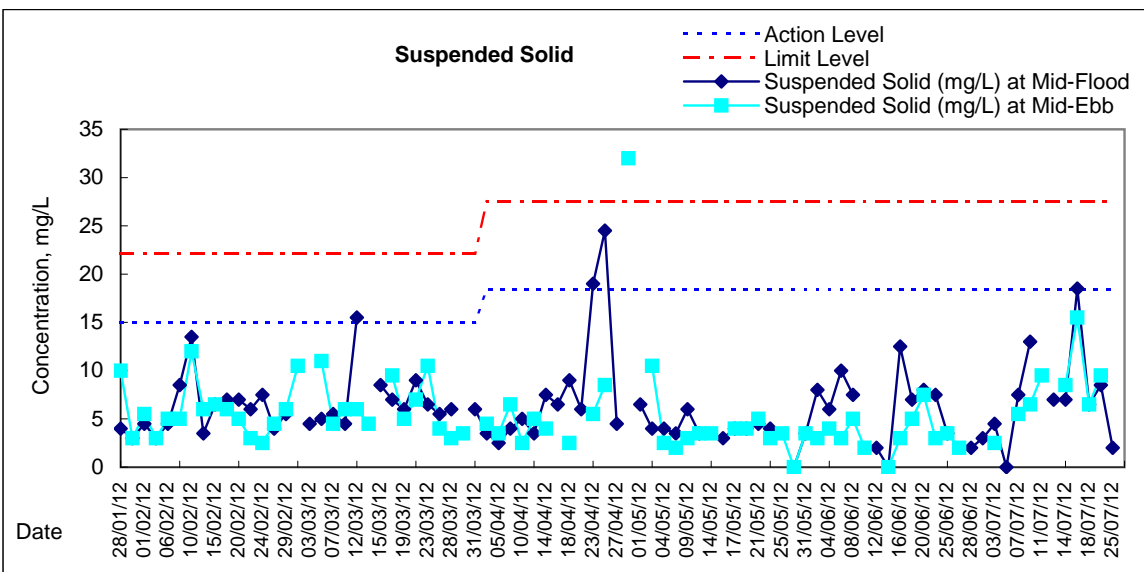
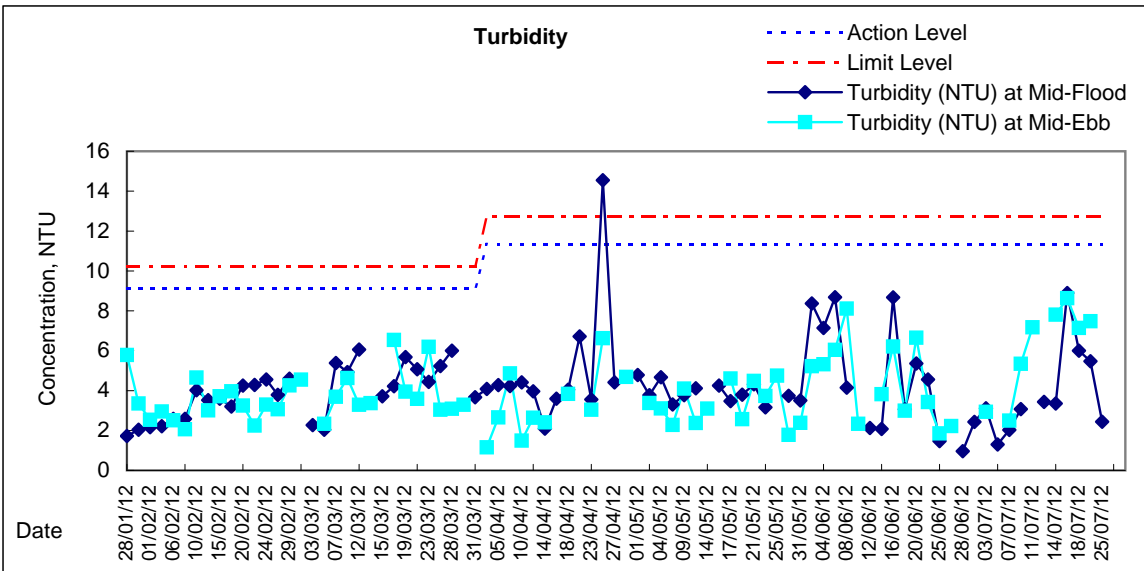
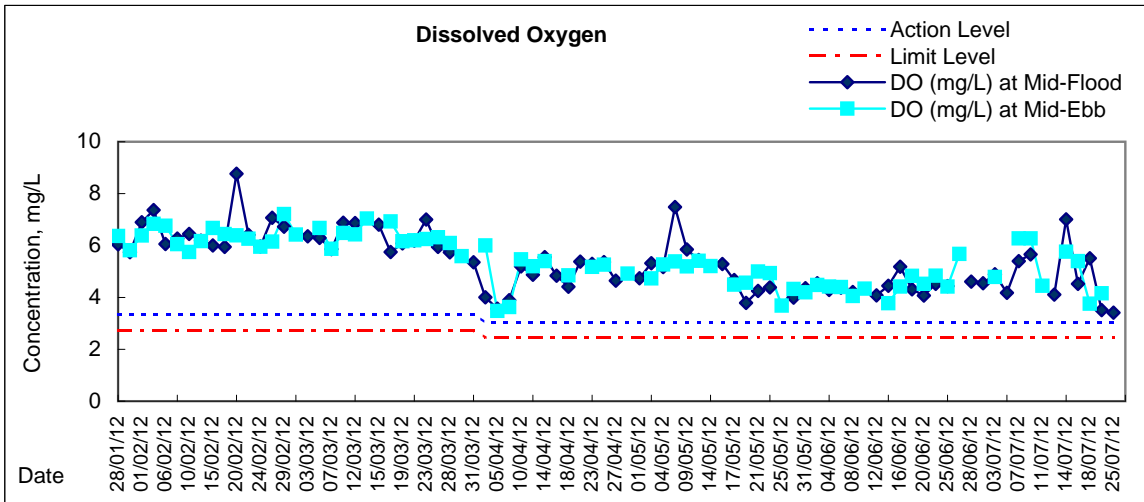
Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.

\*Due to the celebration to the Anniversary of the Establishment of HKSAR to be held at the HKCEC and security search conducted at work sites of the HKCEC, the WQM at C1, C2, C4e & C4w at ebb and flood tides were temporary suspended on 30 Jun 12

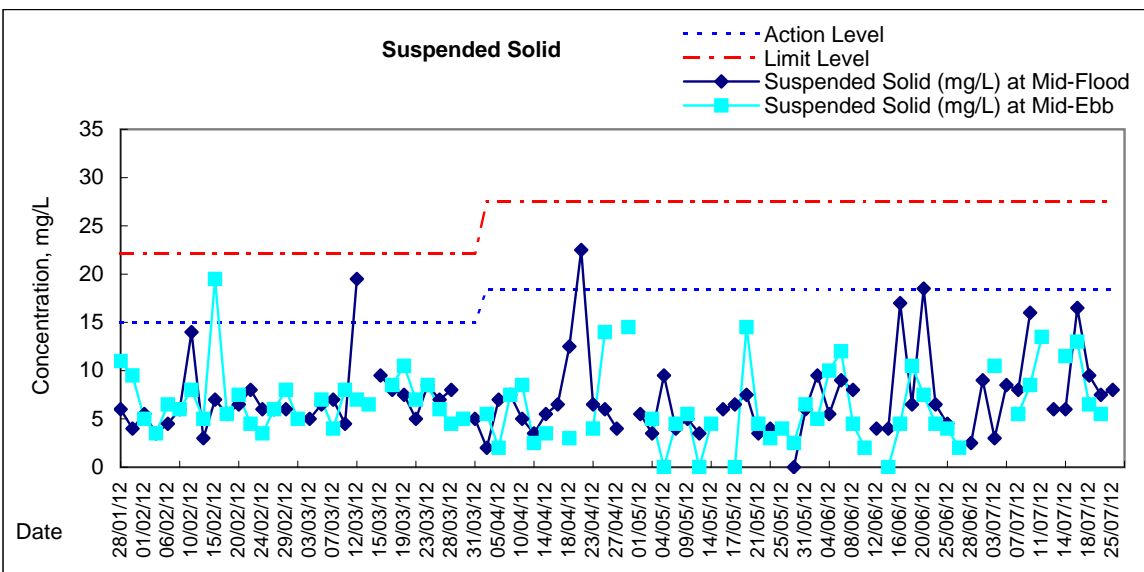
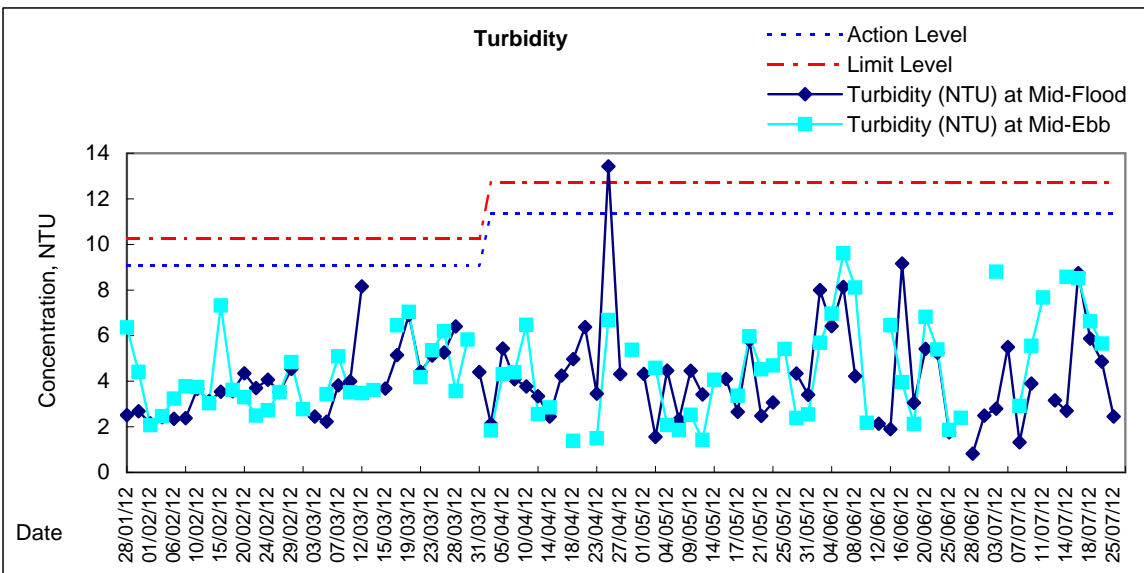
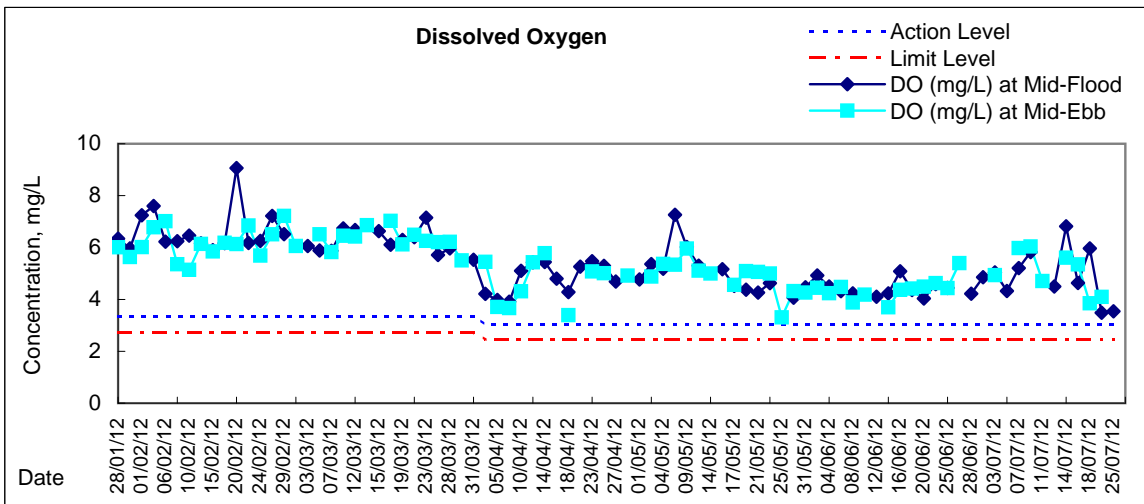




Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



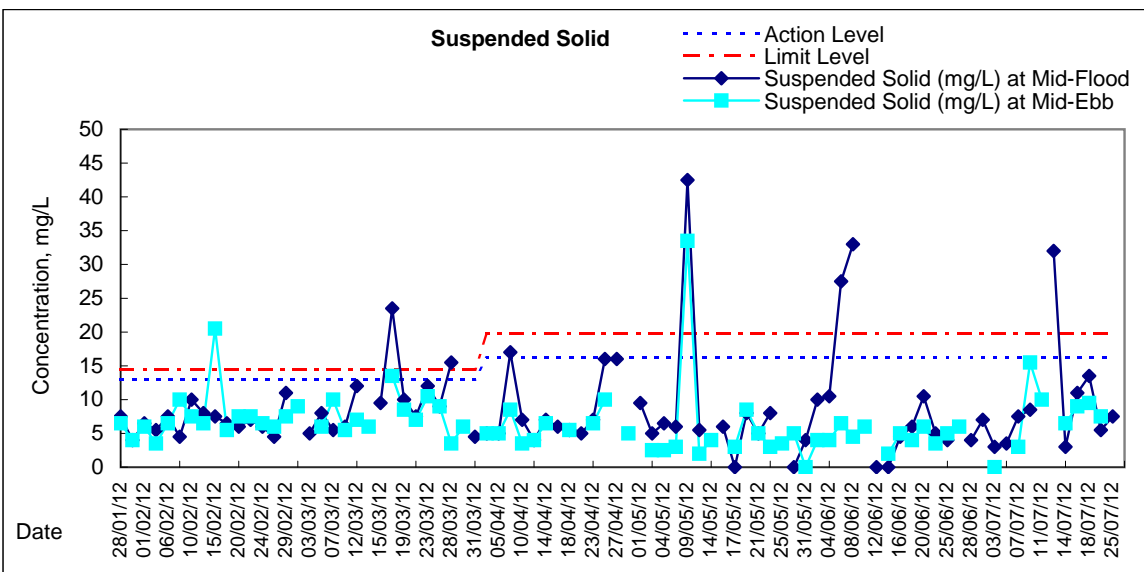
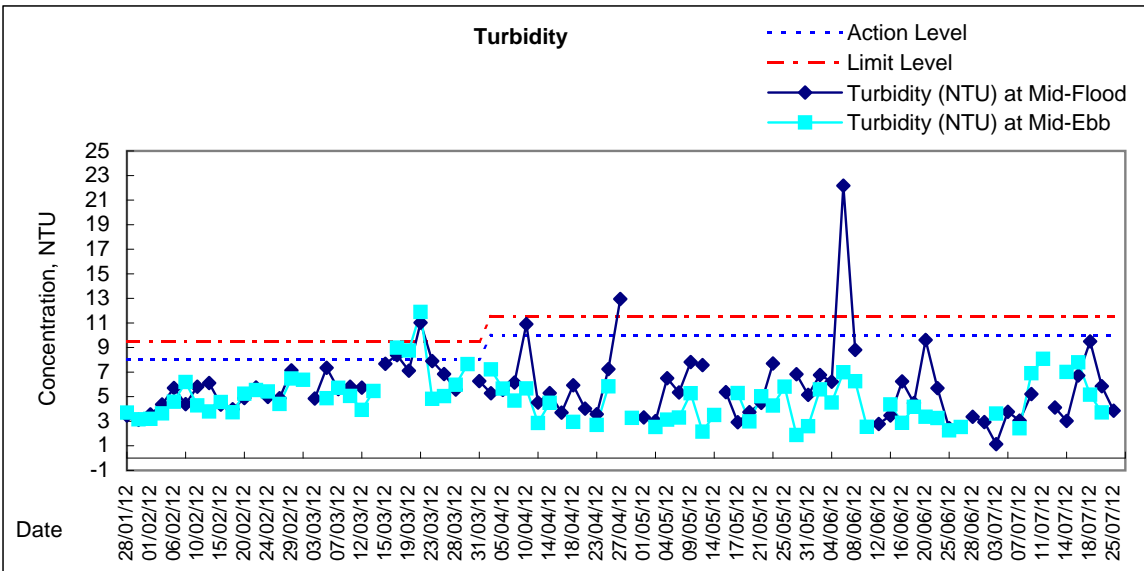
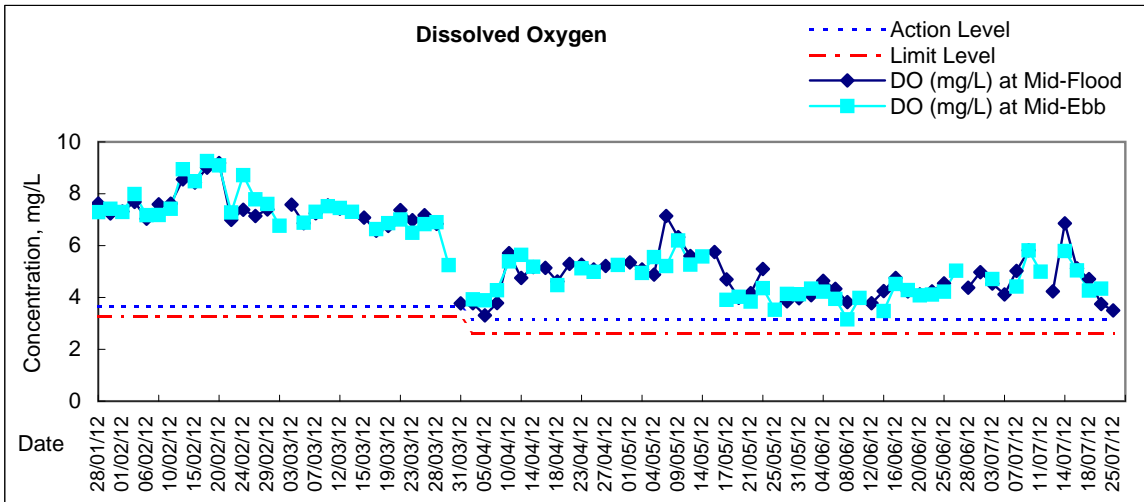
Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



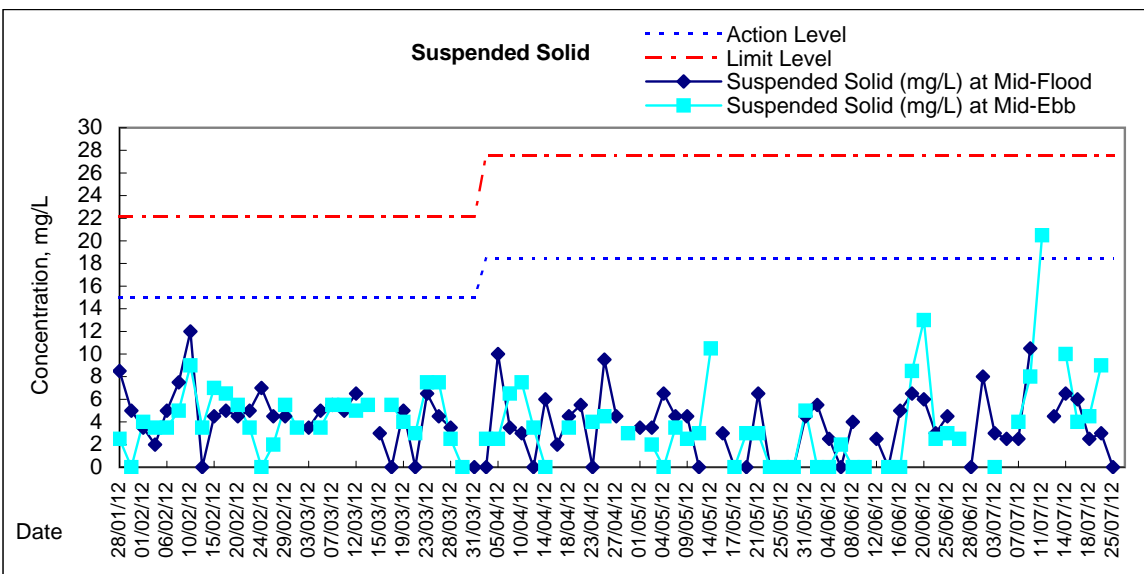
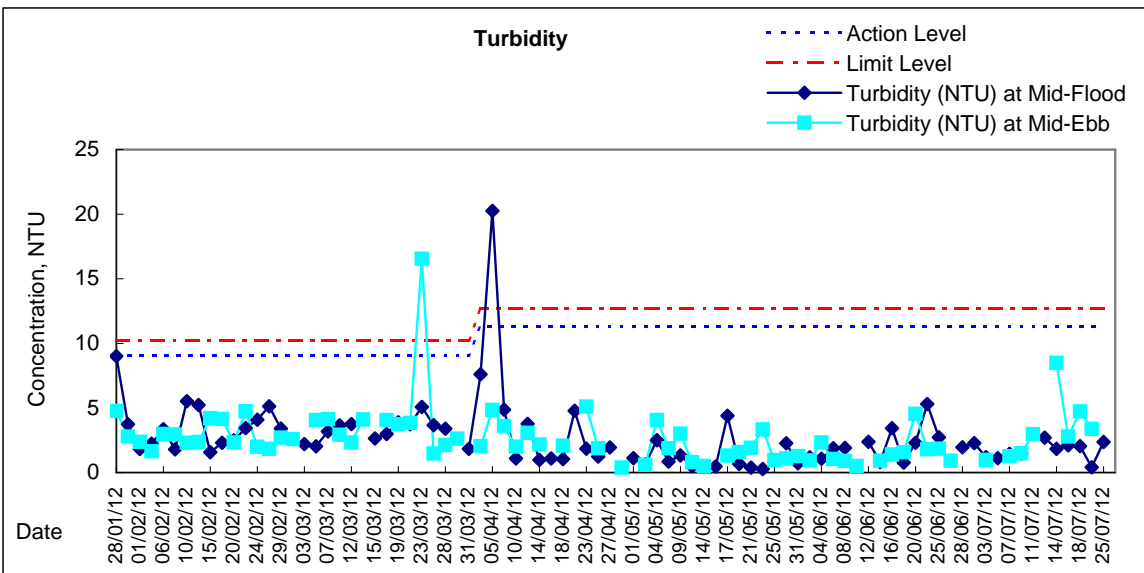
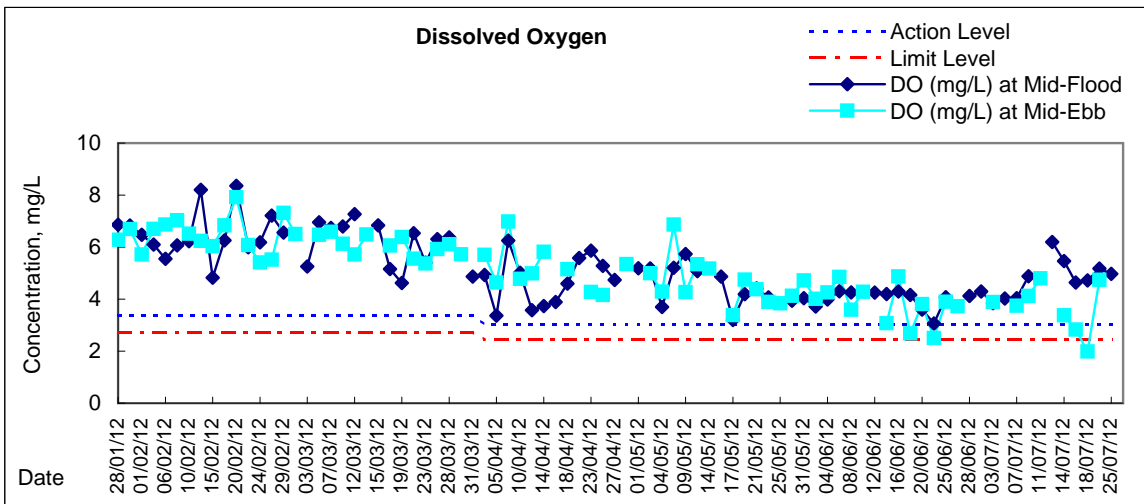
# Graphic Presentation of Water Quality Result of WSD21 - Wan Chai



#### Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

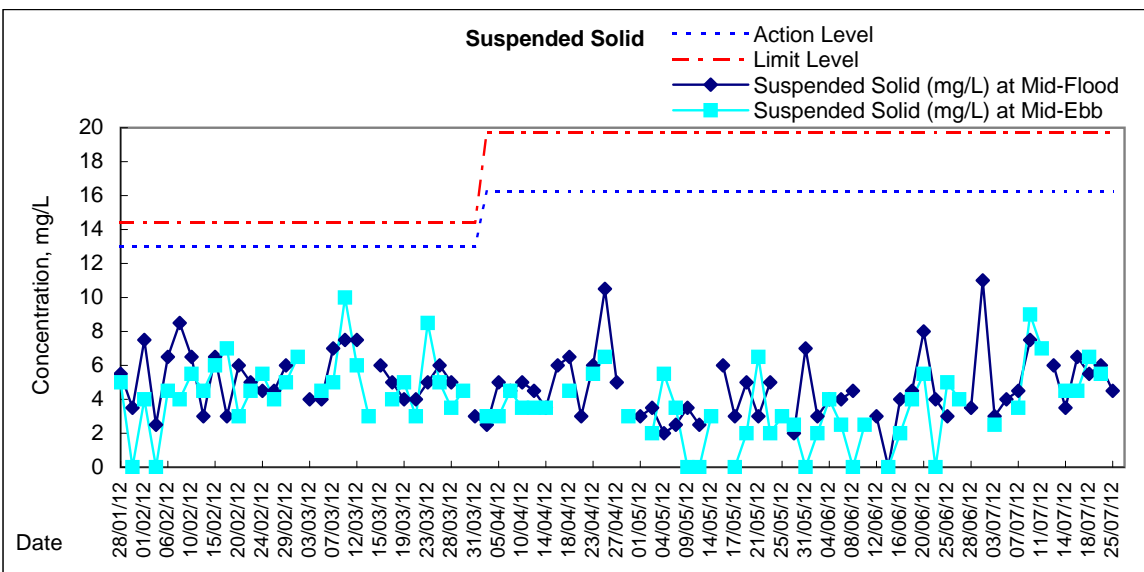
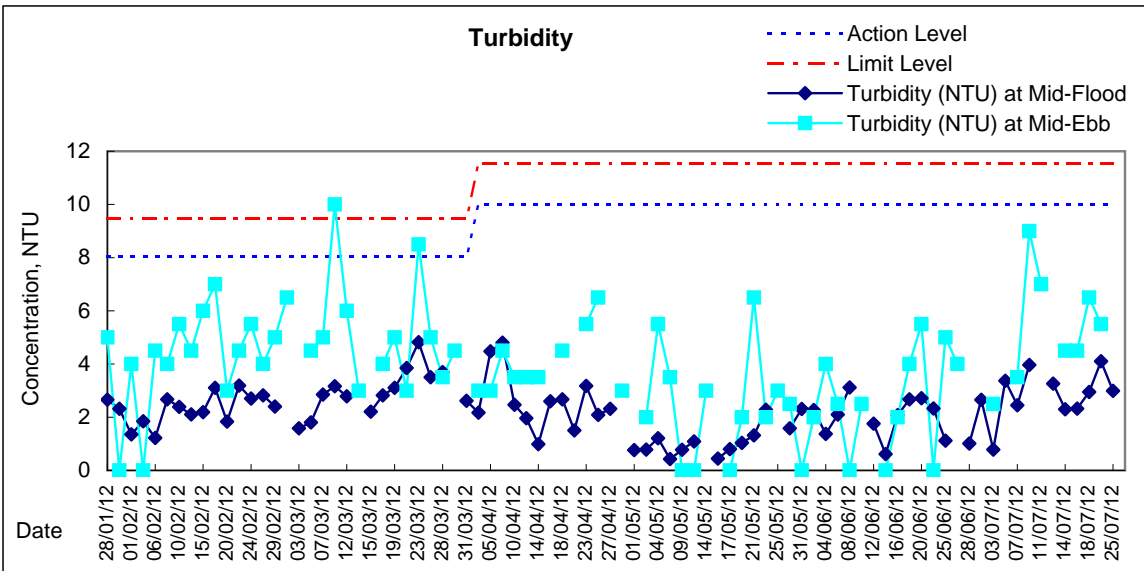
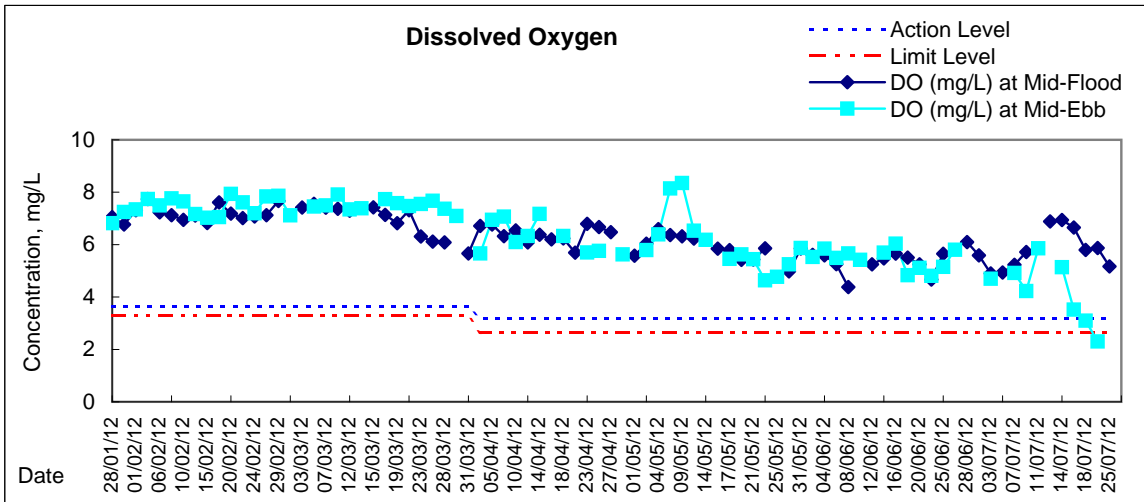
\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

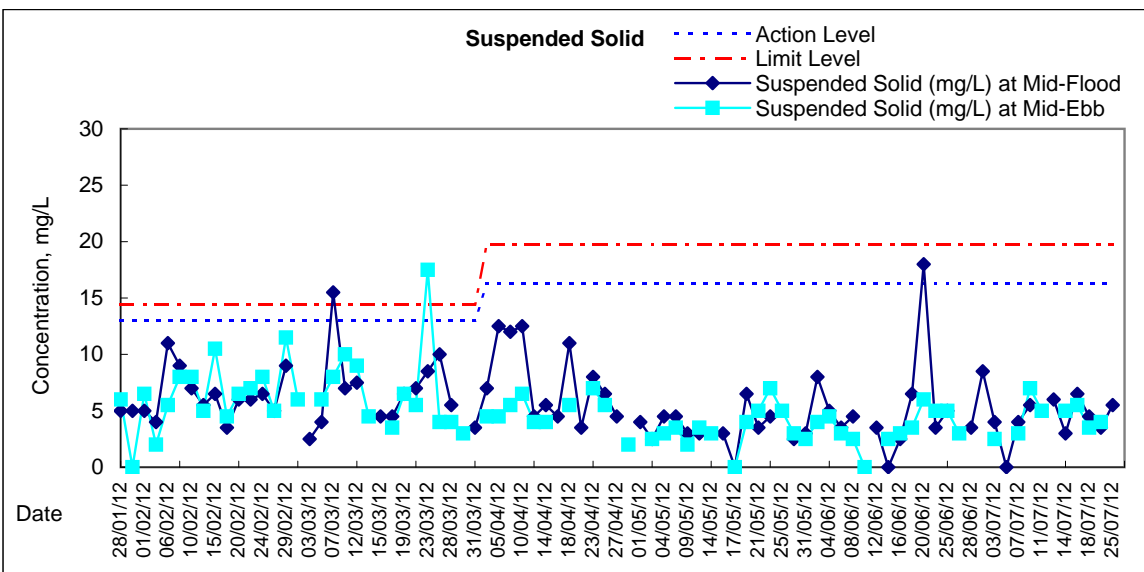
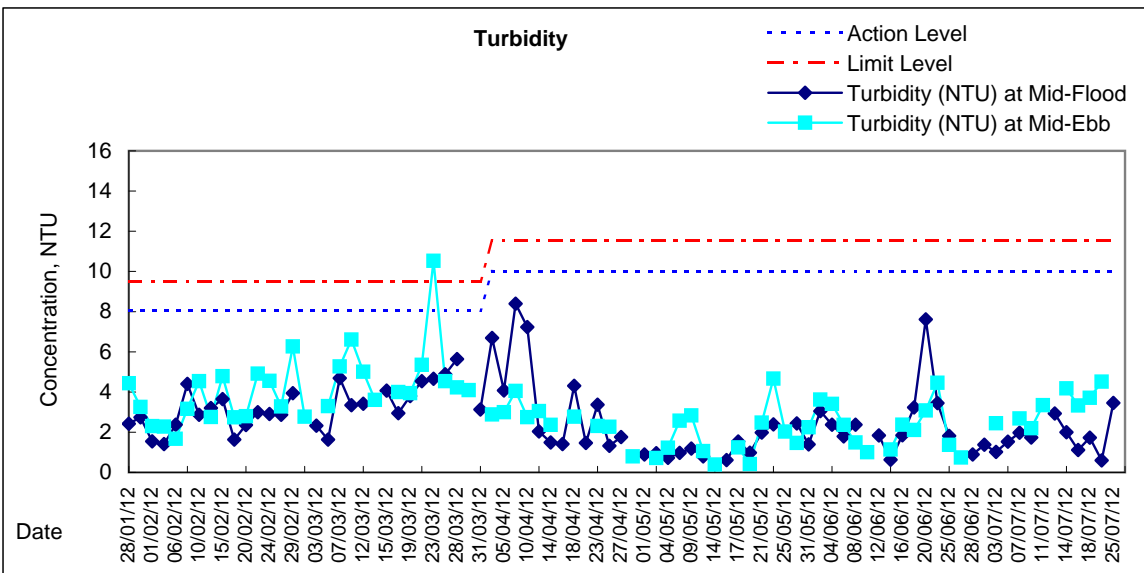
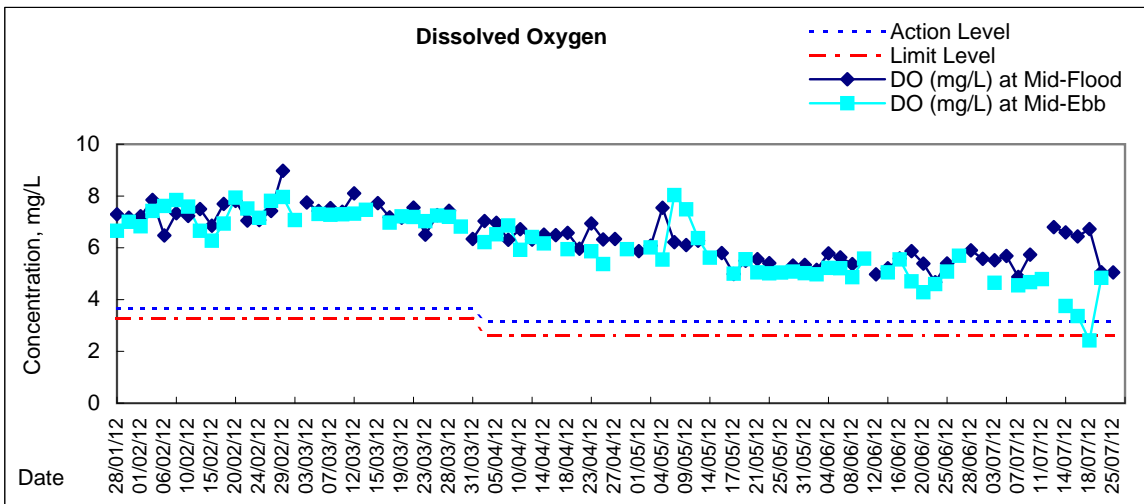
\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



**Remarks:**

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

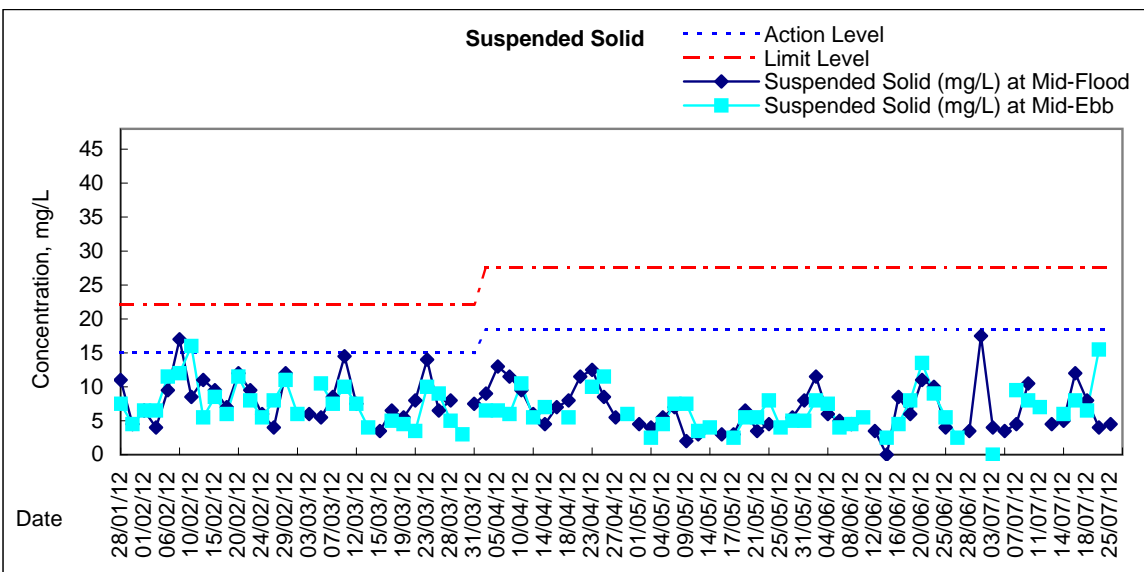
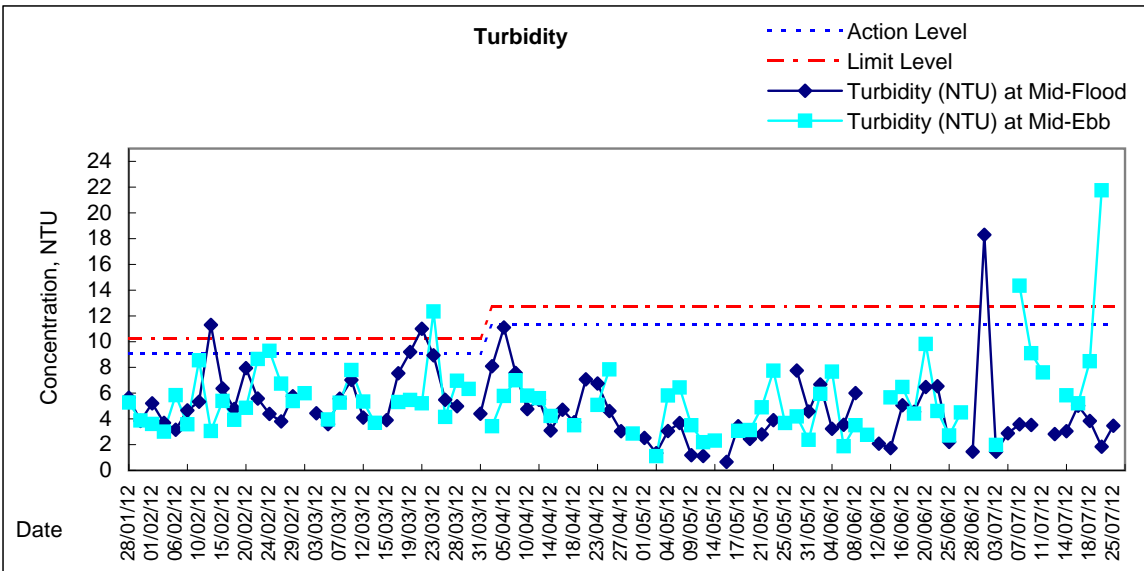
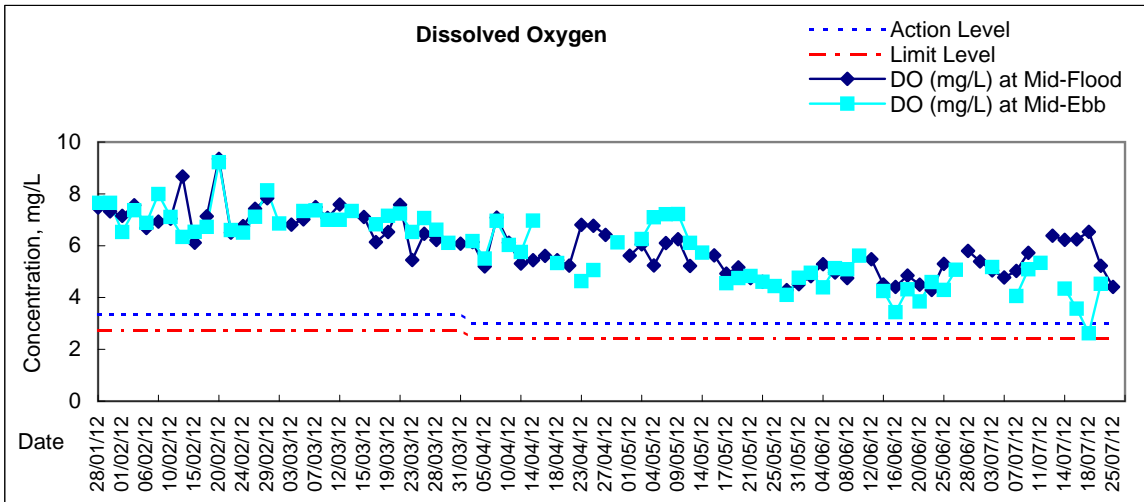
\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

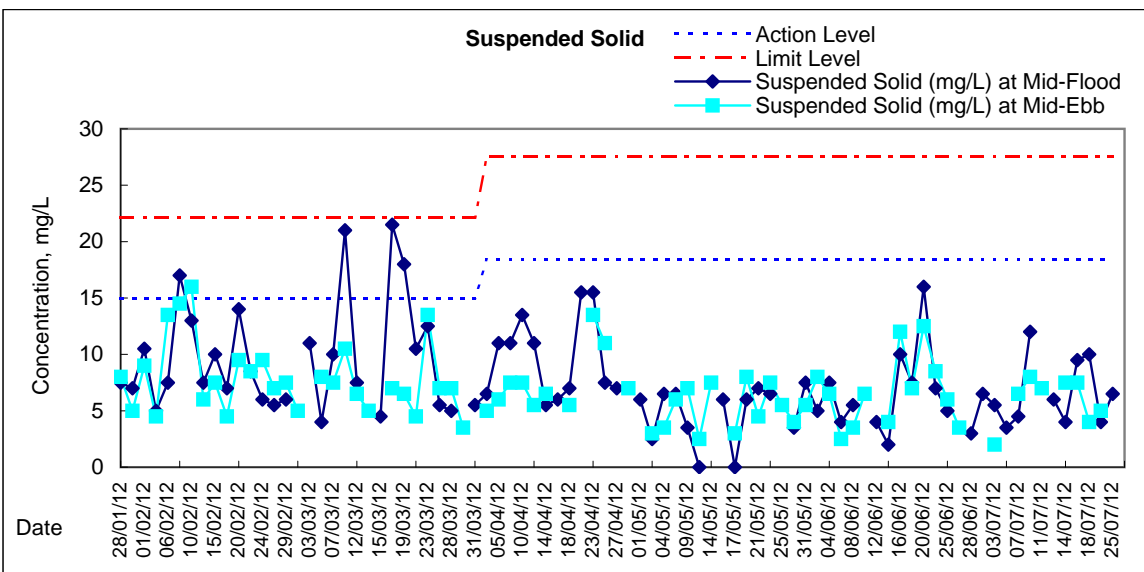
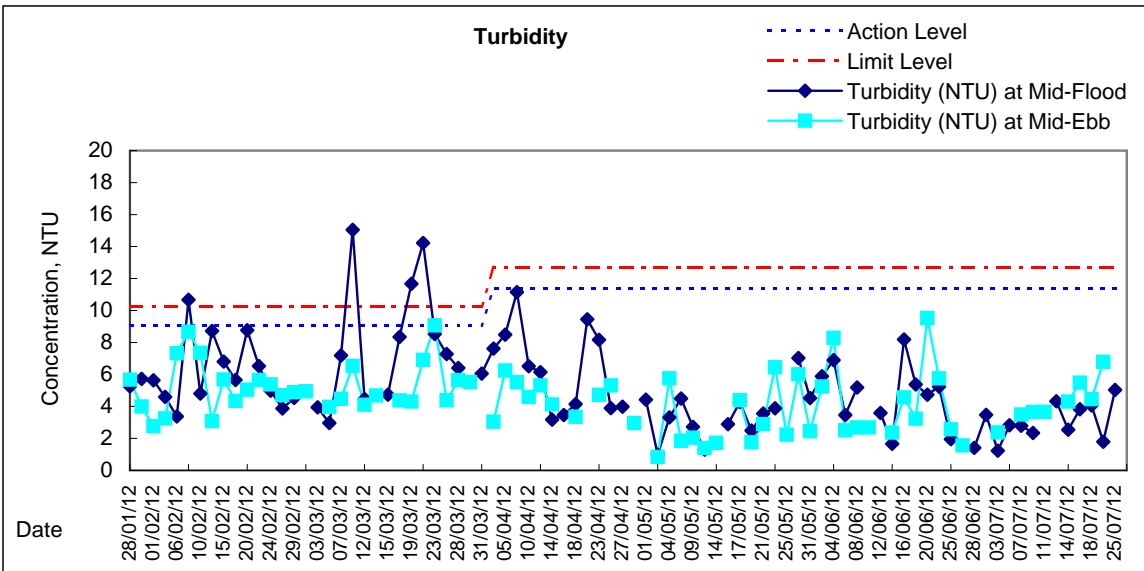
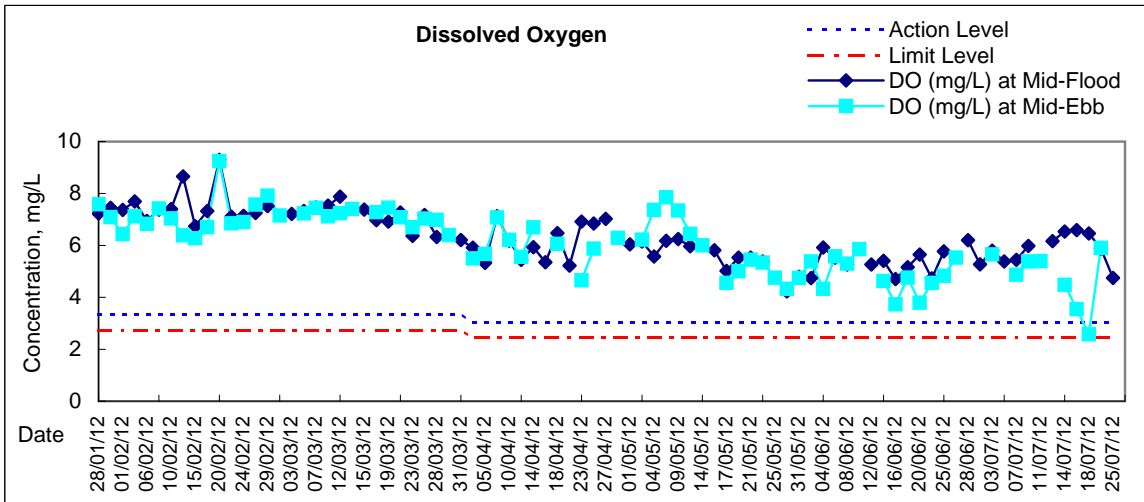
\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



**Remarks:**

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.



Remarks:

\*Due to the enforcement of strong wind signal No.3 on 30 Jun 12 and Amber Rainstorm on 5 Jul 12 and 25 Jul 12, water quality monitoring at ebb tide were cancelled.

\*Due to the enforcement of strong wind signal No.3 and above on 23 Jul 12, water quality monitoring at flood and ebb tide were cancelled.





**Water Monitoring Result at C6 - Excelsior Hotel  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO				
					°C			-			ppt		%		mg/L				
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14:24		Middle	1.5	26.69	26.69	26.7	6.97	6.97	7.0	26.57	26.57	26.6	56.2	55.8	56.0	3.88	3.85	3.87
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4:50		Middle	1.5	26.50	26.50	26.5	7.50	7.50	7.5	24.90	24.90	24.9	50.8	51.1	51.0	3.57	3.63	3.60
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21:22		Middle	1.5	27.60	27.60	27.6	7.84	7.84	7.8	26.44	26.44	26.4	73.5	74.6	74.1	5.07	5.10	5.09
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	22:50		Middle	1.5	27.90	27.90	27.9	7.87	7.87	7.9	26.12	26.12	26.1	74.3	74.4	74.4	5.11	5.10	5.11
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	23:43		Middle	1.5	28.40	28.40	28.4	7.96	7.96	8.0	24.84	24.84	24.8	83.0	84.4	83.7	5.72	5.73	5.73
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	23:40		Middle	1.5	28.50	28.50	28.5	8.07	8.07	8.1	22.23	22.23	22.2	84.2	84.1	84.2	5.93	5.94	5.94
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2:20		Middle	1.5	28.60	28.60	28.6	8.11	8.11	8.1	19.64	19.64	19.6	79.8	78.6	79.2	5.71	5.64	5.68
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:35		Middle	1.5	28.90	28.90	28.9	8.15	8.15	8.2	21.74	21.74	21.7	84.8	84.3	84.6	6.05	6.00	6.03
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:10		Middle	1.0	28.40	28.40	28.4	8.16	8.16	8.2	23.78	23.78	23.8	85.0	83.1	84.1	5.95	5.98	5.97
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:52		Middle	1.5	26.80	26.80	26.8	7.99	7.99	8.0	27.66	27.66	27.7	73.7	74.9	74.3	5.10	5.11	5.11
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	22:02		Middle	1.5	25.70	25.70	25.7	7.89	7.89	7.9	24.79	24.79	24.8	59.9	60.5	60.2	4.30	4.46	4.38
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at C7 - Windsor House  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH		Salinity		DO Saturation		DO					
					°C			-		ppt		%		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average						
30/6/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14:40		Middle	1.5	26.62	26.62	26.6	7.00	7.00	7.0	26.75	26.75	26.8	55.3	55.1	55.2	3.82	3.80	3.81
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4:35		Middle	1.5	26.70	26.70	26.7	7.68	7.68	7.7	27.50	27.50	27.5	55.8	55.8	55.8	3.87	3.87	3.87
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21:15		Middle	1.5	27.60	27.60	27.6	7.66	7.66	7.7	26.59	26.59	26.6	58.6	58.9	58.8	4.00	4.05	4.03
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	22:45		Middle	1.5	28.00	28.00	28.0	7.67	7.67	7.7	26.15	26.16	26.2	60.1	60.3	60.2	4.07	4.08	4.08
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	0:00		Middle	1.5	28.20	28.20	28.2	7.87	7.87	7.9	25.14	25.14	25.1	69.0	69.5	69.3	4.94	4.78	4.86
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	23:55		Middle	1.5	28.40	28.40	28.4	8.11	8.11	8.1	23.02	23.02	23.0	88.4	88.6	88.5	6.25	6.29	6.27
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2:00		Middle	1.5	28.60	28.60	28.6	8.04	8.04	8.0	20.15	20.15	20.2	76.2	76.3	76.3	5.45	5.38	5.42
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:28		Middle	1.5	28.80	28.80	28.8	7.95	7.95	8.0	21.34	21.34	21.3	66.5	67.3	66.9	4.69	4.77	4.73
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:00		Middle	1.0	28.50	28.50	28.5	7.94	7.94	7.9	23.40	23.40	23.4	69.0	69.6	69.3	4.83	4.74	4.79
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:41		Middle	1.5	27.20	27.20	27.2	7.88	7.88	7.9	27.72	27.72	27.7	73.6	74.6	74.1	5.06	5.30	5.18
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21:51		Middle	1.5	25.70	25.70	25.7	7.71	7.71	7.7	24.33	24.33	24.3	65.1	66.7	65.9	4.91	5.00	4.96
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Ex-WPCWA SW - South-western corners of ex-Public Cargo Works Area  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO				
					°C			-			ppt		%		mg/L				
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14:11		Middle	1.5	26.62	26.62	26.6	7.27	7.27	7.3	27.34	27.34	27.3	69.6	68.7	69.2	4.78	4.71	4.75
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4:17		Middle	1.5	26.70	26.70	26.7	7.88	7.88	7.9	26.39	26.39	26.4	73.6	73.9	73.8	5.10	5.10	5.10
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:52		Middle	1.0	27.60	27.60	27.6	7.75	7.76	7.8	22.06	22.07	22.1	55.3	56.7	56.0	3.92	4.10	4.01
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	22:25		Middle	1.0	27.90	27.90	27.9	7.85	7.85	7.9	23.07	23.08	23.1	64.9	65.1	65.0	4.50	4.51	4.51
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2:40		Middle	1.5	27.90	27.90	27.9	7.88	7.88	7.9	22.16	22.15	22.2	70.7	71.1	70.9	5.15	5.15	5.15
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1:42		Middle	1.5	28.30	28.30	28.3	8.03	8.01	8.0	19.40	19.40	19.4	65.9	68.4	67.2	4.78	4.94	4.86
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1:44		Middle	1.0	28.50	28.50	28.5	8.16	8.16	8.2	16.89	16.89	16.9	72.3	72.0	72.2	5.25	5.12	5.19
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:00		Middle	1.0	28.50	28.50	28.5	8.02	8.02	8.0	19.66	19.67	19.7	68.1	68.3	68.2	4.73	4.75	4.74
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	19:55		Middle	1.0	28.20	28.20	28.2	7.85	7.85	7.9	20.71	20.71	20.7	57.5	58.2	57.9	4.19	4.25	4.22
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:26		Middle	1.0	27.30	27.30	27.3	7.67	7.67	7.7	19.95	19.95	20.0	46.2	45.1	45.7	3.35	3.29	3.32
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21:35		Middle	1.0	25.70	25.70	25.7	7.90	7.90	7.9	20.60	20.60	20.6	64.6	65.4	65.0	4.83	4.90	4.87
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Ex-WPCWA SE - South-eastern corners of ex-Public Cargo Works Area  
Mid-Flood Tide**

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH		Salinity		DO Saturation		DO					
					°C			-		ppt		%		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14:06		Middle	1.5	26.55	26.56	26.6	7.78	7.78	7.8	26.80	26.80	26.8	66.8	66.6	66.7	4.60	4.59	4.60
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4:22		Middle	1.5	26.80	26.80	26.8	7.89	7.89	7.9	26.34	26.34	26.3	71.9	71.8	71.9	5.05	4.96	5.01
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:57		Middle	1.0	27.80	27.80	27.8	7.72	7.72	7.7	21.88	21.88	21.9	61.3	61.5	61.4	4.43	4.42	4.43
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	22:30		Middle	1.0	27.80	27.80	27.8	7.76	7.76	7.8	22.99	22.99	23.0	65.2	64.9	65.1	4.50	4.48	4.49
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	2:46		Middle	1.5	27.90	27.90	27.9	7.87	7.87	7.9	22.15	22.15	22.2	71.6	71.8	71.7	5.16	5.17	5.17
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1:47		Middle	1.5	28.30	28.30	28.3	7.97	7.97	8.0	20.88	20.88	20.9	72.9	71.3	72.1	5.22	5.09	5.16
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1:49		Middle	1.0	28.50	28.50	28.5	8.10	8.10	8.1	16.92	16.92	16.9	77.1	78.1	77.6	5.60	5.63	5.62
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:05		Middle	1.0	28.40	28.40	28.4	7.88	7.88	7.9	18.11	18.10	18.1	60.6	60.7	60.7	4.26	4.27	4.27
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:00		Middle	1.0	28.20	28.20	28.2	7.85	7.85	7.9	20.68	20.68	20.7	59.5	59.2	59.4	4.41	4.34	4.38
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	20:31		Middle	1.0	27.40	27.40	27.4	7.65	7.65	7.7	19.88	19.88	19.9	46.1	46.3	46.2	3.26	3.28	<u>3.27</u>
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25/7/2012	-	Cloudy	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21:40		Middle	1.0	25.80	25.80	25.8	7.88	7.88	7.9	20.41	20.41	20.4	67.2	67.7	67.5	5.11	5.15	5.13
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at C6 - Excelsior Hotel  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation		DO			
					°C			-			ppt		%		mg/L				
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	10:13	Sunny	Surface	1	26.85	26.85	26.9	7.21	7.21	7.2	27.85	27.85	27.9	62.3	61.8	62.1	4.26	4.22	4.24
	10:14		Middle	2	26.72	26.74	26.7	7.03	7.03	7.0	27.94	27.94	27.9	60.5	60.4	60.5	4.14	4.13	4.14
	10:15		Bottom	3	26.67	26.67	26.7	6.91	6.91	6.9	28.04	28.04	28.0	59.9	59.7	59.8	4.10	4.09	4.10
5/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14:08		Middle	1	27.90	27.90	27.9	6.06	6.06	6.1	26.45	26.45	26.5	55.1	54.7	54.9	3.73	3.69	3.71
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	15:28		Middle	2	28.60	28.60	28.6	4.77	4.77	4.8	25.45	25.45	25.5	72.4	72.2	72.3	4.84	4.82	4.83
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	17:20		Middle	2	28.90	29.11	29.0	7.23	7.22	7.2	23.14	23.15	23.1	82.9	83.5	83.2	5.61	5.65	5.63
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10:27		Middle	1	28.51	28.51	28.5	8.20	8.20	8.2	19.81	19.81	19.8	53.2	53.2	53.2	3.70	3.70	3.70
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10:48		Middle	2	28.20	28.20	28.2	7.77	7.77	7.8	20.94	20.94	20.9	52.3	52.3	52.3	3.60	3.60	3.60
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	13:34		Middle	2	28.18	28.18	28.2	7.68	7.68	7.7	22.92	22.92	22.9	40.7	40.7	40.7	2.80	2.80	2.80
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12:51		Middle	1	26.80	26.80	26.8	8.14	8.14	8.1	28.18	28.18	28.2	66.9	65.0	66.0	4.53	4.40	4.47
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at C7 - Windsor House  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO				
					°C			-		ppt		%		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/7/2012	-	Sunny	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10:31		Middle	2	27.40	27.40	27.4	6.82	6.82	6.8	27.77	27.77	27.8	57.5	57.5	57.5	3.91	3.89	3.90
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	14:31		Middle	2	29.45	29.45	29.5	6.19	6.19	6.2	25.95	25.95	26.0	57.0	56.7	56.9	3.77	3.75	3.76
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	15:47		Middle	2	29.99	29.99	30.0	5.36	5.36	5.4	24.80	24.80	24.8	62.6	62.4	62.5	4.14	4.12	4.13
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	17:32		Middle	2	29.72	29.72	29.7	7.54	7.54	7.5	22.16	22.16	22.2	78.0	78.3	78.2	5.31	5.33	5.32
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10:49		Middle	1	28.29	28.29	28.3	8.00	8.00	8.0	18.12	18.12	18.1	48.0	48.1	48.1	3.38	3.38	3.38
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	10:55		Middle	2	29.41	29.41	29.4	7.63	7.63	7.6	20.28	20.28	20.3	41.4	41.4	41.4	2.83	2.83	<u>2.83</u>
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	13:47		Middle	2	28.55	28.55	28.6	7.42	7.42	7.4	22.68	22.68	22.7	29.1	29.0	29.1	1.99	1.99	<u>1.99</u>
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	13:00		Middle	2	28.80	28.80	28.8	7.99	7.99	8.0	27.04	27.04	27.0	70.8	71.8	71.3	4.71	4.77	4.74
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Ex-WPCWA SW - South-western corners of ex-Public Cargo Works Area  
Mid-Ebb Tide**

Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO				
			m		°C		-		ppt		%		mg/L						
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average					
30/6/2012	-	Strong Wind Signal No. 3	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	-	Sunny	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	9:59		Middle	1.5	26.80	26.80	26.8	6.99	6.99	7.0	27.91	27.91	27.9	62.2	62.1	62.2	4.25	4.24	4.25
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	13:47	Fine	Surface	1.0	28.14	28.14	28.1	6.14	6.14	6.1	18.09	18.09	18.1	60.7	60.3	60.5	4.27	4.24	4.26
	13:48		Middle	2.0	27.76	27.76	27.8	5.85	5.85	5.9	20.39	20.39	20.4	62.1	61.9	62.0	4.36	4.32	4.34
	13:49		Bottom	3.0	27.79	27.79	27.8	5.77	5.77	5.8	19.66	19.66	19.7	65.4	63.9	64.7	4.60	4.50	4.55
9/7/2012	15:12	Fine	Surface	1.0	28.57	28.57	28.6	4.12	4.12	4.1	21.84	21.84	21.8	60.7	60.5	60.6	4.16	4.14	4.15
	15:14		Middle	2.0	28.00	28.00	28.0	3.82	3.82	3.8	24.69	24.69	24.7	61.6	60.9	61.3	4.20	4.15	4.18
	15:16		Bottom	3.0	27.93	27.93	27.9	3.63	3.63	3.6	24.43	24.43	24.4	60.7	60.6	60.7	4.15	4.15	4.15
11/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	17:02		Middle	1.5	29.29	28.32	28.8	6.84	6.84	6.8	22.35	22.35	22.4	61.0	60.9	61.0	4.19	4.17	4.18
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10:16		Middle	1.5	27.98	27.98	28.0	8.32	8.32	8.3	16.51	16.51	16.5	46.4	46.8	46.6	3.33	3.34	3.34
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10:17		Middle	1.5	28.08	28.08	28.1	7.32	7.32	7.3	20.10	20.10	20.1	46.7	46.6	46.7	3.27	3.26	3.27
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	13:17		Middle	1.5	27.36	27.36	27.4	7.55	7.55	7.6	18.23	18.23	18.2	29.5	29.4	29.5	2.10	2.10	<u>2.10</u>
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12:40		Middle	1.5	26.70	26.70	26.7	7.78	7.78	7.8	22.34	22.34	22.3	53.2	53.0	53.1	3.81	3.71	3.76
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Ex-WPCWA SE - South-eastern corners of ex-Public Cargo Works Area  
Mid-Ebb Tide**

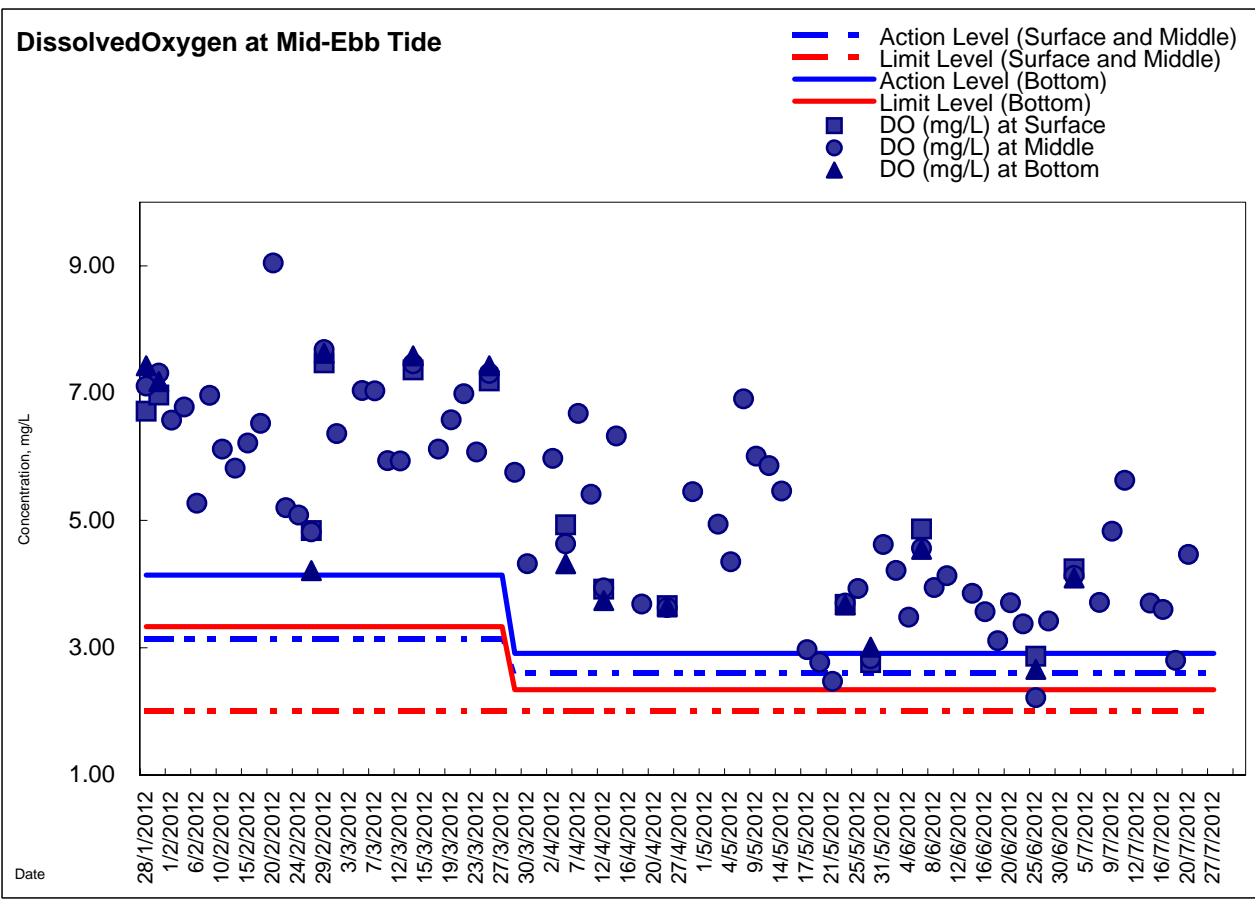
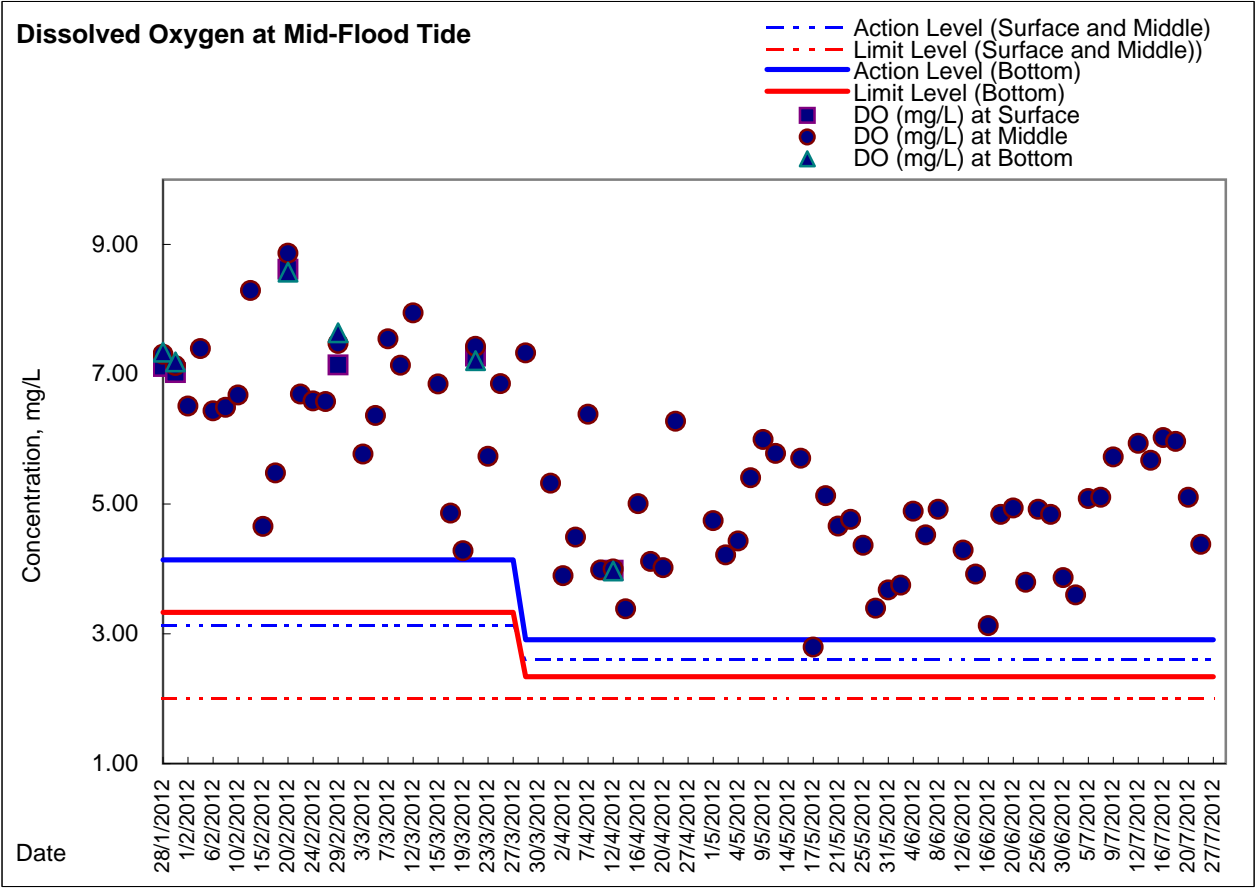
Date	Time	Weather Condition	Sampling Depth		Water Temperature			pH			Salinity		DO Saturation		DO				
					°C			-		ppt		%		mg/L					
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average				
30/6/2012	-	Strong Wind Signal No. 3	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/7/2012	-	Sunny	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	9:52		Middle	1.5	26.90	26.90	26.9	7.22	7.22	7.2	28.08	28.08	28.1	68.2	68.3	68.3	4.64	4.65	4.65
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	13:39		Middle	1.5	28.48	28.48	28.5	7.15	7.15	7.2	21.63	21.63	21.6	63.6	63.3	63.5	4.37	4.36	4.37
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/7/2012	15:00	Fine	Surface	1.0	29.10	29.10	29.1	6.54	6.54	6.5	23.15	23.15	23.2	72.3	72.4	72.4	4.87	4.87	4.87
	15:02		Middle	2.0	28.18	28.18	28.2	5.89	5.85	5.9	24.21	24.21	24.2	73.2	73.0	73.1	4.99	4.97	4.98
	15:04		Bottom	3.0	28.22	28.22	28.2	4.89	4.89	4.9	24.36	24.36	24.4	70.5	70.3	70.4	4.79	4.78	4.79
11/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	16:58		Middle	1.5	29.16	29.26	29.2	6.81	6.81	6.8	22.04	22.05	22.0	56.1	61.5	58.8	3.81	4.18	4.00
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10:09		Middle	1.5	27.72	27.72	27.7	8.45	8.45	8.5	9.64	9.64	9.6	48.1	48.3	48.2	3.59	3.60	3.60
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16/7/2012	10:08	Fine	Surface	1.0	28.27	28.27	28.3	7.74	7.74	7.7	19.97	19.97	20.0	36.7	37.0	36.9	2.56	2.58	<u>2.57</u>
	10:10		Middle	2.0	28.03	28.03	28.0	7.48	7.47	7.5	20.14	20.14	20.1	39.9	40.1	40.0	2.79	2.80	<u>2.80</u>
	10:12		Bottom	3.0	28.00	28.00	28.0	7.28	7.27	7.3	15.60	15.60	15.6	39.5	38.6	39.1	2.81	2.75	<u>2.78</u>
18/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	13:12		Middle	1.5	27.44	27.44	27.4	7.84	7.84	7.8	21.74	21.74	21.7	29.5	29.6	29.6	2.06	2.07	<u>2.07</u>
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20/7/2012	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12:36		Middle	1.5	28.00	28.00	28.0	7.43	7.43	7.4	19.02	19.02	19.0	38.4	39.0	38.7	2.73	2.74	<u>2.74</u>
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25/7/2012	-	Amber Rainstorm	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



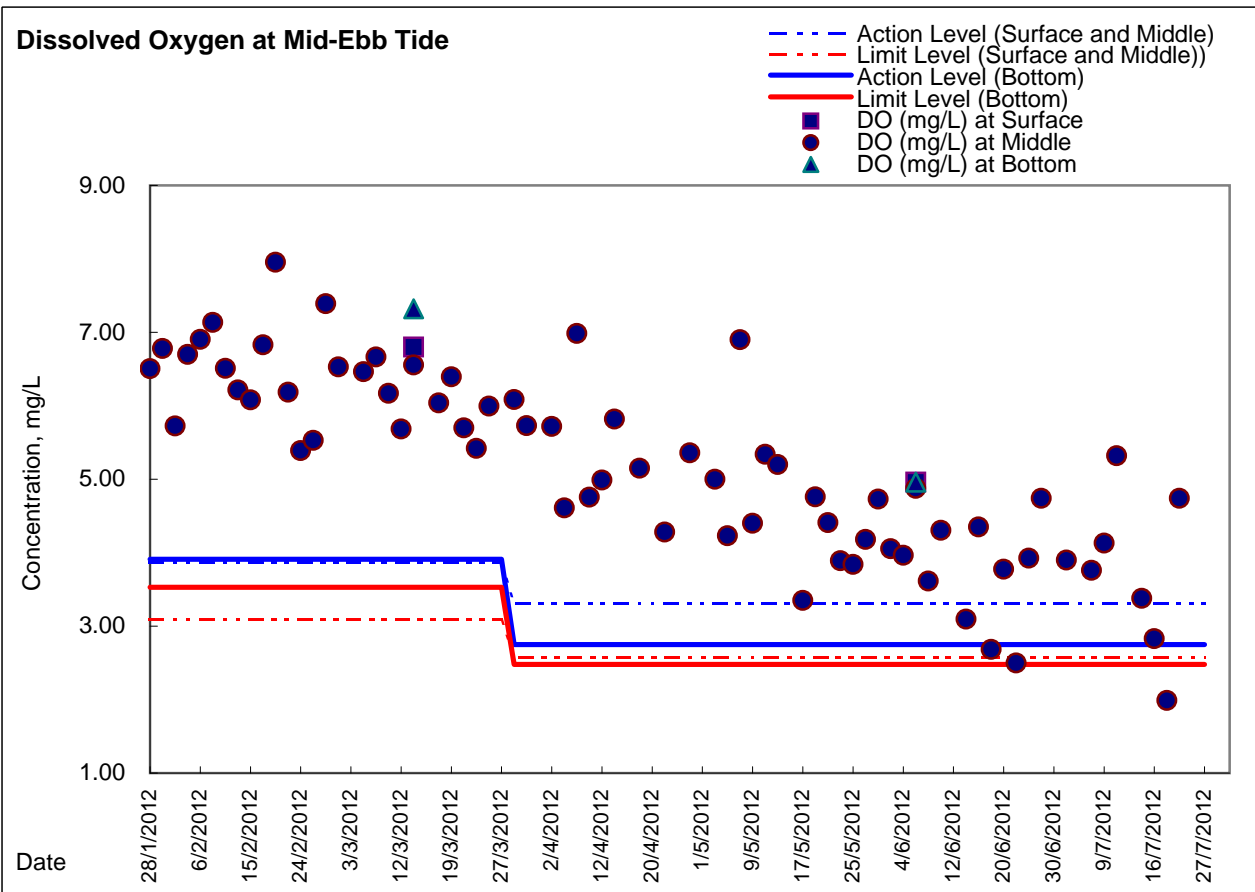
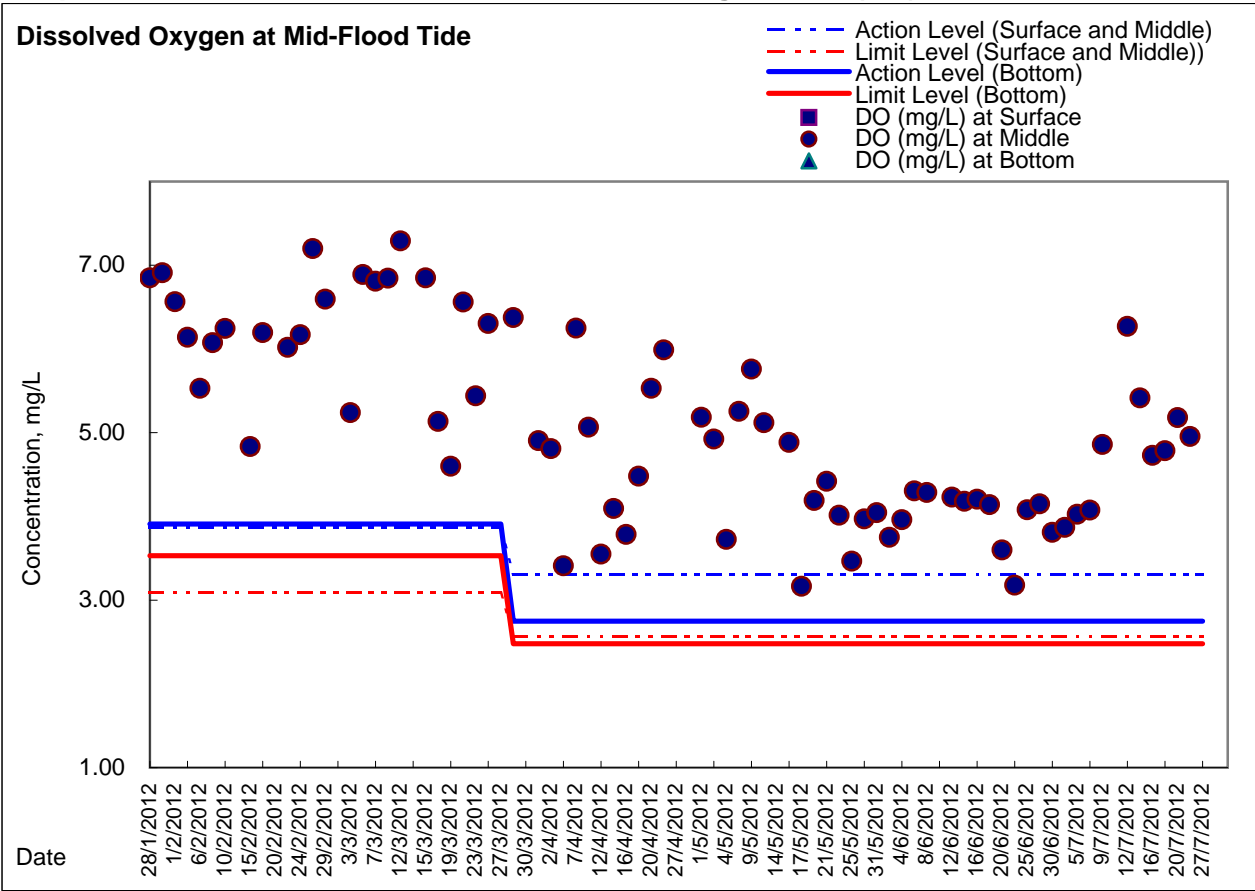


### Graphic Presentation of Enhanced Water Monitoring Results (DO) at C6 - Excelsior Hotel

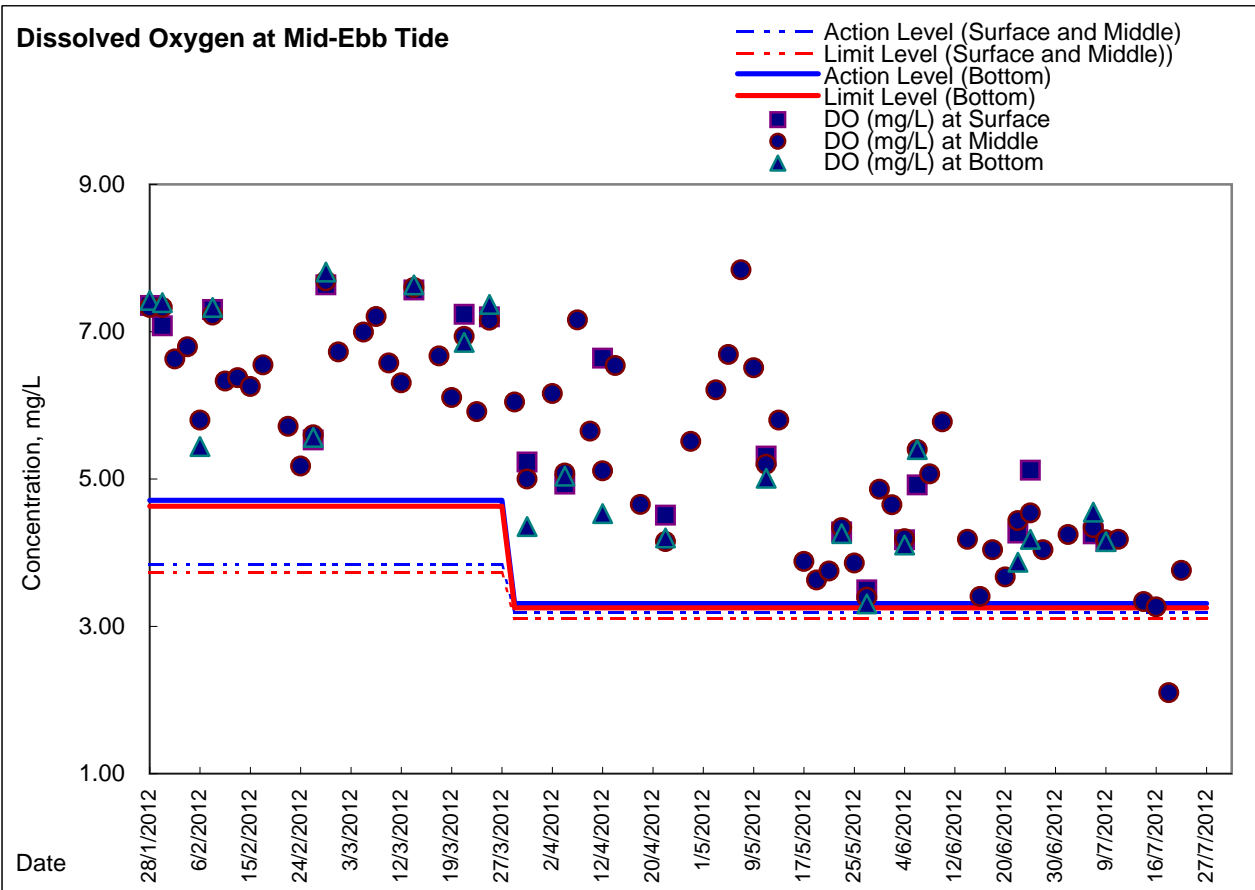
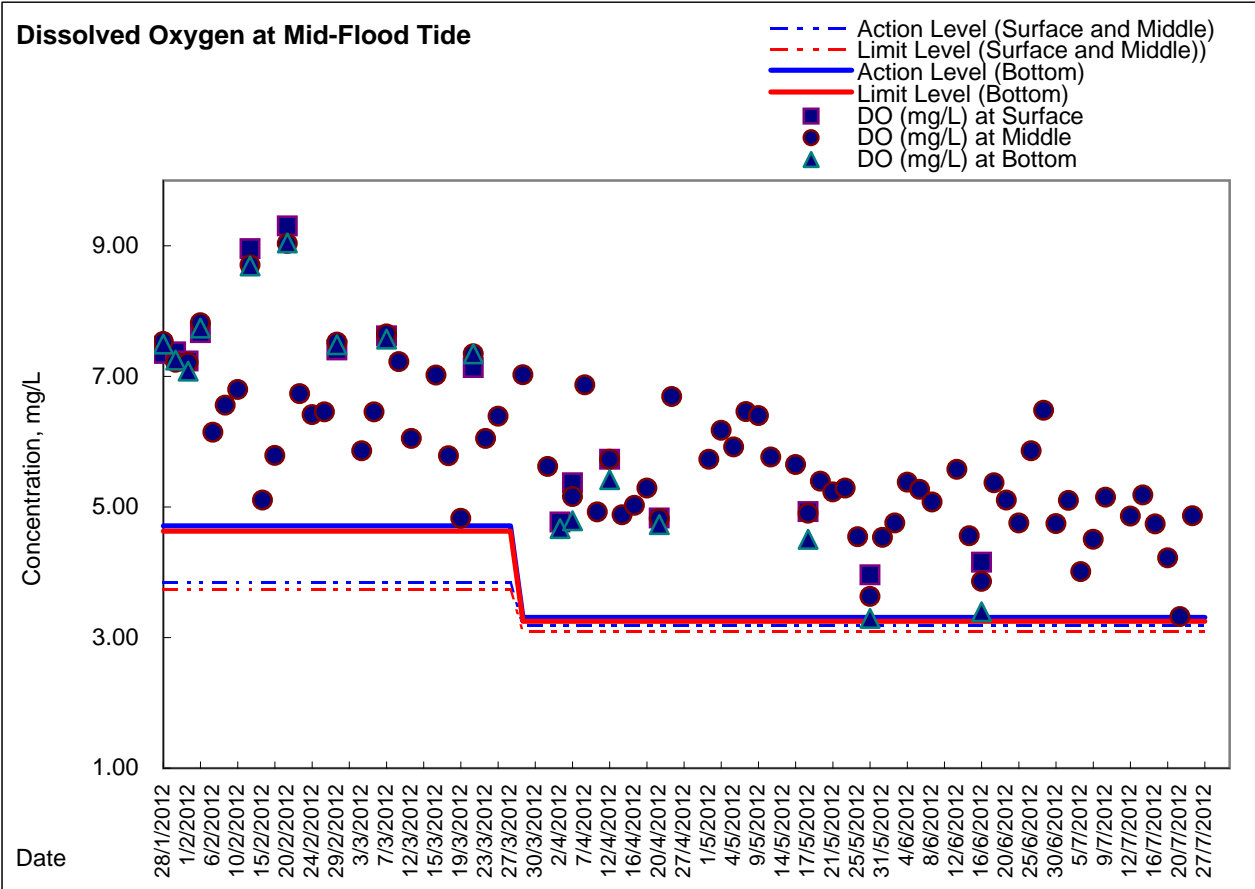




### Graphic Presentation of Enhanced Water Monitoring Results (DO) at C7 - Windsor House

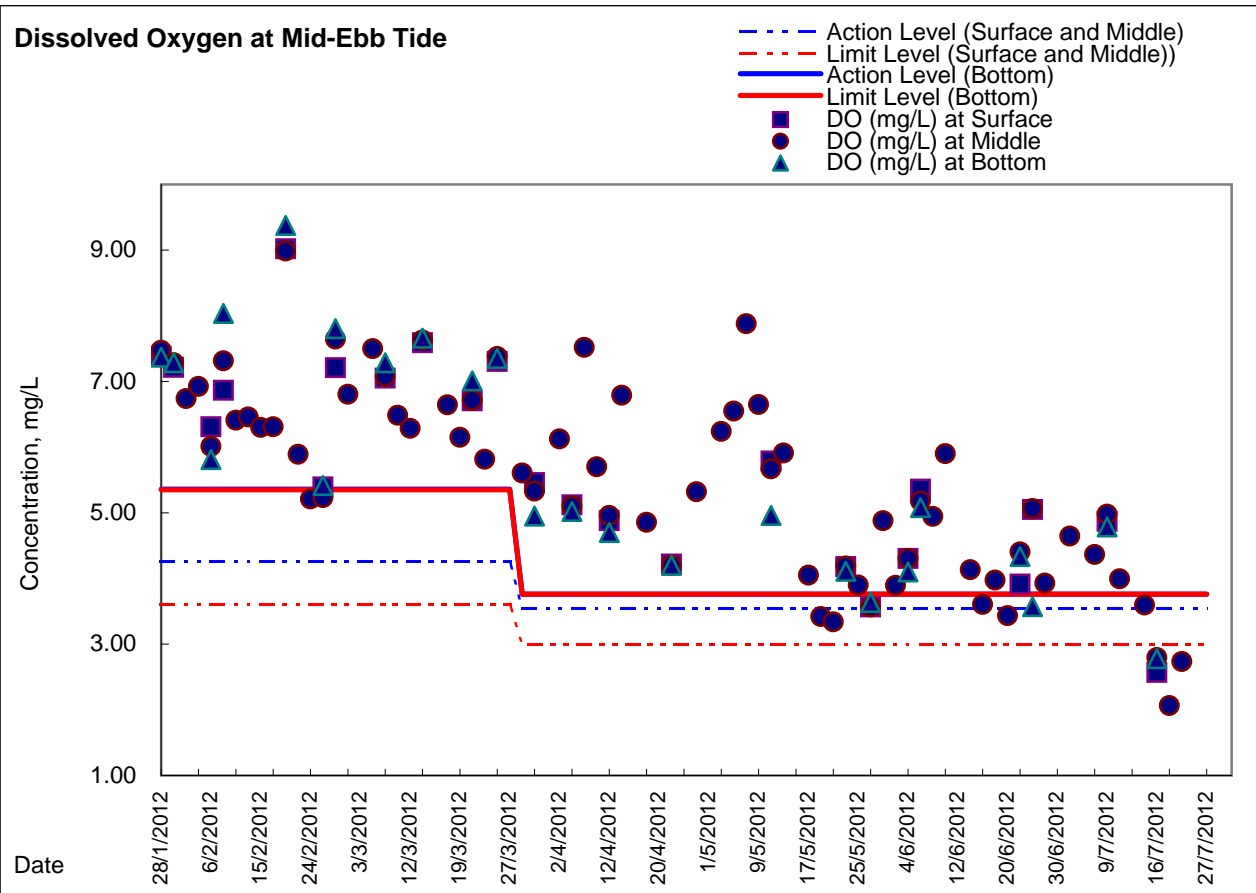
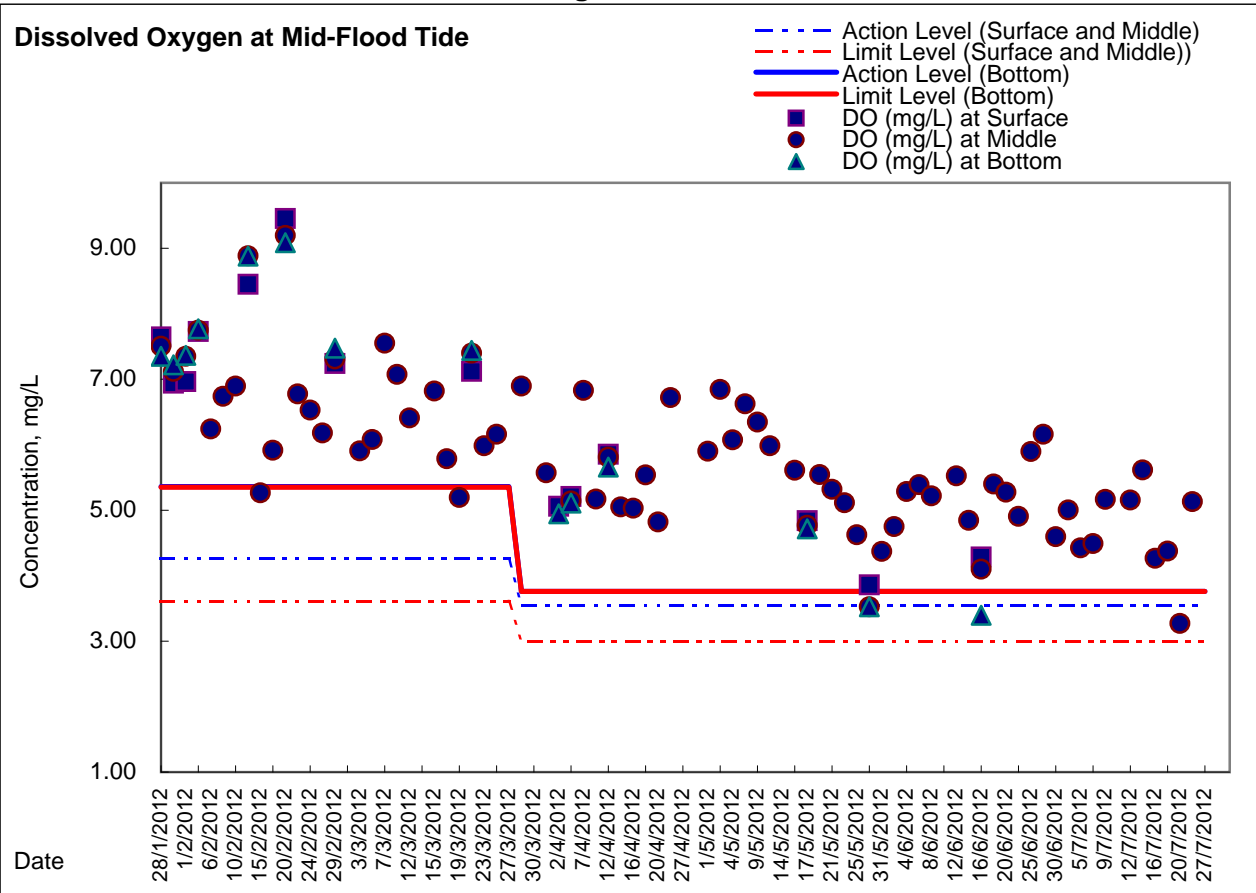


**Graphic Presentation of Enhanced Water Monitoring Results (DO) at Ex-WPCWA SW  
- South-western corners of ex-Public Cargo Works Area**





### Graphic Presentation of Enhanced Water Monitoring Results (DO) at Ex-WPCWA SE - South-eastern corners of ex-Public Cargo Works Area





***Appendix 5.4a***

***Additional Dissolved Oxygen Monitoring Results***



**Water Monitoring Result at Station A  
Mid-Flood Tide**

Location: Station A

Coordinate: 835468E, 815857N

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		
					°C			-			ppt			%			mg/L		
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average		
05-Jul-12	20:06	Fine	Surface	1.0	27.40	27.40	27.40	7.77	7.77	7.77	25.30	25.30	25.30	63.8	63.6	63.7	4.38	4.37	4.38
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20:08		Bottom	4.0	27.30	27.30	27.30	7.79	7.79	7.79	25.94	25.94	25.94	55.8	55.4	55.6	3.82	3.80	3.81
11-Jul-12	-	Fine	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	22:46		Middle	1.5	28.60	28.60	28.60	8.04	8.05	8.05	21.47	21.48	21.48	72.5	72.7	72.6	5.41	5.43	5.42
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-Jul-12	18:45	Fine	Surface	1.0	27.50	27.50	27.50	7.93	7.95	7.94	24.04	24.20	24.12	80.6	80.2	80.4	5.56	5.55	5.56
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	18:49		Bottom	3.0	27.10	27.20	27.15	7.91	7.93	7.92	24.60	24.43	24.52	74.7	76.7	75.7	5.16	5.30	5.23
25-Jul-12	21:07	Cloudy	Surface	1.0	26.10	26.10	26.10	7.63	7.63	7.63	28.66	28.66	28.66	68.3	65.3	66.8	4.75	4.55	4.65
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	21:09		Bottom	3.0	26.00	26.00	26.00	7.65	7.65	7.65	29.03	29.03	29.03	58.5	57.9	58.2	4.03	4.00	4.02

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Station B  
Mid-Flood Tide**

Location: Station B

Coordinate: 835572E, 815961N

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		
					°C			-			ppt			%			mg/L		
			m	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average		
05-Jul-12	20:00	Fine	Surface	1.0	27.60	27.60	27.60	7.78	7.78	7.78	25.51	25.51	25.51	67.7	68.0	67.9	4.64	4.65	4.65
	20:02		Middle	5.0	27.50	27.50	27.50	7.76	7.76	7.76	26.66	26.67	26.67	57.0	56.5	56.8	3.90	3.87	3.89
	20:04		Bottom	9.0	27.20	27.20	27.20	7.80	7.80	7.80	26.98	26.98	26.98	54.9	55.2	55.1	3.77	3.79	3.78
11-Jul-12	22:41	Fine	Surface	1.0	28.30	28.20	28.25	8.10	8.09	8.10	19.71	19.71	19.71	71.5	71.0	71.3	5.39	5.36	5.38
	22:42		Middle	5.5	25.90	25.90	25.90	7.66	7.66	7.66	27.61	27.62	27.62	64.0	64.3	64.2	4.36	4.39	4.38
	22:43		Bottom	10.0	26.10	26.10	26.10	7.61	7.61	7.61	22.13	22.14	22.14	60.1	60.2	60.2	4.06	4.07	4.07
18-Jul-12	18:38	Fine	Surface	1.0	27.70	27.80	27.75	7.96	7.95	7.96	24.35	24.36	24.36	84.6	84.4	84.5	5.81	5.80	5.81
	18:40		Middle	5.0	26.70	26.40	26.55	7.79	7.86	7.83	27.30	25.80	26.55	54.8	57.8	56.3	3.83	4.02	3.93
	18:43		Bottom	9.0	23.90	24.20	24.05	7.58	7.64	7.61	29.59	29.53	29.56	13.5	10.1	11.8	0.96	0.72	0.84
25-Jul-12	20:58	Cloudy	Surface	1.0	25.80	25.80	25.80	7.65	7.65	7.65	28.63	28.63	28.63	70.2	68.8	69.5	4.89	4.60	4.75
	21:00		Middle	5.0	25.80	25.80	25.80	7.55	7.55	7.55	29.03	29.03	29.03	65.3	63.9	64.6	4.55	4.43	4.49
	21:02		Bottom	9.0	25.70	25.70	25.70	7.43	7.43	7.43	30.43	30.43	30.43	38.9	37.6	38.3	2.06	1.98	2.02

Remarks:  
 Single underline denotes exceedance over Action Level.  
 Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Station C  
Mid-Flood Tide**

Location: Station C

Coordinate: 835659E, 816271N

Date	Time	Weater Condition	Sampling Depth		Water Temperature			pH			Salinity			DO Saturation			DO		
			m		°C			-			ppt			%			mg/L		
					Value	Average		Value	Average		Value	Average		Value	Average		Value	Average	
05-Jul-12	19:54	Fine	Surface	1.0	27.20	27.20	27.20	7.81	7.81	7.81	26.18	26.18	26.18	64.4	64.7	64.6	4.42	4.44	4.43
	19:56		Middle	6.5	27.20	27.20	27.20	7.79	7.79	7.79	26.34	26.34	26.34	63.3	63.4	63.4	4.34	4.34	4.34
	19:58		Bottom	12.0	27.20	27.20	27.20	7.78	7.78	7.78	26.33	26.33	26.33	62.8	62.7	62.8	4.30	4.30	4.30
11-Jul-12	22:35	Fine	Surface	1.0	28.40	28.40	28.40	8.16	8.15	8.16	19.37	19.39	19.38	78.1	78.2	78.2	5.23	5.24	5.24
	22:36		Middle	6.5	27.70	27.70	27.70	7.94	7.94	7.94	23.60	23.60	23.60	79.5	78.0	78.8	5.46	5.39	5.43
	22:37		Bottom	12.0	26.10	26.10	26.10	7.69	7.69	7.69	27.83	27.82	27.83	31.3	32.2	31.8	2.17	2.23	2.20
18-Jul-12	18:28	Fine	Surface	1.0	27.00	27.10	27.05	8.03	8.02	8.03	24.33	24.31	24.32	92.7	93.7	93.2	6.46	6.51	6.49
	18:30		Middle	7.0	26.40	26.00	26.20	7.94	7.90	7.92	25.47	25.52	25.50	70.4	71.3	70.9	4.88	4.99	4.94
	18:32		Bottom	13.0	25.60	25.50	25.55	7.61	7.60	7.61	26.81	26.80	26.81	40.0	22.3	31.2	1.44	1.59	1.52
25-Jul-12	20:40	Cloudy	Surface	1.0	25.90	25.90	25.90	7.61	7.61	7.61	28.73	28.73	28.73	69.5	68.9	69.2	4.86	4.79	4.83
	20:45		Middle	6.5	25.80	25.80	25.80	7.56	7.56	7.56	29.12	29.12	29.12	49.6	49.3	49.5	3.44	3.42	3.43
	20:50		Bottom	12.0	25.80	25.80	25.80	7.35	7.35	7.35	31.01	31.01	31.01	35.3	34.2	34.8	1.80	1.69	1.75

Remarks:  
 Single underline denotes exceedance over Action Level.  
 Double underline denotes exceedance over Limit Level.





**Water Monitoring Result at Station A  
Mid-Ebb Tide**

Location: Station A

Coordinate: 835468E, 815857N

Date	Time	Weater Condition	Sampling Depth	Water Temperature				pH			Salinity			DO Saturation			DO		
				m	°C			-			ppt		%		mg/L				
					Value	Average		Value	Average		Value	Average	Value	Average	Value	Average			
05-Jul-12	-	Amber Rainstrom	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07-Jul-12	14:00	Sunny	Surface	1.0	27.90	27.80	27.85	7.80	7.80	7.80	25.49	25.48	25.49	67.2	66.8	67.0	4.58	4.55	4.57
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	14:01		Bottom	3.0	27.90	27.80	27.85	7.80	7.79	7.80	25.64	25.63	25.64	66.9	67.0	67.0	4.56	4.57	4.57
11-Jul-12	16:30	Sunny	Surface	1.0	28.90	28.90	28.90	8.16	8.16	8.16	22.57	22.57	22.57	128.9	130.7	129.8	8.77	8.89	8.83
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	16:31		Bottom	4.0	28.90	28.90	28.90	8.13	8.13	8.13	22.66	22.66	22.66	115.9	117.2	116.6	7.88	7.97	7.93
18-Jul-12	9:45	Cloudy	Surface	1.0	27.30	27.20	27.25	7.93	7.92	7.93	22.79	22.77	22.78	72.6	72.2	72.4	5.05	5.03	5.04
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	9:46		Bottom	4.0	27.30	27.20	27.25	7.92	7.91	7.92	23.30	23.31	23.31	71.0	70.6	70.8	4.94	4.89	4.92
25-Jul-12	-	Amber Rainstrom	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Station B  
Mid-Ebb Tide**

Location: Station B

Coordinate: 835572E, 815961N

Date	Time	Weater Condition	Sampling Depth	Water Temperature				pH			Salinity			DO Saturation		DO			
				m	°C			-			ppt		%		mg/L				
					Value	Average		Value	Average		Value	Average	Value	Average	Value	Average			
05-Jul-12	-	Amber Rainstrom	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07-Jul-12	13:53	Sunny	Surface	1.0	27.60	27.50	27.55	7.83	7.83	7.83	25.46	25.47	25.47	68.2	68.6	68.4	4.67	4.69	4.68
	13:54		Middle	5.5	27.60	27.60	27.60	7.85	7.85	7.85	25.53	25.54	25.54	68.3	68.1	68.2	4.68	4.66	4.67
	13:55		Bottom	10.0	27.60	27.50	27.55	7.84	7.84	7.84	25.80	25.78	25.79	65.9	66.1	66.0	4.50	4.52	4.51
11-Jul-12	16:23	Sunny	Surface	1.0	28.60	28.60	28.60	8.15	8.15	8.15	22.54	22.54	22.54	123.7	122.9	123.3	8.44	8.40	8.42
	16:24		Middle	5.5	28.60	28.60	28.60	8.09	8.09	8.09	22.92	22.92	22.92	114.0	113.7	113.9	7.70	7.68	7.69
	16:25		Bottom	10.0	27.10	27.10	27.10	7.85	7.85	7.85	25.64	25.64	25.64	62.7	62.0	62.4	4.32	4.27	4.30
18-Jul-12	9:35	Cloudy	Surface	1.0	27.10	27.20	27.15	8.09	8.08	8.09	23.29	23.28	23.29	79.3	78.8	79.1	5.54	5.50	5.52
	9:36		Middle	6.0	27.20	27.20	27.20	7.94	7.93	7.94	23.50	23.51	23.51	73.5	73.8	73.7	5.12	5.14	5.13
	9:37		Bottom	11.0	23.10	23.20	23.15	7.62	7.61	7.62	31.42	31.43	31.43	8.1	7.0	7.6	0.58	0.50	0.54
25-Jul-12	-	Amber Rainstrom	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



**Water Monitoring Result at Station C  
Mid-Ebb Tide**

Location: Station C

Coordinate: 835659E, 816271N

Date	Time	Weater Condition	Sampling Depth	Water Temperature				pH			Salinity			DO Saturation			DO		
				m	°C			-			ppt		%		mg/L				
					Value	Average		Value	Average		Value	Average	Value	Average	Value	Average			
05-Jul-12	-	Amber Rainstrom	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
07-Jul-12	13:46	Sunny	Surface	1.0	27.60	27.50	27.55	7.83	7.83	7.83	25.01	25.02	25.02	75.2	74.3	74.8	5.15	5.09	5.12
	13:47		Middle	7.0	27.60	27.60	27.60	7.81	7.80	7.81	25.31	25.31	25.31	71.7	72.2	72.0	4.91	4.95	4.93
	13:48		Bottom	13.0	27.60	27.50	27.55	7.79	7.78	7.79	25.25	25.24	25.25	71.6	72.3	72.0	4.90	4.96	4.93
11-Jul-12	16:10	Sunny	Surface	1.0	28.30	28.30	28.30	8.10	8.10	8.10	22.19	22.19	22.19	124.2	124.3	124.3	8.54	8.55	8.55
	16:11		Middle	7.0	28.10	28.10	28.10	7.96	7.96	7.96	23.62	23.62	23.62	93.3	94.4	93.9	6.41	6.49	6.45
	16:12		Bottom	13.0	25.70	25.70	25.70	7.69	7.69	7.69	28.15	28.15	28.15	56.9	57.0	57.0	3.93	3.94	3.94
18-Jul-12	9:27	Cloudy	Surface	1.0	27.00	27.00	27.00	7.94	7.94	7.94	23.46	23.47	23.47	76.0	75.7	75.9	5.31	5.29	5.30
	9:28		Middle	7.5	26.00	26.10	26.05	7.85	7.86	7.86	26.54	26.55	26.55	48.2	47.8	48.0	3.38	3.34	3.36
	9:29		Bottom	14.0	22.70	22.60	22.65	7.70	7.71	7.71	32.07	32.06	32.07	15.2	14.7	15.0	1.09	1.06	1.08
25-Jul-12	-	Amber Rainstrom	Surface	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	-		Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Remarks:  
Single underline denotes exceedance over Action Level.  
Double underline denotes exceedance over Limit Level.



***Appendix 5.5***

***Real-time Noise Monitoring Results and Graphical Presentations***



Real-time Noise Data RTN1 (FEHD Hong Kong Transport Section Whitefield Depot)

Table with 13 columns of date-time and noise level data. Columns are organized into groups: 29/6/2012, 1/7/2012, 2/7/2012, 3/7/2012, 4/7/2012, and 5/7/2012. Each group contains 24 rows of data. Values range from approximately 62.2 to 68.6.















Real-time Noise Data RTN1 (FEHD Hong Kong Transport Section Whitefield Depot)

24/7/2012 0:16	61.8	25/7/2012 1:26	60.7	26/7/2012 2:36	59.6	27/7/2012 3:46	58.8
24/7/2012 0:21	61.3	25/7/2012 1:31	60.5	26/7/2012 2:41	60.3	27/7/2012 3:51	59.3
24/7/2012 0:26	62.1	25/7/2012 1:36	59.2	26/7/2012 2:46	60.2	27/7/2012 3:56	59.5
24/7/2012 0:31	61.4	25/7/2012 1:41	61.2	26/7/2012 2:51	59.6	27/7/2012 4:01	57.8
24/7/2012 0:36	60.9	25/7/2012 1:46	59.9	26/7/2012 2:56	59.6	27/7/2012 4:06	58.7
24/7/2012 0:41	61.7	25/7/2012 1:51	59.6	26/7/2012 3:01	59.8	27/7/2012 4:11	59.8
24/7/2012 0:46	61.0	25/7/2012 1:56	59.7	26/7/2012 3:06	59.7	27/7/2012 4:16	59.3
24/7/2012 0:51	60.8	25/7/2012 2:01	58.7	26/7/2012 3:11	60.4	27/7/2012 4:21	58.3
24/7/2012 0:56	61.2	25/7/2012 2:06	59.4	26/7/2012 3:16	59.3	27/7/2012 4:26	59.1
24/7/2012 1:01	60.2	25/7/2012 2:11	58.5	26/7/2012 3:21	59.0	27/7/2012 4:31	58.4
24/7/2012 1:06	61.0	25/7/2012 2:16	59.3	26/7/2012 3:26	59.4	27/7/2012 4:36	59.4
24/7/2012 1:11	60.4	25/7/2012 2:21	58.1	26/7/2012 3:31	60.3	27/7/2012 4:41	58.2
24/7/2012 1:16	60.6	25/7/2012 2:26	59.5	26/7/2012 3:36	58.9	27/7/2012 4:46	59.5
24/7/2012 1:21	60.7	25/7/2012 2:31	59.2	26/7/2012 3:41	59.4	27/7/2012 4:51	58.3
24/7/2012 1:26	61.0	25/7/2012 2:36	59.0	26/7/2012 3:46	58.8	27/7/2012 4:56	59.0
24/7/2012 1:31	60.5	25/7/2012 2:41	59.2	26/7/2012 3:51	59.3	27/7/2012 5:01	59.0
24/7/2012 1:36	60.8	25/7/2012 2:46	58.8	26/7/2012 3:56	59.4	27/7/2012 5:06	59.8
24/7/2012 1:41	59.9	25/7/2012 2:51	58.6	26/7/2012 4:01	58.8	27/7/2012 5:11	58.8
24/7/2012 1:46	59.8	25/7/2012 2:56	58.1	26/7/2012 4:06	59.1	27/7/2012 5:16	59.4
24/7/2012 1:51	59.7	25/7/2012 3:01	58.1	26/7/2012 4:11	58.9	27/7/2012 5:21	59.2
24/7/2012 1:56	57.7	25/7/2012 3:06	60.0	26/7/2012 4:16	59.8	27/7/2012 5:26	59.6
24/7/2012 2:01	57.8	25/7/2012 3:11	58.4	26/7/2012 4:21	59.3	27/7/2012 5:31	59.9
24/7/2012 2:06	56.9	25/7/2012 3:16	59.2	26/7/2012 4:26	60.1	27/7/2012 5:36	59.8
24/7/2012 2:11	58.0	25/7/2012 3:21	57.9	26/7/2012 4:31	59.3	27/7/2012 5:41	60.2
24/7/2012 2:16	58.4	25/7/2012 3:26	58.1	26/7/2012 4:36	59.0	27/7/2012 5:46	60.5
24/7/2012 2:21	57.6	25/7/2012 3:31	58.1	26/7/2012 4:41	59.4	27/7/2012 5:51	60.2
24/7/2012 2:26	56.9	25/7/2012 3:36	57.7	26/7/2012 4:46	58.7	27/7/2012 5:56	61.2
24/7/2012 2:31	57.0	25/7/2012 3:41	58.0	26/7/2012 4:51	60.4	27/7/2012 6:01	60.9
24/7/2012 2:36	58.0	25/7/2012 3:46	58.7	26/7/2012 4:56	59.6	27/7/2012 6:06	61.3
24/7/2012 2:41	57.7	25/7/2012 3:51	58.7	26/7/2012 5:01	59.1	27/7/2012 6:11	62.3
24/7/2012 2:46	56.4	25/7/2012 3:56	59.6	26/7/2012 5:06	59.6	27/7/2012 6:16	61.5
24/7/2012 2:51	57.0	25/7/2012 4:01	58.8	26/7/2012 5:11	59.5	27/7/2012 6:21	62.1
24/7/2012 2:56	57.3	25/7/2012 4:06	59.4	26/7/2012 5:16	59.9	27/7/2012 6:26	61.9
24/7/2012 3:01	56.5	25/7/2012 4:11	59.5	26/7/2012 5:21	59.9	27/7/2012 6:31	62.8
24/7/2012 3:06	57.6	25/7/2012 4:16	58.2	26/7/2012 5:26	59.9	27/7/2012 6:36	62.7
24/7/2012 3:11	57.2	25/7/2012 4:21	58.8	26/7/2012 5:31	61.1	27/7/2012 6:41	64.9
24/7/2012 3:16	56.4	25/7/2012 4:26	58.4	26/7/2012 5:36	60.5	27/7/2012 6:46	64.3
24/7/2012 3:21	56.7	25/7/2012 4:31	58.6	26/7/2012 5:41	61.1	27/7/2012 6:51	63.5
24/7/2012 3:26	56.3	25/7/2012 4:36	58.8	26/7/2012 5:46	60.6	27/7/2012 6:56	64.1
24/7/2012 3:31	55.8	25/7/2012 4:41	58.5	26/7/2012 5:51	60.6	27/7/2012 23:01	61.7
24/7/2012 3:36	57.6	25/7/2012 4:46	60.7	26/7/2012 5:56	62.0	27/7/2012 23:06	62.4
24/7/2012 3:41	58.0	25/7/2012 4:51	58.9	26/7/2012 6:01	63.2	27/7/2012 23:11	62.6
24/7/2012 3:46	57.2	25/7/2012 4:56	60.2	26/7/2012 6:06	64.9	27/7/2012 23:16	61.9
24/7/2012 3:51	57.5	25/7/2012 5:01	57.1	26/7/2012 6:11	63.2	27/7/2012 23:21	62.5
24/7/2012 3:56	56.6	25/7/2012 5:06	57.3	26/7/2012 6:16	62.9	27/7/2012 23:26	62.8
24/7/2012 4:01	56.4	25/7/2012 5:11	57.7	26/7/2012 6:21	64.0	27/7/2012 23:31	62.7
24/7/2012 4:06	56.3	25/7/2012 5:16	57.6	26/7/2012 6:26	62.6	27/7/2012 23:36	63.0
24/7/2012 4:11	56.3	25/7/2012 5:21	58.0	26/7/2012 6:31	63.6	27/7/2012 23:41	62.8
24/7/2012 4:16	57.3	25/7/2012 5:26	58.0	26/7/2012 6:36	64.9	27/7/2012 23:46	62.7
24/7/2012 4:21	56.7	25/7/2012 5:31	58.3	26/7/2012 6:41	64.3	27/7/2012 23:51	62.4
24/7/2012 4:26	57.4	25/7/2012 5:36	58.4	26/7/2012 6:46	63.7	27/7/2012 23:56	63.3
24/7/2012 4:31	56.5	25/7/2012 5:41	59.2	26/7/2012 6:51	63.8		
24/7/2012 4:36	57.0	25/7/2012 5:46	59.4	26/7/2012 6:56	63.9		
24/7/2012 4:41	56.9	25/7/2012 5:51	59.5	26/7/2012 23:01	64.5		
24/7/2012 4:46	57.2	25/7/2012 5:56	58.9	26/7/2012 23:06	63.0		
24/7/2012 4:51	56.8	25/7/2012 6:01	59.9	26/7/2012 23:11	62.9		
24/7/2012 4:56	57.6	25/7/2012 6:06	59.6	26/7/2012 23:16	62.6		
24/7/2012 5:01	58.2	25/7/2012 6:11	60.8	26/7/2012 23:21	62.6		
24/7/2012 5:06	58.6	25/7/2012 6:16	60.7	26/7/2012 23:26	62.8		
24/7/2012 5:11	57.4	25/7/2012 6:21	61.4	26/7/2012 23:31	62.7		
24/7/2012 5:16	59.2	25/7/2012 6:26	61.8	26/7/2012 23:36	62.1		
24/7/2012 5:21	60.3	25/7/2012 6:31	61.7	26/7/2012 23:41	62.4		
24/7/2012 5:26	58.9	25/7/2012 6:36	62.2	26/7/2012 23:46	62.2		
24/7/2012 5:31	58.2	25/7/2012 6:41	62.7	26/7/2012 23:51	62.3		
24/7/2012 5:36	57.8	25/7/2012 6:46	62.7	26/7/2012 23:56	62.6		
24/7/2012 5:41	58.7	25/7/2012 6:51	62.9	27/7/2012 0:01	61.7		
24/7/2012 5:46	59.7	25/7/2012 6:56	63.5	27/7/2012 0:06	62.2		
24/7/2012 5:51	58.6	25/7/2012 23:01	63.1	27/7/2012 0:11	61.9		
24/7/2012 5:56	58.6	25/7/2012 23:06	63.4	27/7/2012 0:16	61.7		
24/7/2012 6:01	58.5	25/7/2012 23:11	63.8	27/7/2012 0:21	62.3		
24/7/2012 6:06	59.1	25/7/2012 23:16	62.8	27/7/2012 0:26	62.1		
24/7/2012 6:11	58.6	25/7/2012 23:21	62.8	27/7/2012 0:31	62.1		
24/7/2012 6:16	61.0	25/7/2012 23:26	62.4	27/7/2012 0:36	60.9		
24/7/2012 6:21	60.4	25/7/2012 23:31	63.9	27/7/2012 0:41	61.0		
24/7/2012 6:26	60.9	25/7/2012 23:36	64.0	27/7/2012 0:46	61.5		
24/7/2012 6:31	60.7	25/7/2012 23:41	62.5	27/7/2012 0:51	61.1		
24/7/2012 6:36	60.8	25/7/2012 23:46	62.4	27/7/2012 0:56	64.8		
24/7/2012 6:41	61.5	25/7/2012 23:51	62.6	27/7/2012 1:01	64.7		
24/7/2012 6:46	62.0	25/7/2012 23:56	62.7	27/7/2012 1:06	63.7		
24/7/2012 6:51	60.6	26/7/2012 0:01	62.7	27/7/2012 1:11	60.9		
24/7/2012 6:56	61.6	26/7/2012 0:06	62.8	27/7/2012 1:16	60.2		
24/7/2012 23:01	62.3	26/7/2012 0:11	62.7	27/7/2012 1:21	60.7		
24/7/2012 23:06	62.3	26/7/2012 0:16	62.6	27/7/2012 1:26	60.6		
24/7/2012 23:11	62.3	26/7/2012 0:21	62.5	27/7/2012 1:31	59.9		
24/7/2012 23:16	62.1	26/7/2012 0:26	62.7	27/7/2012 1:36	60.6		
24/7/2012 23:21	62.1	26/7/2012 0:31	62.5	27/7/2012 1:41	59.9		
24/7/2012 23:26	62.0	26/7/2012 0:36	61.8	27/7/2012 1:46	59.9		
24/7/2012 23:31	62.3	26/7/2012 0:41	61.8	27/7/2012 1:51	60.0		
24/7/2012 23:36	62.2	26/7/2012 0:46	62.0	27/7/2012 1:56	60.6		
24/7/2012 23:41	61.8	26/7/2012 0:51	61.6	27/7/2012 2:01	59.4		
24/7/2012 23:46	62.0	26/7/2012 0:56	61.2	27/7/2012 2:06	59.4		
24/7/2012 23:51	62.6	26/7/2012 1:01	61.4	27/7/2012 2:11	59.8		
24/7/2012 23:56	61.7	26/7/2012 1:06	61.1	27/7/2012 2:16	59.7		
25/7/2012 0:01	62.4	26/7/2012 1:11	61.3	27/7/2012 2:21	59.2		
25/7/2012 0:06	62.6	26/7/2012 1:16	61.0	27/7/2012 2:26	58.8		
25/7/2012 0:11	62.6	26/7/2012 1:21	61.2	27/7/2012 2:31	59.7		
25/7/2012 0:16	61.8	26/7/2012 1:26	61.2	27/7/2012 2:36	59.6		
25/7/2012 0:21	61.3	26/7/2012 1:31	60.4	27/7/2012 2:41	59.4		
25/7/2012 0:26	62.8	26/7/2012 1:36	61.0	27/7/2012 2:46	59.4		
25/7/2012 0:31	61.9	26/7/2012 1:41	61.0	27/7/2012 2:51	58.9		
25/7/2012 0:36	60.8	26/7/2012 1:46	60.8	27/7/2012 2:56	59.1		
25/7/2012 0:41	62.3	26/7/2012 1:51	60.6	27/7/2012 3:01	59.3		
25/7/2012 0:46	61.6	26/7/2012 1:56	60.5	27/7/2012 3:06	59.0		
25/7/2012 0:51	60.4	26/7/2012 2:01	60.7	27/7/2012 3:11	59.1		
25/7/2012 0:56	60.0	26/7/2012 2:06	60.7	27/7/2012 3:16	58.9		
25/7/2012 1:01	60.8	26/7/2012 2:11	60.2	27/7/2012 3:21	59.1		
25/7/2012 1:06	60.7	26/7/2012 2:16	60.2	27/7/2012 3:26	58.6		
25/7/2012 1:11	60.2	26/7/2012 2:21	59.5	27/7/2012 3:31	58.3		
25/7/2012 1:16	60.7	26/7/2012 2:26	59.7	27/7/2012 3:36	58.8		
25/7/2012 1:21	60.8	26/7/2012 2:31	59.5	27/7/2012 3:41	59.1		

\*Exceedance recorded during monitoring compliance check with NCO

















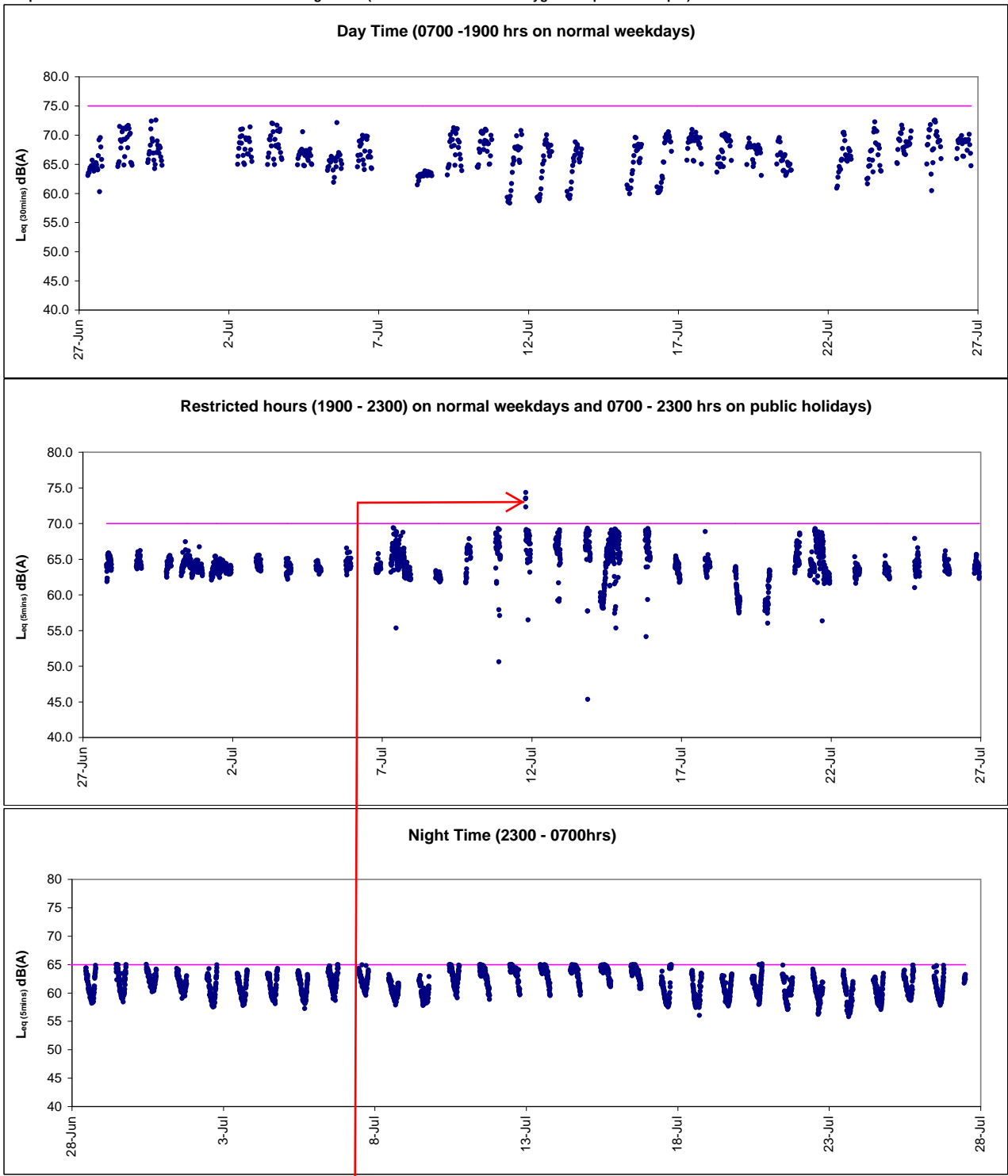


Real-time Noise Data RTN2 (Oil Street Community Liaison Centre)

24/7/2012 23:16	63.3	26/7/2012 0:26	63.1	27/7/2012 1:36	60.1
24/7/2012 23:21	62.6	26/7/2012 0:31	63.2	27/7/2012 1:41	60.0
24/7/2012 23:26	62.1	26/7/2012 0:36	62.9	27/7/2012 1:46	60.5
24/7/2012 23:31	62.3	26/7/2012 0:41	62.4	27/7/2012 1:51	59.7
24/7/2012 23:36	62.4	26/7/2012 0:46	62.1	27/7/2012 1:56	59.0
24/7/2012 23:41	62.0	26/7/2012 0:51	62.6	27/7/2012 2:01	59.7
24/7/2012 23:46	61.7	26/7/2012 0:56	62.1	27/7/2012 2:06	60.2
24/7/2012 23:51	61.8	26/7/2012 1:01	62.0	27/7/2012 2:11	58.7
24/7/2012 23:56	61.8	26/7/2012 1:06	62.0	27/7/2012 2:16	58.7
25/7/2012 0:01	63.5	26/7/2012 1:11	62.0	27/7/2012 2:21	59.4
25/7/2012 0:06	62.1	26/7/2012 1:16	62.1	27/7/2012 2:26	59.6
25/7/2012 0:11	61.5	26/7/2012 1:21	62.0	27/7/2012 2:31	58.9
25/7/2012 0:16	62.1	26/7/2012 1:26	61.5	27/7/2012 2:36	58.2
25/7/2012 0:21	61.8	26/7/2012 1:31	61.9	27/7/2012 2:41	59.2
25/7/2012 0:26	61.7	26/7/2012 1:36	61.8	27/7/2012 2:46	59.3
25/7/2012 0:31	62.1	26/7/2012 1:41	61.3	27/7/2012 2:51	58.8
25/7/2012 0:36	61.0	26/7/2012 1:46	61.4	27/7/2012 2:56	59.3
25/7/2012 0:41	60.9	26/7/2012 1:51	61.2	27/7/2012 3:01	57.9
25/7/2012 0:46	63.5	26/7/2012 1:56	61.5	27/7/2012 3:06	58.7
25/7/2012 0:51	60.5	26/7/2012 2:01	61.0	27/7/2012 3:11	58.7
25/7/2012 0:56	60.6	26/7/2012 2:06	61.2	27/7/2012 3:16	58.3
25/7/2012 1:01	60.7	26/7/2012 2:11	61.0	27/7/2012 3:21	58.2
25/7/2012 1:06	61.2	26/7/2012 2:16	60.8	27/7/2012 3:26	57.9
25/7/2012 1:11	59.9	26/7/2012 2:21	60.4	27/7/2012 3:31	57.8
25/7/2012 1:16	60.7	26/7/2012 2:26	60.6	27/7/2012 3:36	57.7
25/7/2012 1:21	59.9	26/7/2012 2:31	60.0	27/7/2012 3:41	56.6
25/7/2012 1:26	59.8	26/7/2012 2:36	59.8	27/7/2012 3:46	57.7
25/7/2012 1:31	60.0	26/7/2012 2:41	59.7	27/7/2012 3:51	57.9
25/7/2012 1:36	60.0	26/7/2012 2:46	59.8	27/7/2012 3:56	57.4
25/7/2012 1:41	60.7	26/7/2012 2:51	60.3	27/7/2012 4:01	58.1
25/7/2012 1:46	59.5	26/7/2012 2:56	60.2	27/7/2012 4:06	58.5
25/7/2012 1:51	59.5	26/7/2012 3:01	59.8	27/7/2012 4:11	56.6
25/7/2012 1:56	59.8	26/7/2012 3:06	60.2	27/7/2012 4:16	57.4
25/7/2012 2:01	59.2	26/7/2012 3:11	59.5	27/7/2012 4:21	58.5
25/7/2012 2:06	59.1	26/7/2012 3:16	61.3	27/7/2012 4:26	58.0
25/7/2012 2:11	58.8	26/7/2012 3:21	61.8	27/7/2012 4:31	57.0
25/7/2012 2:16	59.1	26/7/2012 3:26	60.2	27/7/2012 4:36	57.9
25/7/2012 2:21	59.0	26/7/2012 3:31	59.4	27/7/2012 4:41	56.6
25/7/2012 2:26	58.2	26/7/2012 3:36	59.4	27/7/2012 4:46	58.3
25/7/2012 2:31	57.6	26/7/2012 3:41	60.8	27/7/2012 4:51	57.3
25/7/2012 2:36	58.9	26/7/2012 3:46	59.6	27/7/2012 4:56	58.0
25/7/2012 2:41	58.6	26/7/2012 3:51	59.7	27/7/2012 5:01	56.9
25/7/2012 2:46	58.8	26/7/2012 3:56	59.1	27/7/2012 5:06	57.9
25/7/2012 2:51	59.4	26/7/2012 4:01	59.8	27/7/2012 5:11	57.5
25/7/2012 2:56	58.3	26/7/2012 4:06	59.0	27/7/2012 5:16	58.7
25/7/2012 3:01	59.3	26/7/2012 4:11	58.9	27/7/2012 5:21	58.1
25/7/2012 3:06	59.0	26/7/2012 4:16	58.9	27/7/2012 5:26	59.4
25/7/2012 3:11	58.6	26/7/2012 4:21	58.9	27/7/2012 5:31	58.4
25/7/2012 3:16	58.6	26/7/2012 4:26	59.1	27/7/2012 5:36	59.1
25/7/2012 3:21	58.4	26/7/2012 4:31	58.4	27/7/2012 5:41	60.1
25/7/2012 3:26	59.8	26/7/2012 4:36	59.8	27/7/2012 5:46	60.3
25/7/2012 3:31	64.3	26/7/2012 4:41	58.7	27/7/2012 5:51	62.9
25/7/2012 3:36	64.8	26/7/2012 4:46	58.1	27/7/2012 5:56	60.2
25/7/2012 3:41	64.7	26/7/2012 4:51	58.7	27/7/2012 6:01	59.7
25/7/2012 3:46	63.7	26/7/2012 4:56	58.2	27/7/2012 6:06	60.6
25/7/2012 3:51	62.6	26/7/2012 5:01	59.1	27/7/2012 6:11	60.0
25/7/2012 3:56	61.8	26/7/2012 5:06	59.0	27/7/2012 6:16	61.1
25/7/2012 4:01	60.6	26/7/2012 5:11	58.9	27/7/2012 6:21	63.2
25/7/2012 4:06	59.9	26/7/2012 5:16	58.9	27/7/2012 6:26	61.3
25/7/2012 4:11	59.2	26/7/2012 5:21	59.0	27/7/2012 6:31	61.5
25/7/2012 4:16	59.1	26/7/2012 5:26	59.7	27/7/2012 6:36	62.1
25/7/2012 4:21	58.4	26/7/2012 5:31	60.7	27/7/2012 6:41	62.5
25/7/2012 4:26	58.7	26/7/2012 5:36	60.9	27/7/2012 6:46	63.4
25/7/2012 4:31	59.1	26/7/2012 5:41	60.2	27/7/2012 6:51	64.5
25/7/2012 4:36	60.8	26/7/2012 5:46	60.3	27/7/2012 6:56	64.8
25/7/2012 4:41	59.1	26/7/2012 5:51	60.8	27/7/2012 23:01	62.2
25/7/2012 4:46	59.3	26/7/2012 5:56	60.1	27/7/2012 23:06	61.6
25/7/2012 4:51	61.5	26/7/2012 6:01	60.9	27/7/2012 23:11	61.3
25/7/2012 4:56	60.3	26/7/2012 6:06	62.5	27/7/2012 23:16	62.0
25/7/2012 5:01	60.9	26/7/2012 6:11	63.1	27/7/2012 23:21	60.7
25/7/2012 5:06	62.6	26/7/2012 6:16	64.7	27/7/2012 23:26	60.4
25/7/2012 5:11	60.3	26/7/2012 6:21	63.4	27/7/2012 23:31	60.9
25/7/2012 5:16	59.2	26/7/2012 6:26	63.2	27/7/2012 23:36	61.4
25/7/2012 5:21	59.5	26/7/2012 6:31	64.1	27/7/2012 23:41	61.5
25/7/2012 5:26	59.3	26/7/2012 6:36	62.9	27/7/2012 23:46	60.0
25/7/2012 5:31	59.8	26/7/2012 6:41	63.3	27/7/2012 23:51	60.1
25/7/2012 5:36	59.9	26/7/2012 6:46	64.7	27/7/2012 23:56	60.6
25/7/2012 5:41	62.1	26/7/2012 6:51	64.3		
25/7/2012 5:46	61.1	26/7/2012 6:56	63.5		
25/7/2012 5:51	60.9	26/7/2012 23:01	63.7		
25/7/2012 5:56	61.9	26/7/2012 23:06	63.1		
25/7/2012 6:01	62.8	26/7/2012 23:11	63.5		
25/7/2012 6:06	64.8	26/7/2012 23:16	63.0		
25/7/2012 6:11	64.7	26/7/2012 23:21	63.0		
25/7/2012 6:16	63.7	26/7/2012 23:26	62.6		
25/7/2012 6:21	63.8	26/7/2012 23:31	62.6		
25/7/2012 6:26	65.1	26/7/2012 23:36	62.6		
25/7/2012 6:31	64.6	26/7/2012 23:41	62.6		
25/7/2012 6:36	64.6	26/7/2012 23:46	62.0		
25/7/2012 6:41	65.1	26/7/2012 23:51	62.4		
25/7/2012 6:46	64.8	26/7/2012 23:56	62.4		
25/7/2012 6:51	64.6	27/7/2012 0:01	61.9		
25/7/2012 6:56	65.4	27/7/2012 0:06	62.5		
25/7/2012 23:01	62.8	27/7/2012 0:11	61.5		
25/7/2012 23:06	63.3	27/7/2012 0:16	61.9		
25/7/2012 23:11	64.0	27/7/2012 0:21	61.6		
25/7/2012 23:16	63.6	27/7/2012 0:26	61.5		
25/7/2012 23:21	63.5	27/7/2012 0:31	61.8		
25/7/2012 23:26	63.3	27/7/2012 0:36	61.7		
25/7/2012 23:31	63.2	27/7/2012 0:41	61.9		
25/7/2012 23:36	63.0	27/7/2012 0:46	61.3		
25/7/2012 23:41	64.3	27/7/2012 0:51	61.0		
25/7/2012 23:46	64.4	27/7/2012 0:56	60.5		
25/7/2012 23:51	62.7	27/7/2012 1:01	62.3		
25/7/2012 23:56	63.0	27/7/2012 1:06	61.1		
26/7/2012 0:01	63.0	27/7/2012 1:11	60.7		
26/7/2012 0:06	63.1	27/7/2012 1:16	60.3		
26/7/2012 0:11	63.0	27/7/2012 1:21	60.4		
26/7/2012 0:16	63.1	27/7/2012 1:26	60.0		
26/7/2012 0:21	63.0	27/7/2012 1:31	60.1		

\*Exceedance recorded during monitoring compliance check with NCO.

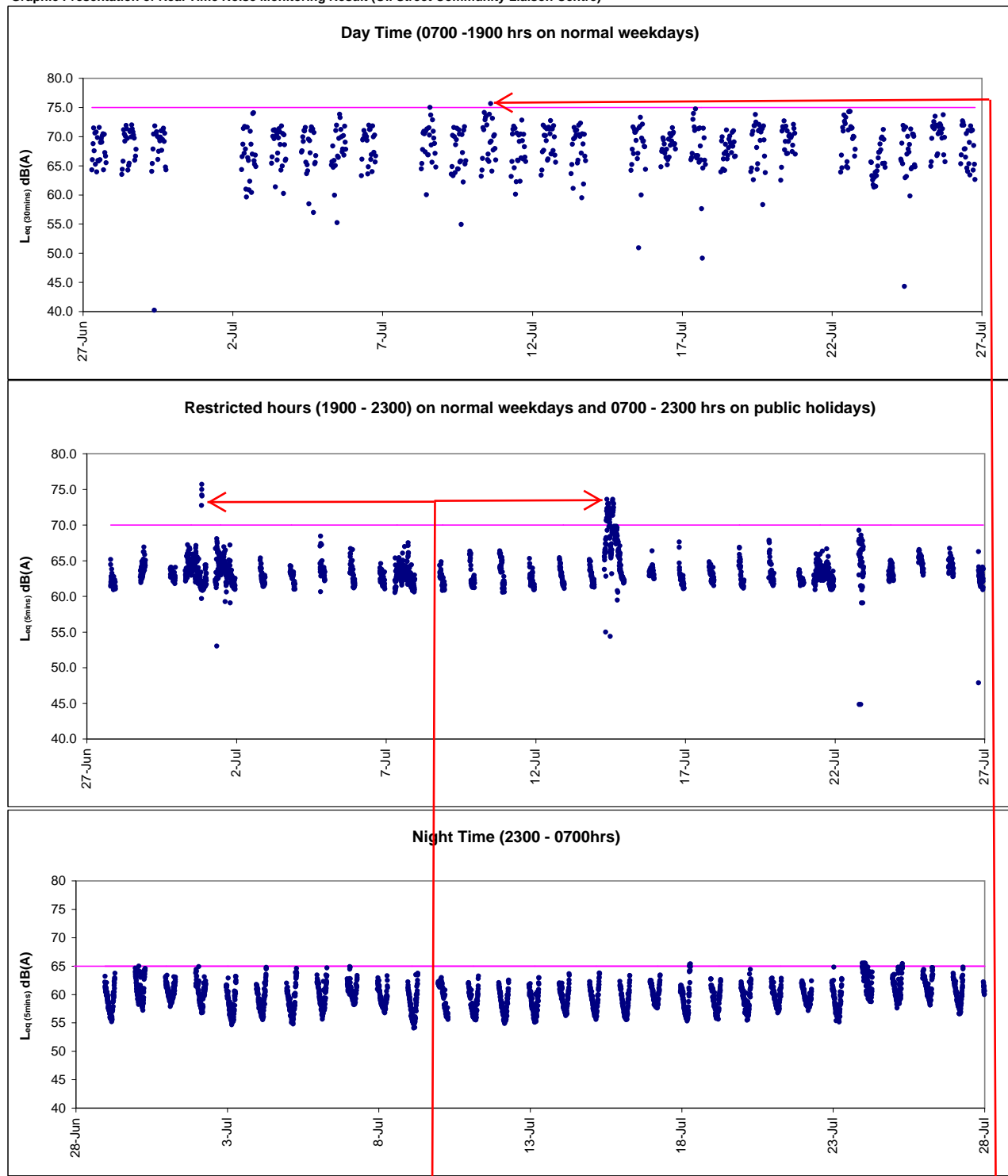
Graphic Presentation of Real Time Noise Monitoring Result (Food and Environmental Hygiene Department Depot)



After checking work activities of contractors HY/2009/17 and HY/2009/19, it was found that no works were being performed during monitoring. Exceedances were not continuous in which contributed by traffic noise at Island Eastern Corridor.



Graphic Presentation of Real Time Noise Monitoring Result (Oil Street Community Liaison Centre)



After checking work activities of contractor HY/2009/19, it was found that no works were being performed during monitoring. Exceedances were considered to be contributed by traffic noise at Island Eastern Corridor.

After checking work activities of contractor HY/2009/19, it was found that no major noisy activities were being performed. Exceedances were considered to be contributed by demolition works near the Oil Street Community Liaison Centre.





***Appendix 6.1***

***Event Action Plans***



Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"><li>1. Notify ER, IEC and Contractor;</li><li>2. Carry out investigation;</li><li>3. Report the results of investigation to the IEC, ER and Contractor;</li><li>4. Discuss with the IEC and Contractor on remedial measures required;</li><li>5. Increase monitoring frequency to check mitigation effectiveness.</li></ol> <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>	<ol style="list-style-type: none"><li>1. Review the investigation results submitted by the ET;</li><li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li><li>3. Advise the ER on the effectiveness of the proposed remedial measures.</li></ol> <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>	<ol style="list-style-type: none"><li>1. Confirm receipt of notification of failure in writing;</li><li>2. Notify Contractor;</li><li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li><li>4. Supervise the implementation of remedial measures.</li></ol> <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>	<ol style="list-style-type: none"><li>1. Submit noise mitigation proposals to IEC and ER;</li><li>2. Implement noise mitigation proposals.</li></ol> <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p>



EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit Level being exceeded	1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)



**Event / Action Plan for Construction Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Notify Contractor.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Rectify any unacceptable practice;</li> <li>Amend working methods if appropriate.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>Identify source;</li> <li>Inform IEC and ER;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IEC and ER;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>Supervise Implementation of remedial measures.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Submit proposals for remedial to ER within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	<ol style="list-style-type: none"> <li>Identify source, investigate the causes of exceedance and propose remedial measures; Inform ER, Contractor and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>Supervise implementation of remedial measures.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>Notify IEC, ER, Contractor and EPD;</li> <li>Identify source;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures properly implemented;</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol> (The above actions should be taken within 2 working days after the exceedance is identified)	<ol style="list-style-type: none"> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified)</li> </ol>



**Event and Action Plan for Marine Water Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	Identify source(s) of impact; Inform IEC and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; (The above actions should be taken within 1 working day after the exceedance is identified) Repeat measurement on next working day of exceedance.	Discuss with ET and Contractor on the mitigation measures; Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Discuss with IEC on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; Implement the agreed mitigation measures. (The above actions should be taken within 1 working day after the exceedance is identified)



EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Limit level being exceeded by one sampling day	<p>Repeat in-situ measurement to confirm findings;            Identify source(s) of impact; Inform IEC, contractor and EPD;            Check monitoring data, all plant, equipment and Contractor's working methods;            Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented;            Increase the monitoring frequency to daily until no exceedance of Limit level.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>	<p>Discuss with ET and Contractor on the mitigation measures;            Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;            Assess the effectiveness of the implemented mitigation measures.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>	<p>Discuss with IEC, ET and Contractor on the proposed mitigation measures;            Request Contractor to critically review the working methods;            Make agreement on the mitigation measures to be implemented;            Assess the effectiveness of the implemented mitigation measures.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>	<p>Inform the Engineer and confirm notification of the non-compliance in writing;            Rectify unacceptable practice;            Check all plant and equipment;            Consider changes of working methods;            Discuss with ET , IEC and ER and propose mitigation measures to IEC and ER within 3 working days;            Implement the agreed mitigation measures.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>
Limit level being exceeded by more than one consecutive sampling days	<p>Identify source(s) of impact; Inform IEC, contractor and EPD;            Check monitoring data, all plant, equipment and Contractor's working methods;            Discuss mitigation measures with IEC, ER and Contractor;            Ensure mitigation measures are implemented;            Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>	<p>Discuss with ET and Contractor on the mitigation measures;            Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;            Assess the effectiveness of the implemented mitigation measures.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>	<p>Discuss with IEC, ET and Contractor on the proposed mitigation measures;            Request Contractor to critically review the working methods;            Make agreement on the mitigation measures to be implemented;            Assess the effectiveness of the implemented mitigation measures;            Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>	<p>Inform the ER and confirm notification of the non-compliance in writing;            Rectify unacceptable practice;            Check all plant and equipment;            Consider changes of working methods;            Discuss with ET, IEC and ER and propose mitigation measures to IEC and ER within 3working days;            Implement the agreed mitigation measures;            As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities.            (The above actions should be taken within 1 working day after the exceedance is identified)</p>



**Event and Action Plan for Odour Patrol**

Event	ACTION	
	Person-in-charge of Odour Monitoring	Implementation Agent Identified by CEDD
<b>Action Level</b>		
Exceedance of Action Level	1. Identify source/reason of exceedance; 2. Repeat odour patrol to confirm finding.	1. Carry out investigation to identify the source/reason of exceedance; 2. Rectify any unacceptable practice 3. Implement more mitigation measures if necessary; 4. Inform EPD or MD if exceedance is considered to be caused by expedient connections or floating debris.
<b>Limit Level</b>		
Exceedance of Limit Level	1. Identify source / reason of exceedance; 2. Repeat odour patrol to confirm findings; 3. Increase odour patrol frequency; 4. If exceedance stops, cease additional odour patrol.	1. Carry out investigation to identify the source/reason of exceedance. Investigation shall be completed within 2 weeks; 2. Rectify any unacceptable practice; 3. Formulate remedial actions; 4. Ensure remedial actions properly implemented; 5. If exceedance continues, consider what more/enhanced mitigation measures shall be implemented; 6. Inform EPD or MD if exceedance is considered to be caused by expedient connections or floating debris.



***Appendix 6.2***

***Summary for Notification of Exceedance***





Ref no.	Date	Tidal	Location	Parameters (Unit)	Measure	Action Level	Limit Level	Follow-up action
X_120709	9-Jul-12	Mid-Ebb	OP4	Odour Intensity	2	2	3	<p>Possible reason: Possible in relation to the sewage from outfall near OP4</p> <p>Action taken / to be taken: Immediate repeated measurements had conducted to confirm the exceedances. Repeated the measurement to confirm the result. No dredging work was observed during the odour monitoring. According to the information reported by Contractor HK/2009/15, dredging works for reclamation near OP4 had been completed at the end of March 2012.</p> <p>Remarks / Other Obs: Moreover, no complaint regarding to odour was received on 9 July 2012. In view that no dredging work was conducted during monitoring and no complaint regarding to odour was received, it was considered not related to Project works.</p>
X_120727	27-Jul-12	Mid-Flood	OP4	Odour Intensity	2	2	3	<p>Possible reason: Possible in relation to the sewage from outfall near OP4</p> <p>Action taken / to be taken: Immediate repeated measurements had conducted to confirm the exceedance. Repeated the measurement to confirm the result. Checking with contractor's work, TS2 dredging work was conducted on that day. Reviewing the monitoring result nearer to the TS2 dredging at OP7 and OP6, there was no exceedance recorded.</p> <p>Remarks / Other Obs: According to the information reported by Contractor HK/2009/15, dredging works for reclamation near OP4 had been completed at the end of March 2012. Moreover, no complaint regarding to odour was received on 27 July 2012. In view that the odour patrol locations located nearest the TS2 dredging were well below the Action level a and no complaint regarding to odour was received, it was considered not related to Project works.</p>



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action
X_W327	12-Jul-12	Mid-Flood	WSD21	DO (mg/L)	4.24	3.17	2.63	Possible reason: Possible in relation to cleaning of screen panels at SHK and Wan Chai WSD Pumping Station was recorded on 12 July 2012. Action taken / to be taken: Checking with contractor's works on 12 July, the marine works below were undertaken: - Rockfilling and laying of geotextile in WCR2 - Substructure works in New Ferry Pier Reviewing the results at the monitoring stations nearer than WSD 21, no exceedance was recorded. Checking with the contractor's inspection record, the silt screen and silt curtain were in proper condition on 12 July 2012. Remarks / Other Obs: The exceedances was possibly due to cleaning of screen panels at the pumping station. Materials from the cleaning of screen panels was unavoidably collected during monitoring. No further exceedance was recorded in the next consecutive monitoring. The exceedance was considered as not project related.
				Turbidity	4.12	10.01	11.54	
				Suspended Solid	32.00	16.26	19.74	
X_W328	18-Jul-12	Mid-Ebb	WSD19	DO (mg/L)	2.79	3.17	2.63	Possible reason: Possible in relation to the low flow and low water depth during ebb tide Action taken / to be taken: Immediate repeated in-situ measurements had conducted to confirm the exceedances. The tidal was moving eastward. No odour nuisance was noted during DO monitoring. Checked with Contractor's work on 18 July, there was no work conducted on that day. Remarks / Other Obs: In view that there was no marine activities conducted on that day, the exceedance was considered to be the natural variation of water quality and not related to the Project works
				Turbidity	4.21	10.01	11.54	
				Suspended Solid	8.50	16.26	19.74	
X_W329	18-Jul-12	Mid-Ebb	WSD9	DO (mg/L)	3.10	3.17	2.63	Possible reason: Possible in relation to the low flow and low water depth during ebb tide Action taken / to be taken: Immediate repeated in-situ measurements had conducted to confirm the exceedances. No odour nuisance was noted during DO monitoring. Checked with Contractor's work on 18 July, WCR2 rock filling and Sub-structure works were conducted on that day. Reviewing the results at the monitoring stations within site area, no exceedance was recorded. Remarks / Other Obs: In view that no exceedance was recorded at the monitoring stations within site area and no odour was detected during monitoring, it was considered not related to Project works.
				Turbidity	2.36	10.01	11.54	
				Suspended Solid	6.50	16.26	19.74	
X_W330	18-Jul-12	Mid-Ebb	WSD17	DO (mg/L)	2.42	3.17	2.63	Possible reason: Possible in relation to the low flow and low water depth during ebb tide Action taken / to be taken: Immediate repeated in-situ measurements had conducted to confirm the exceedances.No odour nuisance was noted during DO monitoring. Checked with Contractor's work on 18 July, WCR2 rock filling and Sub-structure works were conducted on that day. Reviewing the results at the monitoring stations within site area, no exceedance was recorded. Checking with the contractor's inspection record, the maintenance of silt screen was conducted on 18 July 2012. Remarks / Other Obs: No further exceedance was recorded in the next consecutive monitoring. In view that no exceedance was recorded at the monitoring stations within site area and no odour was detected during monitoring, it was considered not related to Project works.
				Turbidity	3.71	10.01	11.54	
				Suspended Solid	3.50	16.26	19.74	
X_W331	20-Jul-12	Mid-Ebb	WSD9	DO (mg/L)	2.31	3.17	2.63	Possible reason: Possible in relation to the low flow and low water depth during ebb tide Action taken / to be taken: Immediate repeated in-situ measurements had conducted to confirm the exceedances. No odour nuisance was noted during DO monitoring. Checked with Contractor's work on 20 July, WCR2 rock filling and Sub-structure works were conducted on that day. Reviewing the results at the monitoring stations within site area, no exceedance was recorded. Remarks / Other Obs: No further exceedance was recorded in the next consecutive monitoring. In view that no exceedance was recorded at the monitoring stations within site area and no odour was detected during monitoring, it was considered not related to Project works.
				Turbidity	4.34	10.01	11.54	
				Suspended Solid	5.50	16.26	19.74	

Action Level - Value highlight in blue colour  
Limit Level - Value highlight in red colour

Ref no.	Date	Tidal	Location	Parameters (Unit)	Measure	Action Level	Limit Level	Follow-up action
X_10C396	30-Jun-12	Mid-Flood	C8	DO (mg/L)	5.39	3.02	2.44	Possible reason: Accumulation of particles discharged from outfalls near monitoring station Action taken / to be taken: Immediate repeated measurement to confirm the exceedance. Confirmed with Contractor, no work was conducted on that day. Remarks / Other Obs: No further exceedance was recorded in the next consecutive monitoring. In view that reclamation work by contractor HY/2009/11 was confirmed completed by RSS on Jan 4 2012 and contractor of HY2009/19 confirmed that no related marine construction activity was performed during time of monitoring, the exceedance was considered to be caused from the accumulation of particles discharged from the outfalls near monitoring station and not related to the Project works.
				Turbidity (NTU)	18.30	11.35	12.71	
				SS (mg/L)	17.50	18.42	27.54	
X_10C397	5-Jul-12	Mid-Flood	C4w	DO (mg/L)	2.98	3.02	2.44	Possible reason: Natural variation or changes of water quality in the vicinity of the water quality monitoring station Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was detected during DO monitoring. According to Contractor's records, filling at HKCEC water channel was conducted on that day. Checking with the Contractor and RSS daily records, the silt screen and silt curtain were in proper condition. Remarks / Other Obs: No further DO exceedance was recorded in the next consecutive monitoring. In view that the water quality at monitoring stations located nearest the marine work site were well below the Action level and the silt curtains for filling works were in proper condition and no odour was detected during monitoring, it was considered not related to Project works.
				Turbidity (NTU)	1.60	11.35	12.71	
				SS (mg/L)	<2	18.42	27.54	
X_10C398	7-Jul-12	Mid-Ebb	C8	DO (mg/L)	4.06	3.02	2.44	Possible reason: Accumulation of particles discharged from outfalls near monitoring station Action taken / to be taken: Immediate repeated measurement to confirm the exceedance. Confirmed with Contractor, no marine work was conducted on that day. Remarks / Other Obs: No further exceedance was recorded in the next consecutive monitoring. In view that reclamation work by contractor HY/2009/11 was confirmed completed by RSS on Jan 4 2012 and contractor of HY2009/19 confirmed that no related marine construction activity was performed during time of monitoring, the exceedance was considered to be caused from the accumulation of particles discharged from the outfalls near monitoring station and not related to the Project works.
				Turbidity (NTU)	14.35	11.35	12.71	
				SS (mg/L)	9.50	18.42	27.54	



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measure	Action Level	Limit Level	Follow-up action	
X_10C399	11-Jul-12	Mid-Ebb	C7	DO (mg/L)	4.80	3.02	2.44	Possible reason: Possible in relation to the accumulation of floating debris near to the intake. Checking with Contractor's records, TS1 removal work was conducted on that day. Floating debris near to intake was observed during monitoring. Checking with the Contractor and RSS daily records, the silt screen and silt curtain were in proper condition.	
				Turbidity (NTU)	2.98	11.35	12.71		Action taken / to be taken:
				SS (mg/L)	20.50	18.42	27.54		Remarks / Other Obs:
X_10C400	16-Jul-12	Mid-Ebb	C7	DO (mg/L)	2.83	3.02	2.44	Possible reason: Possible in relation to the temperature and low water depth during ebb tide	
				Turbidity (NTU)	2.79	11.35	12.71		Action taken / to be taken:
				SS (mg/L)	4.00	18.42	27.54		Remarks / Other Obs:
X_10C401	16-Jul-12	Mid-Flood	C5e	DO (mg/L)	4.52	3.02	2.44	Possible reason: Natural variation or changes of water quality in the vicinity of the water quality monitoring station	
				Turbidity (NTU)	8.89	11.35	12.71		Action taken / to be taken:
				SS (mg/L)	18.50	18.42	27.54		Remarks / Other Obs:
X_10C402	18-Jul-12	Mid-Ebb	C7	DO (mg/L)	1.99	3.02	2.44	Possible reason: Possible in relation to the accumulation of particles discharged from outfall near monitoring station under rainy during the monitoring (Thunderstorm signal was enforced between 12:45 to 14:00)	
				Turbidity (NTU)	4.74	11.35	12.71		Action taken / to be taken:
				SS (mg/L)	4.50	18.42	27.54		Remarks / Other Obs:



Ref no.	Date	Tidal	Location	Parameters (Unit)	Measure	Action Level	Limit Level	Follow-up action
X_10C403	18-Jul-12	Mid-Ebb	C9	DO (mg/L)	2.58	3.02	2.44	Possible reason: Possible in relation to the low flow and low water depth during ebb tide  Action taken / to be taken: Immediate repeated in-situ measurements had conducted to confirm the exceedance. Repeated the measurement to confirm the result. No odour nuisance was detected during DO monitoring. Checked with contractor works, no marine work was conducted on that day.  Remarks / Other Obs: No further DO exceedance was recorded in the next consecutive monitoring. In view that there was no marine work and no odour was detected during monitoring, it was considered not related to Project works.
				Turbidity (NTU)	4.46	11.35	12.71	
				SS (mg/L)	4.00	18.42	27.54	
X_10C404	18-Jul-12	Mid-Ebb	C8	DO (mg/L)	2.62	3.02	2.44	Possible reason: Possible in relation to the accumulation of particles discharged from outfalls near monitoring station under rainy during the monitoring (Thunderstorm signal was enforced between 12:45 to 14:00)  Action taken / to be taken: Immediate repeated in-situ measurements had conducted to confirm the exceedance. Repeated the measurement to confirm the result. No odour nuisance was detected during DO monitoring. Checked with contractor works, there was no related marine work conducted on that day.  According to the meteorological information from HKO, total daily rainfall at the region of North Point was around 30-40 mm on 18 July 2012.  Remarks / Other Obs: No further DO exceedance was recorded in the next consecutive monitoring. The DO exceedance was considered causing by the potential impact from the rainfall and concluded as not project related exceedance.
				Turbidity (NTU)	8.48	11.35	12.71	
				SS (mg/L)	6.50	18.42	27.54	
X_10C405	20-Jul-12	Mid-Ebb	C8	DO (mg/L)	4.53	3.02	2.44	Possible reason: Accumulation of particles discharged from outfalls near monitoring station  Action taken / to be taken: Immediate repeated measurement to confirm the exceedance. Confirmed with Contractor, there was no marine work conducted on that day.  Remarks / Other Obs: No further exceedance was recorded in the next consecutive monitoring. In view that reclamation work by contractor HY/2009/11 was confirmed completed by RSS on Jan 4 2012 and contractor of HY2009/19 confirmed that no related marine construction activity was performed during time of monitoring, the exceedance was considered to be caused from the accumulation of particles discharged from the outfalls near monitoring station and not related to the Project works.
				Turbidity (NTU)	21.75	11.35	12.71	
				SS (mg/L)	15.50	18.42	27.54	

Action Level - Value highlight in blue colour  
 Limit Level - Value highlight in red colour

Ref no.	Date	Tidal	Location	Depth	Parameters (Unit)	Measured	Action Level	Limit Level	Follow-up action
X_10D54	16-Jul-12	Mid-Ebb	Ex-WPCWA SE	Surface	DO (mg/L)	2.57	3.55	3	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 16 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>
X_10D55	16-Jul-12	Mid-Ebb	C7	Middle	DO (mg/L)	2.83	3.31	2.57	<p>Possible reason: Possible in relation to the low flow and low water depth during ebb tide</p> <p>Action taken / to be taken: Immediate repeated measurements had conducted to confirm the exceedance. No odour nuisance was detected during the DO monitoring. Checked with Contractor works, TS1 removal work was conducted on 16 July 2012 .</p> <p>Remarks / Other Obs: Checking with the Contractor's daily records, the maintenance of silt curtain frame for TS2 dredging was carried out on that day. The silt screen was in proper condition</p> <p>In view that no dredging work was conducted on 16 July 2012, the silt screen was in proper condition and no odour was detected during monitoring, it was considered not related to Project works.</p>
X_10D56	16-Jul-12	Mid-Ebb	Ex-WPCWA SE	Middle	DO (mg/L)	2.80	3.55	3	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 16 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>
X_10D57	16-Jul-12	Mid-Ebb	Ex-WPCWA SE	Bottom	DO (mg/L)	2.78	3.76	3.76	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 16 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>
X_10D58	18-Jul-12	Mid-Ebb	C7	Middle	DO (mg/L)	1.99	3.31	2.57	<p>Possible reason: Possible in relation to the low flow and low water depth during ebb tide</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at CBTs on 18 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities conducted at CBTs, it was considered not related to Project works.</p>
X_10D59	18-Jul-12	Mid-Ebb	Ex-WPCWA SW	Middle	DO (mg/L)	2.10	3.19	3.1	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 18 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>
X_10D60	18-Jul-12	Mid-Ebb	Ex-WPCWA SE	Middle	DO (mg/L)	2.07	3.55	3	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 18 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>
X_10D61	20-Jul-12	Mid-Ebb	Ex-WPCWA SE	Middle	DO (mg/L)	2.74	3.55	3	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 20 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>
X_10D62	20-Jul-12	Mid-flood	Ex-WPCWA SE	Middle	DO (mg/L)	3.27	3.55	3	<p>Possible reason: Possible in relation to the accumulation of organic particles discharged from culvert near monitoring station</p> <p>Action taken / to be taken: Repeated the measurement to confirm the result. No odour nuisance was noted during the DO monitoring. Checked with Contract works, there was no marine works undertaken at ex-WPCWA on 20 July 2012.</p> <p>Remarks / Other Obs: In view that there was no marine activities at ex-WPCWA, it was considered not related to Project works.</p>

Action Level - Value highlight in blue colour  
Limit Level - Value highlight in red colour



***Appendix 7.1***

***Complaint Log***

**Environmental Complaints Log**

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
100321a	21/3/2010	ICC Case no. 1-224618029, Ms. Tsang	Location near Tin Hau	Complaint regarding the loud noise and dark smoke in the course of dredging works on 21 March 2010 (Sunday).	<ol style="list-style-type: none"><li>1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18<sup>th</sup> Feb. 2010 for the dredging works which carry out at area for North Point Reclamation.</li><li>2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation.</li><li>3) The Contractor (CHEC-CRBC JV) strictly comply all the conditions in CNP and take all mitigation measures in order to minimize the potential impacts to surrounding sensitive receivers. A formal letter was issued out by CHEC-CRBC JV and to explain the status of the recent construction activities.</li><li>4) No limit level exceedance was recorded on the noise measurement during day time and evening time noise measurement on 23 March 2010. Additional restrict hours noise monitoring at Causeway Bay Community and City Garden was conducted on 5 April 2010 (Public Holiday). No limit level exceedance was recorded in the monitoring.</li><li>5) No further complaints were received from Mr. Tsang in the reporting month. The complaint is considered closed.</li></ol>	Closed
100321b	21/3/2010	Unknown	Near the eastern breakwater of the Causeway Bay Typhoon Shelter	A public complaint and enquiry regarding loud noises emanated from dredging activities on 21/3/2010 (Sunday) until 2220 hours and between 1920-1946 hours in the evening of 22 March 2010(Monday).	<ol style="list-style-type: none"><li>1) A valid Construction Noise Permit no. GW-RS0119-10 was granted from EPD since 18<sup>th</sup> Feb. 2010 for the dredging works at area for North Point Reclamation during general holidays including Sunday between 0700-2300 hours and any day not being a general holiday between 1900-2300hours. It is complied with the condition of CNP.</li><li>2) Officer from Marine Department, Police and EPD's officer attended the scene for inspection and investigation.</li><li>3) No limit level exceedance was recorded on the noise measurement during day time and evening time noise measurement on 23 March 2010. Additional restrict hours noise monitoring at Causeway Bay Community and City Garden was conducted on 5 April 2010 (Public Holiday). No limit level exceedance was recorded in the monitoring.</li><li>4) No further complaints were received in the reporting month. The complaint is considered closed.</li></ol>	Closed





Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
100504	4/5/2010	Public complainant received by ICC (ICC case: 1-233384048)	Watson Road	Complaint on the noise nuisance due to the large scale of dredging machine (face to Island East Corridor) in particular the hours 1900 to 0800 and request to reduce the noise level.	<ol style="list-style-type: none"><li>1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0119-10 for their dredging works. Contractor has implemented mitigation measures to reduce the working hour not later than 2230.</li><li>2) According to RSS 's record, no more daytime and night time dredging since the departure of the split hopper barge from the workplace on 29 April 2010 at 1900 hrs to 5 May 2010.</li><li>3) No further complaints were received in the reporting month. The complaint is considered closed.</li></ol>	Closed
100731	31/7/2010	Mr. Lee received by ICC (CC Case: 1-250702681)	Oil Street to Watson Road	Complaint on the noise nuisance due to the dredging works. Three construction plants were operated concurrently.	<ol style="list-style-type: none"><li>1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0371-10 for their dredging works.</li><li>2) There was only 1 grab dredger operated by Contractor within NPR project site area for dredging works.</li><li>3) No noise exceedance was recorded at noise monitoring station at Victoria Centre on 27 July and 3 August 2010 during daytime and evening time period.</li><li>4) It is considered as invalid from the EP and CNP point of view.</li></ol>	Closed
100812	12/8/2010	Mr. Wong, Harbour Heights (Management) Ltd.	Harbour Heights	Management office received their resident complained on the noise nuisance from the dredging works at the marine works area adjacent to the Harbour Height during the period from 0700 to 2200.	<ol style="list-style-type: none"><li>1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0371-10 for their dredging works. Contractor has implemented mitigation measures to reduce the working hour not later than 2230.</li><li>2) No noise exceedance was recorded at noise monitoring station at Victoria Centre on 10 and 17 August 2010 during daytime and evening time period.</li><li>3) It is considered as invalid complaint. No further complaints were received in the reporting month. The complaint is considered closed.</li></ol>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
101108	8/11/2010	Mr. Nip received by ICC (CC Case)	Sai Wan Ho	Visual concern around the seaside silt screen outside the WSD freshwater intake pump at Sai Wan Ho (Monitoring station ref no.. WSD15)	<ol style="list-style-type: none"><li>1) Contractor for HY/2009/11 has been regular checked of condition and removal of trapped rubbish before the dismantling of the floating silt screen to be replaced by wall mount silt screen.</li><li>2) Follow-up action had been immediately carried out to check and clear the floating refuse around the seaside silt screen after receipt of the complaint.</li><li>3) Removal of seaside silt screen outside the WSD freshwater intake (WSD15) by contractor HY/2009/11 was checked and confirmed dated 9 November 2010. Silt screen has been deployed into the existing steel frame at WSD15 for the protection of WSD salt water intake.</li></ol>	Closed
101110	10/11/2010	Mr. Wong, Harbour Heights (Management) Ltd.	Harbour Heights	Management office received their resident complained on the noise nuisance from the power mechanical equipment during the 0700 to 2200hrs	<ol style="list-style-type: none"><li>1) Contractor for HY/2009/11 was granted valid Construction Noise Permit no. GW-RS0870-10 for their dredging works during evening time. Contractor has implemented mitigation measures to reduce the working hour not later than 2230.</li><li>2) No noise exceedance was recorded at noise monitoring station at Victoria Centre on 4 and 10 November 2010 during daytime and evening time period.</li><li>3) It is considered as invalid complaint. No further complaints were received in the reporting month. The complaint is considered closed.</li></ol>	Closed
101203	3/12/2010, 01:45a.m.	The resident of Block 11, City Garden by ICC referral from Marine Department	North Point	Bad odour was generated from the dredging plant off North Point	<ol style="list-style-type: none"><li>1) The first investigation was carried out by Marine Department patrol in the morning on 3 Dec 2010 at around 10:00 and revealed that a few working barges were anchoring in the vicinity without carrying out dredging work.</li><li>2) A further specific investigation inspection on contractor's backhoe barge in the vicinity of City Garden was jointly conducted with Engineer Representatives (AECOM/RSS), and ET on 8 Dec 2010 at 11:30. No bad odour was noted during the investigation.</li><li>3) Routine dredging operation of the backhoe barge was performed during the jointed investigation inspection and it was revealed that no bad odour was attributed by the dredged materials inspected.</li></ol>	Closed
101206	6/12/2010	Ms Lui, the resident of 27/F, Block 10, City	City Garden, North Point	Two barges were generating noise at 22:00 on 6 December 2010 in which the noise from	<ol style="list-style-type: none"><li>1) ET confirmed the following information with resident site staff on the complaint:<ul style="list-style-type: none"><li>• It was referred to the filling operation at North Point</li></ul></li></ol>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
		Garden by ICC (ICC case: 1-266039336)		<p>filling operation was louder than the traffic noise &amp; visual impact was generated due to the spot-light pointing directly to the complainant flat, suspected the filling operation was part of Wanchai Development Phase II;</p> <p>Complainant also raised the same complaint to District Councillor, Mr. Hui on 7 Dec 2010 regarding the night-time noise and suspected earlier start of work at 06:30. Complaint also requested for limiting the plant operating hours from 09:00-21:00.</p>	<p>Reclamation of Central Wan Chai Bypass site area instead of part of Wanchai Development Phase II;</p> <ul style="list-style-type: none"> <li>• Two derrick barges were in operation at the time of complaint for placing 400 rockfill onto the excavation trench and for levelling the formation level to receive the pre-cast caisson seawall;</li> <li>• Flood light on the control mast of derrick barge have no lighting shields for the prevention of glare of flood lights;</li> <li>• No starting work on 7 Dec 2010 at 0630hours.</li> </ul> <ol style="list-style-type: none"> <li>2) PME used in restricted hours were checked and confirmed compliant with valid CNP no. GW-RS0870-10. The noise level recorded on 6 Dec 2010 was complied with the noise criteria during restricted hour;</li> <li>3) It was found that the occasional noise nuisance might be caused by the hitting or scratching onto the rock surface during loading down the grab onto the Grade 400 rockfill;</li> <li>4) The absence of the lighting shields at flood light results in visual glare to the complainant at night-time.</li> <li>5) Contractor was advised to minimize the finishing time of placing Grade 400 rockfill at 2100hrs and switch off all unnecessary flood lights apart from the light for the safety and security purpose;</li> <li>6) No further complaint was received after implementation of proposed measures</li> </ol>	
110415	15/04/2011	The resident, Mr Law at Victoria Centre by ICC (ICC#1-281451236)	North Point	A dust generation and a concern of mosquitoes breeding complaint in which suspected the filling operation was part of North Point Reclamation.	<ol style="list-style-type: none"> <li>1) The concerned stockpile was a working stockpile under Contract HY/209/15 and was covered at night time after work.</li> <li>2) Water spraying on the haul road and potential dust generating material at least 4 times a day was conducted by contractor that complies with the requirement.</li> <li>3) It is considered invalid but preventive actions can be taken because the stockpile is relatively large and easily visible by complainant.</li> <li>4) It was recommended that increasing the frequency of water spraying shall be conducted to all potential dust generating materials and activities. Besides, Contractor should consider to cover the idle part of the stockpile</li> <li>5) The concern of mosquitoes breeding is out the scope of EM&amp;A, the follow-up action is not reported in this monthly EM&amp;A report.</li> </ol>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
110419	19/04/2011	Ms Chiu at Victoria Centre at Victoria Centre by ICC (ICC# 1-272874759)	North Point	The episode of night noise on 19/4/11 and 20/4/11 at 2:50 am and the noise lasted for 30 minutes per night.	<ol style="list-style-type: none"><li>1) According to the RSS's record, there was no construction works undertaken under the EP-356/2009 during the concern time period.</li><li>2) There was no abnormal real-time noise monitoring data recorded in RTN1 - FEHD Hong Kong Transport Section Whitefield Depot which is next to the Victoria Centre.</li><li>3) It is considered as invalid complaint under this Project.</li></ol>	Closed
110617	9/06/2011	Mr. Law from Victoria Centre Management Office	North Point	An odour nuisance suspected generating from the discharge point – Channel T at Watson Road in part of the site area was related to CWB under Contract no. HY/2009/11	<ol style="list-style-type: none"><li>1) The complaint was received by ET on 13 Jun 2011. During the weekly site inspection on 7 and 17 June 2011, there was no any odour impact detected in the site area.</li><li>2) According to the site record, there was muddy water discharged from the unknown source at upstream of Channel T during heavy rainstorm. No any site surface runoff to the Channel T and out of site boundary was observed in the inspection.</li><li>3) In order to prevent muddy water washing out to the water body under heavy rainstorm, a silt curtain was installed at the outfall of the channel by Contractor. ET confirmed with the Resident Site Staff that a silt curtain was installed at the outfall of the channel to prevent muddy water washing out to the water body under heavy rainstorm. Besides, regular cleaning of refuse in the channel has been conducted by Contractor.</li><li>4) A further site investigation on 28 June 2011 revealed that no odour nuisance was detected at the upstream of the Channel T and no source of odour nuisance was identified at site. As such, it was concluded that the source of odour nuisance was not related to the Project works.</li><li>5) Although no source of odour nuisance was identified at site, the muddy water and dirt from the unknown source at upstream of Channel T may cause a potential smell during low tide and low water flow. Contractor was reminded to remove the silt curtain at the channel on non-rainy day so as to avoid the accumulation of the sediment and dirt in the water channel.</li></ol>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
110709	09/07/2011	Mr. Au from City Garden Management Office	North Point	A complaint letter to Contractor HY/2009/11 was raised by Cayley Property Management Limit on 9 July 2011 regarding a series of pump breakdown events at seawater intake of City Garden on 4, 6, 7 and 8 July 2011. A lot of rubbish such as plastic bags, nylon bags, nylon-wire mesh was observed sucking from the seawater intake at the seawater front of Block 7 of City Garden affecting the operation of seawater pump plant.	<ol style="list-style-type: none"><li>1) Contractor conducted formation works for installation of caisson seawall at C27, C28, C29 and C30 on 4, 6, 7 and 8 July 2011 and no dredging work was conducted during this time period</li><li>2) Water mitigation measures of an 80m long silt curtain at the site boundary in front of City Garden Relocation of silt curtain and silt curtain at the outfall of the channel were provided and maintained to accommodate the site works. All vessels are equipped with rubbish collection facilities and disposed the rubbish regularly. Also, daily cleaning actions had been taken by contractor to minimize floating refuse within the site boundary.</li><li>3) Moreover, it has been reported several times that discharged from outfall pipeline outside the site boundary near the intake of the pump maybe considered as another source of rubbish generation.</li><li>4) Referring to the record provided by Cayley Property Management Limit, the trapped rubbish was unlikely generated from the construction works. It was considered that complaint is invalid and not related to project.</li></ol>	Closed
110710	09/07/2011	Complainant by ICC (ICC no. 1-301520309)	North Point	It was received at 00:56 on 10 July 2011. There was complained a derrick barge unloading rockfill material off the shore facing the Harbour Grant HK Hotel causing noise nuisance.	<ol style="list-style-type: none"><li>1) ET confirmed with the Resident Site Staff that the complaint was referred to Contract HY/2009/15 for the loading and unloading of fill material at two barges operation in the sea at around 300m adjacent to Island Eastern Corridor (Oil Street Chainage) where is outside the Site of HY/2009/15 in the period of around 19:45 on 9 July to 1:00 on 10 July 2011.</li><li>2) The material loading and unloading operation processed in restricted hours was checked without a valid CNP. It was found that the operation was due to an unexpected water leakage of the hopper barge and considered an incident.</li><li>3) According to the incident report provided from RSS on 20 July 2011, around 7:30 pm the barge S22 was inclined slightly and slightly water leakage might occur. Due to marine safety concern, the hopper barge would open the hopper to release the contained materials in order to reduce the weight and stabilize the barge. In consider of slight water leakage, the operator decided to use the nearby Derrick Barge ST32 to help for unload the general fill materials first and the unloading operation was started at around 7:45pm, and end at around 1:00 am. Contractor was reminder to provide frequent check of vessel condition</li></ol>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					so as to prevent recurrent by barge defect	
110723a	23/07/2011	Ms. Law at Victoria Centre by ICC no. 1-303887687	North Point	She concerned that Highways Department published a notice in their Management Office about construction works will be conducted from 0700 hours to 2300 hours during July to December 2011 including Saturday, Sunday and public holiday.	<ol style="list-style-type: none"> <li>1) It was referred by AECOM to ET on 28 July 2011</li> <li>2) RSS confirmed that the notice was prepared by Victoria Centre's Management office to their resident and the advice was only given on the extension construction works (for Contract HY/2009/15) to 7am-9pm from Monday to Saturday except Public Holidays and Sundays.</li> <li>3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am and is expected to be completed by mid-August 2011.</li> <li>4) No noise exceedance was recorded at construction noise monitoring station at Victoria Centre on 19 and 25 July 2011 during daytime while breaking and excavation works were undertaken during monitoring.</li> <li>5) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.</li> </ol>	Closed
110723b	23/07/2011	Ms. Yau at Block 2, Victoria Centre by ICC no. 1-304013959	North Point	Reclamation work was conducted at Causeway Bay Typhoon Shelter at 7am on 23 July 2011. She complained that the works shall be started later to minimize the noise nuisance to the vicinity of the residents in early morning	<ol style="list-style-type: none"> <li>1) It was referred by AECOM to ET on 8 August 2011</li> <li>2) With reference to the construction noise monitoring at Vitoria Centre, no exceedance was recorded on 19 and 25 July 2011 during daytime while breaking and excavation works were undertaken during monitoring</li> <li>3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am and is expected to be completed by mid-August 2011.</li> <li>4) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.</li> </ol>	Closed
110727a	27/07/2011	Mr. Law from Victoria Centre Management Office by ICC no. 1-304616162	North Point	It was complained by Mr. Law from Victoria Centre Management Office on 27 July 2011 regarding construction noise generated by the construction operations of	<ol style="list-style-type: none"> <li>1) It was referred by AECOM to ET on 28 July 2011</li> <li>2) RSS confirmed to start the rock breaking activities for Contract HY/2009/15 at 8am as a mitigation measure to minimize the noise nuisance in the vicinity of the residents.</li> <li>3) No noise exceedance was recorded at construction noise</li> </ol>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				Central-Wanchai Bypass at noon rather than in morning at 7am.	<p>monitoring station at Victoria Centre on 25 July and 4 August 2011 during daytime while breaking and excavation works were undertaken during monitoring.</p> <p>4) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. No further complaint from complainant was received after proposed the mitigation measure.</p>	
110727b	27/07/2011	Ms. Chiu by ICC no.1-304615409	North Point	Noise nuisance from the excavation works for the Highways Department adjacent to the Victoria Centre was conducted from 7am	<p>1) It was referred by AECOM to ET on 28 July 2011</p> <p>2) With reference to the construction noise monitoring at Vitoria Centre, no exceedance was recorded on 25 July and 4 and 10 August 2011 during daytime while breaking and excavation works were undertaken during monitoring.</p> <p>3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am.</p>	Closed
	08/08/2011				<p>4) However, complainant did not satisfy with the response on the noise nuisance from the rock-breaking during morning in front of Victoria Centre and then further complaint via 1823 on 7 August 2011.</p> <p>5) Highways contacted the complainant on 15 August 2011 that the noisy rock breaking operation had been completed.</p> <p><i>Remarks: There will be counted as two complaints in this complaint log.</i></p>	
110810	10/08/2011	Mr. Yip by ICC no. 1 - 306740207	North Point	Muddy water was discharged from work site to the seafront near Oil Street during heavy rain. The environmental protection measures were not good enough and are needed to rectify.	<p>1) It was referred by AECOM to ET on 17 August 2011.</p> <p>2) Confirmed with RE, Muddy water was caused by a heap of earth being washed to the sea by heavy rain. The heap of earth was referred as a small stockpile placed close to the seafront in front of Oil Street within the site area under handover transition period from contract HY/2009/11 to contract HY/2009/19. The necessary mitigation measures to protect the small stockpile against rainfall were missing at the time of complaint.</p> <p>3) Due to the missing of mitigation measures to protect the small stockpile during handover transition period, loose material was washed into the harbour when heavy rain came. Muddy water was formed and dispersed in the sea that caused the water quality and visual concern to the public. The complaint was considered as valid.</p> <p>4) Contractors were advised to relocate the loose materials</p>	Closed





Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					away from the coastline as far as practicable. Any loose material placed which needed to be placed near the coastline shall be properly compacted or covered as appropriate. To avoid any further environmental deficiency, Contractors shall ensure all necessary environmental mitigation measures will not be missing during site area handover.	
110826	26/08/2011	Grand Hyatt and a complainant by ICC	Wan Chai	Construction noise and vibration nuisance generated from the works at Convention Avenue and inside the HKCEC1 reclamation area.	<ol style="list-style-type: none"> <li>1) Confirmed with the Resident Site Staff that the construction works were referred to the Contractor HK/2009/01.</li> <li>2) The Excavator mounted breaker at Convention Avenue and Drilling rig at HKCEC1 reclamation area were the dominant construction noise source during this period.</li> <li>3) The drilling rig at HKCEC1 reclamation area and excavator mounted breaker at Convention Avenue were then temporary suspended after received the complaint.</li> <li>4) Investigation revealed that the erected noise barrier (4m cantilevered movable noise barrier for the drilling rig and 1m movable noise barrier for the excavator mounted breaker) were not located close to the plants to provide adequate noise screening.</li> <li>5) Contractor was advised to avoid concurrent operation of construction plants at site. Further enhancement of movable noise barriers at HKCEC1 and providing noise enclosure for the excavator mounted breaker at Convention Avenue are needed.</li> <li>6) Further site investigation and checking on 31 August and 7 September 2011 revealed that the implemented noise mitigation measures were in proper and minimize the noise impact.</li> </ol>	Closed
110826A	26/08/2011	A complaint letter from Mr. Au of Cayley Property of City Garden	North Point	Harbor front adjacent to their cooling water intake suction which caused 3 times of system breakdown of the sea water pump on 9, 22 and 25 August 2011.	<ol style="list-style-type: none"> <li>1) It was referred by AECOM to ET on 29 August 2011. Confirmed with the Resident Site Staff that the <ul style="list-style-type: none"> <li>• construction works were referred to the Contractors HY/2009/11 and HY/2009/19.</li> <li>• The pump is located on the site area of HY/2009/19</li> <li>• A temporary garbage defender was installed on 23 July 2011 by HY/2009/11 and the shape of the defender was adjusted on 8 August 2011 in order to exclude the outfall.</li> <li>• An ad hoc inspection of the effectiveness of garbage defender was conducted with RSS (CWB project</li> </ul> </li> </ol>	Closed





Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>team), contractor of HY/200911 and HY/2009/19 and IECon 29 August 2011. Inspection report of it was submitted to RSS on 19 September 2011.</p> <ul style="list-style-type: none"><li>• Daily cleaning near the water intake was conducted twice a day by contractor HY/2009/19.</li><li>• In response to City Garden request, the contractors have set up the temporary garbage defender in function and collect the floating refuses, but cannot eliminate all refuses, in particular the refuse coming from the seabed</li></ul> <p>2) According to the complaint letter from Cayley Property, the outcomes of the preventive measures were not complying with their expectation.</p> <p>3) During on-site inspection, floating refuses observed occasionally outside the garbage defender. No conclusion could be made for the source of these floating refuses. On the other hand, some of the refuses were observed floating behind the garbage defender during investigation.</p> <p>4) All daily cleaning actions had been taken by contractor to minimize floating refuse inside the construction site.</p> <p>5) It was noted that the cooling water intake was accessible to the public. As such, fish breeding and fishing activities were observed even though a notice has already hoisted. Also, tripping of rubbish by the passers-by could result in a lot of rubbish accumulated around the intake point.</p> <p>6) Referring to the record provided by CPML, there were a lot of nylon/ plastic bags and nylon wire mesh that matched those rubbishes generated from the public activities.</p> <p>7) Contractors have fulfilled the requirement of site cleanliness and no exceedance was recorded during Water Quality Monitoring. It is considered the cause of this complaint is not related to project and environmental issue in this project as well. No more complaint received after ad-hoc inspection</p>	
111014	14/10/2011	The complainant, Ms. Tam complained via hotline 1823	Wan Chai	The polluted fumes and exhaust from the excavation by sub-contractor of CEDD on pedestrian way outside no.25 Harbour Road (in front of the Harbour Centre)	<p>1) RSS notified ET to carry out investigation on 17 October 2011.</p> <p>2) ET confirmed with the Resident Site Staff that the location of the excavator was within site area of Contract no. HK/2009/02 undertaking the water cooling main re-provision works along the Harbour Road. The plants including the excavator have been checked before using</p>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>at the site. However, the polluted fumes and exhausted from the excavator was caused due to insufficient maintenance of the plant after using at site.</p> <p>3) After receiving the complaint, the excavator was then removal off-site for checking and maintenance works on 17 October 2011.</p> <p>4) Contractor was reminded to enhance regular checking and maintenance to all plants at site.</p> <p>5) RSS has replied to the complainant on the arrangement of the measures taken on 17 October 2011. Complainant was satisfied with the response and follow-up action taken by the Contractor.</p>	
111104	04/11/2011	Mr. Liu from LCS D complained via Contractor Complaint Hotline	Wan Chai	Complain about a tree near the site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road, the status is not healthy and roof ball of two trees inside the site near Renaissance Hong Kong Harbour View Hotel at Convention Avenue were half cut.	<p>1) ET confirmed with the Resident Site Staff that</p> <ul style="list-style-type: none"> <li>A tree near the site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road is the Tree no. TA1122 under Contract no. HK/2009/02. Leaves of a branch of this tree were shrivelled.</li> <li>Two trees inside the site near Renaissance Hong Kong Harbour View Hotel at Convention Avenue are the tree nos. A160 and A161 under Contract no. HK/2009/01. Part of roof ball of these two trees was covered by the metal plate.</li> </ul> <p>2) Independent Tree Specialists for these two inspected the trees. Contractor HK/2009/01 has taken the measure as recommend downgrading the soil level around the trunk base. Reinstating of the ground works will be conducted in mid-December 2011. For the tree no. TA1122 under Contract no. HK/2009/02, the brown leaves were removed and fenced the tree with orange net is provided to prevent damage of tree trunk by construction works. The distance between the tree and the edge of the trench is kept approximate 2m. Two Contractors were reminded to carry out regular watering to the trees within their site area.</p>	Waiting RSS respond
111106	06/11/2011	Police officer	Wan Chai	Construction noise generated from the site at about 6:30 a.m on 6 November 2011 and require to stop the machine operation	<p>1) According to the information reported by Contractor, one BC cutter and hoist were operated for Diaphragm Wall construction of Shatin-Central Link to inspect bentonite pipes and ensure no damages and all the joints are tightened in good position. Then, the subcontractor for Diaphragm wall, SAMBO Korean foreman stopped the engine of the BC cutter immediately. The police officer recorded the details and HKID number of the foreman and then left. Due to the different language communication between the police officer and the Korean foreman, no</p>	Keep in view for three months from the date of complaint received



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>CNP was checked by the police officer.</p> <p>2) ET confirmed with the Resident Site Staff that same issue was also raised out by RSS at about 7:00a.m on the same day. Besides, it was confirmed that there is no valid Construction Noise Permit for the conducted construction works in the period between 2300 and 0700.</p> <p>3) Due to insufficient communication between Contractor HK/2009/01 and their Korean Sub-contractor, Korean Sub-contractor had not notified to Contractor before carrying out the inspection of the BC cutter, hoists and bentonite pipes at about 6:00a.m to ensure no damages and all the pipe joints should be tightened and in good position.</p> <p>4) Contractor was advised to enhance the communication between Contractor and sub-contractor and provide sufficient environmental training to all foreman and operators on restricted hour operation. Furthermore, Construction Noise Permit should be checked and in place for the construction works during restricted hour</p> <p>5) This complaint was considered in relation to the conducted construction works during restricted hours without valid Construction Noise Permit. No more construction works were conducted during night time period. The construction works will be conducted in accordance with the time period stated in valid CNP. This complaint will be kept in view of any follow-up action from the relevant government activities.</p>	
120405	05/04/2012	N/A	North Point	A complaint regarding excessive noise from construction sites of CBTS was observed daily before 7:30am except on public holidays, and the noise source was mainly from piling works. The complainant requested that construction works should start after 8:30am to avoid nuisance to nearby residents and a speedy follow-up and reply.	<p>1) RSS notified ET on 5 April 2012.</p> <p>2) ET confirmed with the Resident Site Staff that no piling works were performed during the concerned period.</p> <p>3) After reviewing the results of noise monitoring (M2b and M3a), no exceedance was recorded during daytime period and the noise level was below 75dB(A). Site inspection for HY/2009/15 was conducted on 10 April 2012. The condition of noise mitigation measures around CBTS was found satisfactory. RSS confirmed that no pilings were performed during the concerned period. The major works included drilling, diaphragm wall construction and excavations.</p> <p>4) HyD made a reply to the complainant on 16 April 2012 via 1823. HyD replied that the current works at CBTS were drilling, diaphragm wall construction and deep excavations. In order to minimize the noise generated</p>	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					from the above works, the Contractor had erected temporary noise barriers and provided noise blankets on plants. RSS would continue to work with the Contractor on the effectiveness of the environmental mitigation measures implemented on site. No further complaint was received after the response.	



***Appendix 8.1***

***Construction Programme of Individual Contracts***

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish	Total Float	2011			
							Sep	Oct	Nov	Dec
<b>Reclamation in NPR3 ver.9.5 2011_11_21</b>		115	23	21-Jul-11 A	19-Dec-11	-39				
<b>Landside</b>		115	23	05-Aug-11 A	19-Dec-11	-39				
	Installation Seawall Blocks to B6 and B7	55	0	13-Aug-11 A	18-Oct-11 A					
	Construct the Concrete Coping at B6 and B7	82	0	13-Aug-11 A	07-Nov-11 A					
	Laying Geotextile & Filter Material	86	0	05-Aug-11 A	14-Nov-11 A					
	Construct Open Channel U under IEC	33	0	23-Sep-11 A	30-Oct-11 A					
	Construct Open Channel U outside IEC	32	20	30-Sep-11 A	15-Dec-11	-36				
	Construct the Drainage Pipeline at West of Open Channel U	34	0	30-Sep-11 A	31-Oct-11 A					
	Construct the Drainage Pipeline at East of Open Channel U	28	17	01-Nov-11 A	15-Dec-11	-31				
	Unloading Sorted Public Fill behind new seawall	53	0	15-Aug-11 A	20-Nov-11 A					
	Reclamation	98	23	13-Aug-11 A	19-Dec-11	-39				
<b>Seaside</b>		100	23	21-Jul-11 A	19-Dec-11	-39				
	Construction of Outlet Pipe from City Garden	54	20	12-Oct-11 A	19-Dec-11	-34				
	Construction of B8	13	13	15-Nov-11 A	09-Dec-11	-31				

█ Actual Work   
 █ Critical Remaining Work   
 Summary  
█ Remaining Work   
 ◆ Milestone

Contract No. HK/2009/01

Contract Title : Wan Chai Development Phase II - Central - Wan Chai Bypass at HKCEC

**Working Programme for Marine Works (Dredging and Backfilling)**

ACTIVITY	START	FINISH	2010												2011												2012												2013																						
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
<b>Submissions before Works Commencement</b>																																																													
Submit silt curtain deployment plan	31/3/10	31/3/10	◆																																																										
Submit silt screen deployment plan	31/3/10	31/3/10	◆																																																										
Submit measures to mitigate noise impact	31/3/10	31/3/10	◆																																																										
<b>Cross Harbour Watermains from WCN to TST (DP6)</b>																																																													
Trench dredging for marine watermains installation	29/4/10	28/10/10				■																																																							
Backfilling for watermain	28/1/11	14/12/11													■																																														
<b>Reclamation Works at HKCEC Water Channel (DP3)</b>																																																													
Dredging at HKCEC Water Channel (Western Part)	1/6/10	1/8/10				■																																																							
Backfilling to +3.5mPD (Western Part)	17/8/10	6/2/11							■																																																				
Dredging at HKCEC Water Channel (Middle Part)	2/8/10	6/1/11							■																																																				
Backfilling to +3.5mPD (Middle Part)	21/2/11	1/6/11													■																																														
Dredging at HKCEC Water Channel (Eastern Part)	1/12/12	31/12/12																																					■																						
Backfilling to +3.5mPD (Eastern Part)	16/1/13	30/4/13																																					■																						

**Dredging & Reclamation Works Programme Summary  
(based on Initial Works Programme Rev. 0)**

ID	Task Name	Duration	Start	2010 2011 2012 2013 2014 2015																							
				Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1	<b>HK/2009/02-Marine &amp; Reclamation Works</b>	<b>2008 d</b>	<b>Thu 28/1/10</b>	[Summary bar from Q4 2009 to Q4 2015]																							
2	Contract Commencement	0 d	Thu 28/1/10	[Milestone diamond at start of Q4 2009]																							
3	<b>General</b>	<b>1879 d</b>	<b>Mon 22/2/10</b>	[Summary bar from Q1 2010 to Q4 2015]																							
4	Submission & obtain approval for marine GI	21 d	Mon 22/2/10	[Task bar in Q1 2010]																							
5	Stage 1 Marine GI for reclamation	30 d	Mon 15/3/10	[Task bar in Q1 2010]																							
6	Engineer's Design review for Dredging of WCR1, WCR2 & WCR4	30 d	Mon 22/3/10	[Task bar in Q1 2010]																							
7	Relocation of New Star Ferry Pier	0 d	Tue 18/3/14	[Milestone diamond in Q3 2014]																							
8	Demolition of Existing Star Ferry Pier	100 d	Tue 18/3/14	[Task bar in Q3 2014]																							
9	Stage 2 Marine GI for Reclamation	14 d	Tue 18/3/14	[Task bar in Q3 2014]																							
10	Engineer's Design review for Dredging of WCR3	21 d	Tue 25/3/14	[Task bar in Q3 2014]																							
11	Complete Diversion of Hung Hing Road Traffic Back to Original	20 d	Fri 6/2/15	[Task bar in Q2 2015]																							
12	Excavate & remove top of d-wall for permanent seawall construction	50 d	Wed 25/2/15	[Task bar in Q2 2015]																							
13	<b>Submarine Outfall</b>	<b>500 d</b>	<b>Tue 21/9/10</b>	[Summary bar from Q3 2010 to Q4 2011]																							
14	Dredging, Laying and Backfilling of Submarine Outfall Pipe at Sea	500 d	Tue 21/9/10	[Task bar from Q3 2010 to Q4 2011]																							
15	<b>Phase 1 - WCR1</b>	<b>158 d</b>	<b>Wed 21/4/10</b>	[Summary bar from Q1 2010 to Q4 2010]																							
16	Mobilization of plants	1 d	Wed 21/4/10	[Task bar in Q1 2010]																							
17	Seabed dredging	63 d	Wed 21/4/10	[Task bar in Q1 2010]																							
18	Bedding Filling and Permanent seawall (precast cassion)	60 d	Tue 22/6/10	[Task bar in Q2 2010]																							
19	Bulk reclamation	37 d	Fri 20/8/10	[Task bar in Q3 2010]																							
20	<b>Phase 2 - WCR2</b>	<b>149 d</b>	<b>Thu 1/3/12</b>	[Summary bar from Q1 2012 to Q4 2012]																							
21	Mobilization of plants	1 d	Thu 1/3/12	[Task bar in Q1 2012]																							
22	Temp seawall and Seabed dredging	77 d	Thu 1/3/12	[Task bar in Q1 2012]																							
23	Bulk reclamation	73 d	Wed 16/5/12	[Task bar in Q2 2012]																							
24	<b>Phase 3 - TWCR4 &amp; WCR4</b>	<b>98 d</b>	<b>Sat 28/4/12</b>	[Summary bar from Q2 2012 to Q4 2012]																							
25	Mobilization of plants	1 d	Sat 28/4/12	[Task bar in Q2 2012]																							
26	Temp Seawall and Seabed dredging	75 d	Sat 28/4/12	[Task bar in Q2 2012]																							
27	Bulk & temp reclamation	24 d	Wed 11/7/12	[Task bar in Q3 2012]																							
28	<b>Phase 4 - WCR3</b>	<b>294 d</b>	<b>Tue 18/3/14</b>	[Summary bar from Q1 2014 to Q4 2014]																							
29	Mobilization of plants	1 d	Tue 18/3/14	[Task bar in Q1 2014]																							
30	Seabed dredging for Permanent Seawall	112 d	Tue 18/3/14	[Task bar in Q1 2014]																							
31	Backfill and permanent seawall (precast cassion)	108 d	Tue 8/7/14	[Task bar in Q2 2014]																							
32	Bulk reclamation	74 d	Fri 24/10/14	[Task bar in Q4 2014]																							
33	<b>Phase 5 - Construct Permanent Seawall Blocks along curved coastline &amp; Remove TWCR4</b>	<b>105 d</b>	<b>Wed 15/4/15</b>	[Summary bar from Q1 2015 to Q4 2015]																							
34	Mobilization of plants	1 d	Wed 15/4/15	[Task bar in Q1 2015]																							
35	Dredging and Filling for permanent seawall construction	50 d	Wed 15/4/15	[Task bar in Q1 2015]																							
36	Construction of Permanent Seawall Blocks for curved coastline	56 d	Wed 3/6/15	[Task bar in Q2 2015]																							
37	Remove temp seawall and reinstate the location of TWCR4	30 d	Mon 29/6/15	[Task bar in Q2 2015]																							

Project: Reclamation Works Programme  
Date: Tue 9/3/10

Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split		Group By Summary	
Milestone		Rolled Up Milestone		External Tasks		Deadline	



Activity ID	Cal ID	Activity Description	Orig Dur	Early Start	Early Finish	Year													
						2010	2011	2012	2013	2014	2015	2016	2017						
<b>TCBR1E (TS1 Area)</b>																			
105	1	TCBR1E(TS1)-dredging+rockfill(pre. for seawall)	86	03DEC10*	26FEB11														
110	1	TCBR1E (TS1)-temporary reclamation	69	28JAN11*	06APR11														
155	1	TCBR1E (TS1)- removal of temporary reclamation	27	30JAN12*	25FEB12														
<b>TCBR4</b>																			
100	1	Maintenance dredging for navigation safety for	7	20NOV10*	26NOV10														
<b>TCBR2 + TCBR3 (TS2 Area)</b>																			
115	1	TCBR2&TCBR3(TS2)- Maintenance dredging for	5	15NOV10*	19NOV10														
117	1	TCBR2&TCBR3(TS2)-dredge+rockfill seabed	64	16DEC11*	17FEB12														
120	1	TCBR2&TCBR3(TS2) --temporary reclamation	115	26FEB12*	19JUN12														
160	1	TCBR2&TCBR3(TS2-removal temporary reclamation	57	18AUG13*	13OCT13														
<b>TCBR1W (TS4 Area)</b>																			
125	1	TCBR1W(TS4)-dredging+rockfill(pre. for seawall)	40	19DEC10*	27JAN11														
130	1	TCBR1W(TS4) --temporary reclamation	68	28JAN11	05APR11														
165	1	TCBR1W(TS4)--removal temporary reclamation	26	27OCT13*	21NOV13														
<b>TPCWAE</b>																			
135	1	TPCWAE-dredging+rockfill(pre. for seawall)	55	03DEC10*	26JAN11														
140	1	TPCWAE --temporary reclamation	77	27JAN11	13APR11														
170	1	TPCWAE--removal temporary reclamation	28	28SEP13*	25OCT13														
<b>TPCWAW</b>																			
145	1	TPCWAW-dredging+rockfill(pre. for seawall)	47	28OCT13*	13DEC13														
150	1	TPCWAW --temporary reclamation	83	14DEC13	06MAR14														
175	1	TPCWAW--removal temporary reclamation	50	02JUL15*	20AUG15														

 Early Bar  
 Progress Bar  
 Critical Activity

EP02 CHINA STATE CONSTRUCTION ENGG LTD Sheet 1 of 1  
 CONTRACT NO. HY/2009/15: CENTRAL WAN CHAI BYPASS- TUNNEL (CBTS SECTION)

Prepared based on IWP Rev. 0  
 Date Prepared: 28 Oct 2010

Act ID	Description	Orig Dur	Early Start	Early Finish	2011												2012												2013					
					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR			
<b>Section I</b>																																		
<b>Contract Obligation</b>																																		
1000	Commencement of Section I of works	0	20JAN11 *		◆ Commencement of Section I of works																													
<b>Initial Works</b>																																		
1050	Apply Marine notice to Marine Department	30	21JAN11	19FEB11	■ Apply Marine notice to Marine Department (dredg)																													
1060	Apply Marine notice to Marine Dept. Piling	30	18FEB11	19MAR11	■ Apply Marine notice to Marine Dept. Piling																													
1080	Apply FEP under EP356/2009	21	28FEB11	20MAR11	■ Apply FEP under EP356/2009																													
1081	Submission of Works Schedule for FEP	14	05MAR11	21MAR11	■ Submission of Works Schedule for FEP																													
1082	Submission of Location Plan for FEP	14	05MAR11	21MAR11	■ Submission of Location Plan for FEP																													
1083	Submission of Silt Curtain Deployment	14	05MAR11	21MAR11	■ Submission of Silt Curtain Deployment Plan																													
1084	Submission of Silt Screen Deployment Plan	14	05MAR11	21MAR11	■ Submission of Silt Screen Deployment Plan																													
1085	Submission Noise Management Plan	14	05MAR11	21MAR11	■ Submission Noise Management Plan																													
1090	Apply Dumping Permit	30	18FEB11	19MAR11	■ Apply Dumping Permit																													
1100	Apply CNP	30	31JAN11	01MAR11	■ Apply CNP																													
1110	Apply C&D waste disposal	30	20JAN11	18FEB11	■ Apply C&D waste disposal																													
1120	Apply Discharge licence	30	18FEB11	19MAR11	■ Apply Discharge licence																													
1130	Notification of chemical waste Producer	30	20JAN11	18FEB11	■ Notification of chemical waste Producer																													
1140	Notification to Labor Dept-Works Commencement	30	20JAN11	18FEB11	■ Notification to Labor Dept-Works Commencement																													
1150	Submit Risk Ass to MTR	21	28FEB11	20MAR11	■ Submit Risk Ass to MTR																													
1260	Erect Hoarding	30	28FEB11	29MAR11	■ Erect Hoarding																													
1270	Demarcation of Marine Site Boundary	21	01MAR11	21MAR11	■ Demarcation of Marine Site Boundary																													
1280	Working Site Office establishment	14	27JAN11	09FEB11	■ Working Site Office establishment																													
<b>Monitoring</b>																																		
1160	Takeover monitoring system from C1	0	21MAR11 *		◆ Takeover monitoring system from C1																													
1180	Commence Monitoring- ADMS,etc	0	21MAR11		◆ Commence Monitoring- ADMS,etc																													
<b>Dredging Works</b>																																		
1070	Submit Dredging MS	30	18FEB11	19MAR11	■ Submit Dredging MS																													
1075	Acceptance of Dredging MS	0		19MAR11	◆ Acceptance of Dredging MS																													
1078	Initial Hydrographic Survey	1	20MAR11	20MAR11	■ Initial Hydrographic Survey																													
1200	Initial Dredging Works for Piling	15	22MAR11	05APR11	■ Initial Dredging Works for Piling																													
1210	Final Hydrographic survey	3	07MAY12	09MAY12	■ Final Hydrographic survey																													
1220	Final Dredging Works	7	10MAY12	16MAY12	■ Final Dredging Works																													
1230	Confirmation Hydrographic survey	70	17MAY12	25JUL12	■ Confirmation Hydrographic survey																													
<b>Piling Works</b>																																		
1240	Submit stage platform MS	30	10FEB11	11MAR11	■ Submit stage platform MS																													
1250	Submit piling MS	30	10FEB11	11MAR11	■ Submit piling MS																													
P1000	Erect temporary Piling Platform	120	06APR11	03AUG11	■ Erect temporary Piling Platform																													
P1020	Pre-drilling	150	06JUN11	02NOV11	■ Pre-drilling																													
P1040	Bored Piles Construction and Testing	250	06JUL11	11MAR12	■ Bored Piles Construction and Testing																													
P1060	Drive Sheet piles along Bored piles	140	03NOV11	21MAR12	■ Drive Sheet piles along Bored piles																													
P1080	Dismantle Temporary Piling Platform	50	25FEB12	14APR12	■ Dismantle Temporary Piling Platform																													
P1100	Dive sheet piles beyond precast seawall	90	17JAN12	15APR12	■ Dive sheet piles beyond precast seawall																													
P1120	Trim pilehead to cut-off level	210	29SEP11	25APR12	■ Trim pilehead to cut-off level																													
P1140	Cut steel casing of bore piles	210	06OCT11	02MAY12	■ Cut steel casing of bore piles																													
P1160	Cut sheet piles to design level for box units	120	08JAN12	06MAY12	■ Cut sheet piles to design level for box units																													

Start date 20JAN11  
 Finish date 19DEC12  
 Data date 20JAN11  
 Run date 05MAR11  
 Page number 1A  
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Contract no. HK/2010/06  
 Wan Chai Development Phase II- Central-Wan Chai By pass over MTR Tsuen Wan Line

GAMMON-LEADER JV

Works Schedule of Marine Works for EP-356/2009

- Early bar
- Progress bar
- Critical bar
- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point

Activity ID	Activity Name	Rem Dur	Start	Finish	2012															
					May					June					July				August	
					23	30	07	14	21	28	04	11	18	25	02	09	16	23	30	06
<b>3MRP - MAY 2012 to AUG 2012</b>																				
<b>01 - CONTRACT DATES</b>																				
<b>01.2 - Possession of Site</b>																				
0120-2600	Possession to Portion VIIIA	0	29-Jul-12*																◆ Possession to Portion VIIIA	
0120-2700	Possession to Portion VIIIB	0	29-Jul-12*																◆ Possession to Portion VIIIB	
0120-2800	Possession to Portion IXA	0	29-Jul-12*																◆ Possession to Portion IXA	
0120-2900	Possession to Portion IXB	0	29-Jul-12*																◆ Possession to Portion IXB	
<b>02 - PRE-CONSTRUCTION WORKS</b>																				
<b>02.2 - Contractor's Submission</b>																				
0220-1250	Concrete Ready Mix/Design Mix - Concrete Plant Trials & Approval	8	04-Aug-11 A	28-May-12															Concrete Ready Mix/Design Mix - Concrete Plant Trials & Approval	
0220-1260	Drainage Pipes & Materials - Submission	7	15-Sep-11 A	27-May-12															Drainage Pipes & Materials - Submission	
0220-1270	Drainage Pipes & Materials - ER Review/Comment	14	28-May-12	10-Jun-12															Drainage Pipes & Materials - ER Review/Comment	
0220-1280	Drainage Pipes & Materials - Resubmission	7	11-Jun-12	17-Jun-12															Drainage Pipes & Materials - Resubmission	
0220-1290	Drainage Pipes & Materials - ER Approval	14	18-Jun-12	01-Jul-12															Drainage Pipes & Materials - ER Approval	
0220-1300	Drainage Pipes & Materials - Procurement & Delivery	14	25-Jun-12	08-Jul-12															Drainage Pipes & Materials - Procurement & Delivery	
0220-1360	Tunnel Structures Materials - Submission	28	02-Jul-12*	29-Jul-12															Tunnel Structures Materials - Submission	
0220-1370	Tunnel Structures Materials - ER Review/Comment	28	30-Jul-12	26-Aug-12															Tunnel Structures Materials - ER Review/Comment	
0220-1460	Bridge Bearing - Submission	15	10-Oct-11 A	16-Jul-12															Bridge Bearing - Submission	
0220-1470	Bridge Bearing - ER Review/Comment	28	17-Jul-12	13-Aug-12															Bridge Bearing - ER Review/Comment	
<b>02.3 - Method Statement / Shop Drawings</b>																				
0230-1133	MS Marine Piling - Resubmission (low headroom)	0	19-Apr-12 A	11-May-12 A															MS Marine Piling - Resubmission (low headroom)	
0230-1134	MS Marine Piling - ER Approval (low headroom)	14	12-May-12 A	03-Jun-12															MS Marine Piling - ER Approval (low headroom)	
0230-1260	MS Cut & Cover Tunnel - Submission	14	21-Mar-12 A	03-Jun-12															MS Cut & Cover Tunnel - Submission	
0230-1270	MS Cut & Cover Tunnel - ER Review & Comment	28	04-Jun-12	01-Jul-12															MS Cut & Cover Tunnel - ER Review & Comment	
0230-1280	MS Cut & Cover Tunnel - Resubmission	28	02-Jul-12	29-Jul-12															MS Cut & Cover Tunnel - Resubmission	
0230-1290	MS Cut & Cover Tunnel - ER Approval	28	30-Jul-12	26-Aug-12															MS Cut & Cover Tunnel - ER Approval	
0230-1340	MS Pre-cast Segment Bridge - Submission	28	01-Aug-12*	28-Aug-12															MS Pre-cast Segment Bridge - Submission	
0230-1460	MS Stressing/Destressing Tendons - Submission	28	01-Aug-12*	28-Aug-12															MS Stressing/Destressing Tendons - Submission	
0230-1560	MS Precasting of Bridge Segment & Beam - Resubmission	24	07-May-12 A	13-Jun-12															MS Precasting of Bridge Segment & Beam - Resubmission	
0230-1570	MS Precasting of Bridge Segment & Beam - ER Approval	28	14-Jun-12	11-Jul-12															MS Precasting of Bridge Segment & Beam - ER Approval	
0230-1700	MS Temporary Bridge TA - Submission	28	01-Aug-12*	28-Aug-12															MS Temporary Bridge TA - Submission	
<b>02.4 - Contractor's Design and Build Items</b>																				
0240-1010	Temp Bridge "TA" Design - Prep & Submit	48	16-Dec-11 A	07-Jul-12															Temp Bridge "TA" Design - Prep & Submit	
0240-1020	Temp Bridge "TA" Design - ER review and comment	28	08-Jul-12	04-Aug-12															Temp Bridge "TA" Design - ER review and comment	
0240-1030	Temp Bridge "TA" Design - Resubmission	60	05-Aug-12	03-Oct-12															Temp Bridge "TA" Design - Resubmission	
0240-1041	Temp Bridge "TD" Design - Prep & Submit	120	01-Aug-12*	28-Nov-12															Temp Bridge "TD" Design - Prep & Submit	
0240-1090	Int. Noise Enclosure Design - Public Consultation	60	29-Jul-11 A	19-Jul-12															Int. Noise Enclosure Design - Public Consultation	
0240-1095	Int. Noise Enclosure Design - ACABAS/ER Consultation/Submission	72	16-Dec-11 A	31-Jul-12															Int. Noise Enclosure Design - ACABAS/ER Consultation/Submission	
0240-1100	Int. Noise Enclosure Design - ER review & comment	28	01-Aug-12	28-Aug-12															Int. Noise Enclosure Design - ER review & comment	
0240-1120	Noise Barrier Design - Public Consultation	60	29-Jul-11 A	19-Jul-12															Noise Barrier Design - Public Consultation	
0240-1122	Noise Barrier Design - ACABAS/ER Consultation/Submission	72	16-Dec-11 A	31-Jul-12															Noise Barrier Design - ACABAS/ER Consultation/Submission	
0240-1124	Noise Barrier Design - ER review & comment	28	01-Aug-12	28-Aug-12															Noise Barrier Design - ER review & comment	
0240-1130	Perm. Noise Enclosure Design - Public Consultation	150	14-Feb-12 A	17-Oct-12															Perm. Noise Enclosure Design - Public Consultation	
0240-1135	Perm. Noise Enclosure Design - ACABAS/ER Consultation/Submission	90	13-Jun-12	10-Sep-12															Perm. Noise Enclosure Design - ACABAS/ER Consultation/Submission	

- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

**Contract HY/2009/19**

**Three Month Rolling Programme (21 MAY 2012 to 20 AUG 2012)**

3MRP

3MRP - MAY 2012 to AUG 2012

Page 1 of 7





Activity ID	Activity Name	Rem Dur	Start	Finish	2012															
					May					June					July				August	
					23	30	07	14	21	28	04	11	18	25	02	09	16	23	30	06
0521-1800.20	D-wall N65-N70 Pre-drilling (6 nos. - 1 rig@6d/hole)	0	02-Apr-12 A	19-May-12 A	D-wall N65-N70 Pre-drilling (6 nos. - 1 rig@6d/hole)															
0521-1810	D-wall N59-N70 Grouting for Existing Seawall Rubble Mound	14	27-Apr-12 A	05-Jun-12	D-wall N59-N70 Grouting for Existing Seawall Rubble Mound															
0521-1820	D-wall N59-N70 Guide Wall	14	09-Apr-12 A	05-Jun-12	D-wall N59-N70 Guide Wall															
0521-1840	D-wall N52-N58 Pre-drilling (7 nos@6d - 2 rig)	9	09-Apr-12 A	30-May-12	D-wall N52-N58 Pre-drilling (7 nos@6d - 2 rig)															
0521-1850	D-wall N52-N58 Grouting for Existing Seawall Rubble Mound	14	03-May-12 A	05-Jun-12	D-wall N52-N58 Grouting for Existing Seawall Rubble Mound															
0521-1860	D-wall N52-N58 Guide Wall	12	31-May-12	13-Jun-12	D-wall N52-N58 Guide Wall															
0521-1830.15	D-wall Panel N69 (6m - 621cu.m)	10	09-May-12 A	31-May-12	D-wall Panel N69 (6m - 621cu.m)															
0521-1830.10	D-wall Panel N70 (6m - 630cu.m)	10	01-Jun-12	12-Jun-12	D-wall Panel N70 (6m - 630cu.m)															
0521-1830.25	D-wall Panel N67 (3.95m - 409cu.m)	10	13-Jun-12	25-Jun-12	D-wall Panel N67 (3.95m - 409cu.m)															
0521-1835.10	D-wall Panel N54 (3.77m - 355cu.m)	10	14-Jun-12	26-Jun-12	D-wall Panel N54 (3.77m - 355cu.m)															
0521-1830.35	D-wall Panel N65 (5.7m - 590cu.m)	10	22-Jun-12	05-Jul-12	D-wall Panel N65 (5.7m - 590cu.m)															
0521-1835.15	D-wall Panel N59 (5.6m - 529cu.m)	10	25-Jun-12	06-Jul-12	D-wall Panel N59 (5.6m - 529cu.m)															
0521-1830.20	D-wall Panel N68 (3.95m - 409cu.m)	10	04-Jul-12	14-Jul-12	D-wall Panel N68 (3.95m - 409cu.m)															
0521-1835.20	D-wall Panel N52 (5.6m - 529cu.m)	10	05-Jul-12	16-Jul-12	D-wall Panel N52 (5.6m - 529cu.m)															
0521-1830.30	D-wall Panel N66 (4.75m - 492cu.m)	10	13-Jul-12	24-Jul-12	D-wall Panel N66 (4.75m - 492cu.m)															
0521-1835.25	D-wall Panel N63 (5.6m - 529cu.m)	10	14-Jul-12	25-Jul-12	D-wall Panel N63 (5.6m - 529cu.m)															
0521-1835.30	D-wall Panel N58 (5.6m - 529cu.m)	10	24-Jul-12	03-Aug-12	D-wall Panel N58 (5.6m - 529cu.m)															
0521-1835.35	D-wall Panel N62 (5.6m - 529cu.m)	10	02-Aug-12	13-Aug-12	D-wall Panel N62 (5.6m - 529cu.m)															
0521-1835.40	D-wall Panel N55 (5.6m - 529cu.m)	10	11-Aug-12	22-Aug-12	D-wall Panel N55 (5.6m - 529cu.m)															
0521-2070	D-wall S66-S77 Guide Wall	11	16-May-12 A	02-Jun-12	D-wall S66-S77 Guide Wall															
0521-1990.42	D-wall South Panel S75	10	26-May-12	07-Jun-12	D-wall South Panel S75															
0521-1990.36	D-wall South Panel S70	10	07-Jun-12	19-Jun-12	D-wall South Panel S70															
0521-1990.39	D-wall South Panel S73	10	19-Jun-12	03-Jul-12	D-wall South Panel S73															
0521-1990.43	D-wall South Panel S77	10	03-Jul-12	14-Jul-12	D-wall South Panel S77															
0521-1990.34	D-wall South Panel S68	10	11-Jul-12	23-Jul-12	D-wall South Panel S68															
0521-1990.40	D-wall South Panel S74	10	19-Jul-12	31-Jul-12	D-wall South Panel S74															
0521-1990.35	D-wall South Panel S69	10	27-Jul-12	08-Aug-12	D-wall South Panel S69															
0521-1990.38	D-wall South Panel S72	10	04-Aug-12	16-Aug-12	D-wall South Panel S72															
0521-2090	D-wall S60-S65 Pre-drilling	18	27-Feb-12 A	03-Jul-12	D-wall S60-S65 Pre-drilling															
0521-2100	D-wall S60-S65 Guide Wall	15	04-Jul-12	20-Jul-12	D-wall S60-S65 Guide Wall															
0521-2130	D-wall S56-S59 Guide Wall	15	12-Jul-12	28-Jul-12	D-wall S56-S59 Guide Wall															
<b>05.2.2 - Barrette Construction</b>																				
0522-2210.64	Barrette Pile BC64	0	12-Apr-12 A	09-May-12 A	Barrette Pile BC64															
0522-2210.68	Barrette Pile BC68	0	29-Mar-12 A	30-Apr-12 A	Barrette Pile BC68															
0522-2210.57	Barrette Pile BC57	5	07-May-12 A	25-May-12	Barrette Pile BC57															
0522-2210.61	Barrette Pile BC61	9	21-May-12	30-May-12	Barrette Pile BC61															
0522-2210.63	Barrette Pile BC63	1	19-Mar-12 A	21-May-12	Barrette Pile BC63															
0522-2210.65	Barrette Pile BC65	9	24-May-12	02-Jun-12	Barrette Pile BC65															
0522-2210.66	Barrette Pile BC66	9	01-Jun-12	11-Jun-12	Barrette Pile BC66															
0522-2210.70	Barrette Pile BC62	10	09-Jun-12	20-Jun-12	Barrette Pile BC62															
0522-2210.55	Barrette Pile BC55	9	18-Jun-12	28-Jun-12	Barrette Pile BC55															
0522-2210.58	Barrette Pile BC58	9	27-Jun-12	07-Jul-12	Barrette Pile BC58															
0522-2210.59	Barrette Pile BC59	9	06-Jul-12	16-Jul-12	Barrette Pile BC59															
0522-2210.56	Barrette Pile BC56	9	14-Jul-12	24-Jul-12	Barrette Pile BC56															

- Remaining Level of Effort
- Actual Level of Effort
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Milestone

**Contract HY/2009/19**

**Three Month Rolling Programme (21 MAY 2012 to 20 AUG 2012)**

3MRP

3MRP - MAY 2012 to AUG 2012











Activity ID	Activity Name	Rem Dur	Start	Finish	2012																			
					May					June				July				August						
					23	30	07	14	21	28	04	11	18	25	02	09	16	23	30	06	13			
1012-1190	Pier D11 Construct Pile Cap	18	11-Jun-12	03-Jul-12																				Pier D11 Construct Pile Cap
1012-1200	Pier D11 Construct Pier/Column	12	04-Jul-12	17-Jul-12																				Pier D11 Construct Pier/Column
1012-1210	Pier D11 Construct Crosshead	18	18-Jul-12	07-Aug-12																				Pier D11 Construct Crosshead
<b>Pier D05 to D07</b>																								
1012-1290.20	Pier D05 Bored Pile D05-1	13	02-Dec-11 A	30-Jul-12																				Pier D05 Bored Pile D05-1
1012-1300	Pier D05/D06/D07 Bored Piles Testing	18	30-Jul-12	20-Aug-12																				Pier D05/D06/D07 Bored Piles Testing
1012-1270	Pier D07 Bored Piles (6 piles)	108	03-Jul-12*	07-Nov-12																				Pier D07 Bored Piles (6 piles)
<b>10.1.3 - E/B Bridge Construction</b>																								
<b>Bridge D3</b>																								
1013-1000.10	Segment and Beam Launching - Procurement of Sub-contractor	14	21-Jan-12 A	05-Jun-12																				Segment and Beam Launching - Procurement of Sub-contractor
1013-1000.20	Segment and Beam Launching - Submit Design Launching Girder	26	14-May-12 A	19-Jun-12																				Segment and Beam Launching - Submit Design Launching Girder
1013-1000.30	Segment and Beam Launching - Approve Design Launching Girder	28	20-Jun-12	24-Jul-12																				Segment and Beam Launching - Approve Design Launching Girder
1013-1010	Segment and Beam Launching - Fabricate & Deliver Launching Girder	98	25-Jul-12	17-Nov-12																				Segment and Beam Launching - Fabricate & Deliver Launching Girder
<b>10.3 - Middle Bridge (Bridge F)</b>																								
<b>10.3.1 - Pier Construction</b>																								
<b>Abutment D12</b>																								
1031-1040	Bored Piles (4 nos) at D12 at III (for F1B1)	47	07-May-12 A	16-Jul-12																				Bored Piles (4 nos) at D12 at III (for F1B1)

█ Remaining Level of Effort  
█ Actual Level of Effort  
█ Actual Work  
█ Remaining Work  
█ Critical Remaining Work  
◆ Milestone

**Contract HY/2009/19**

**Three Month Rolling Programme (21 MAY 2012 to 20 AUG 2012)**

3MRP

3MRP - MAY 2012 to AUG 2012

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